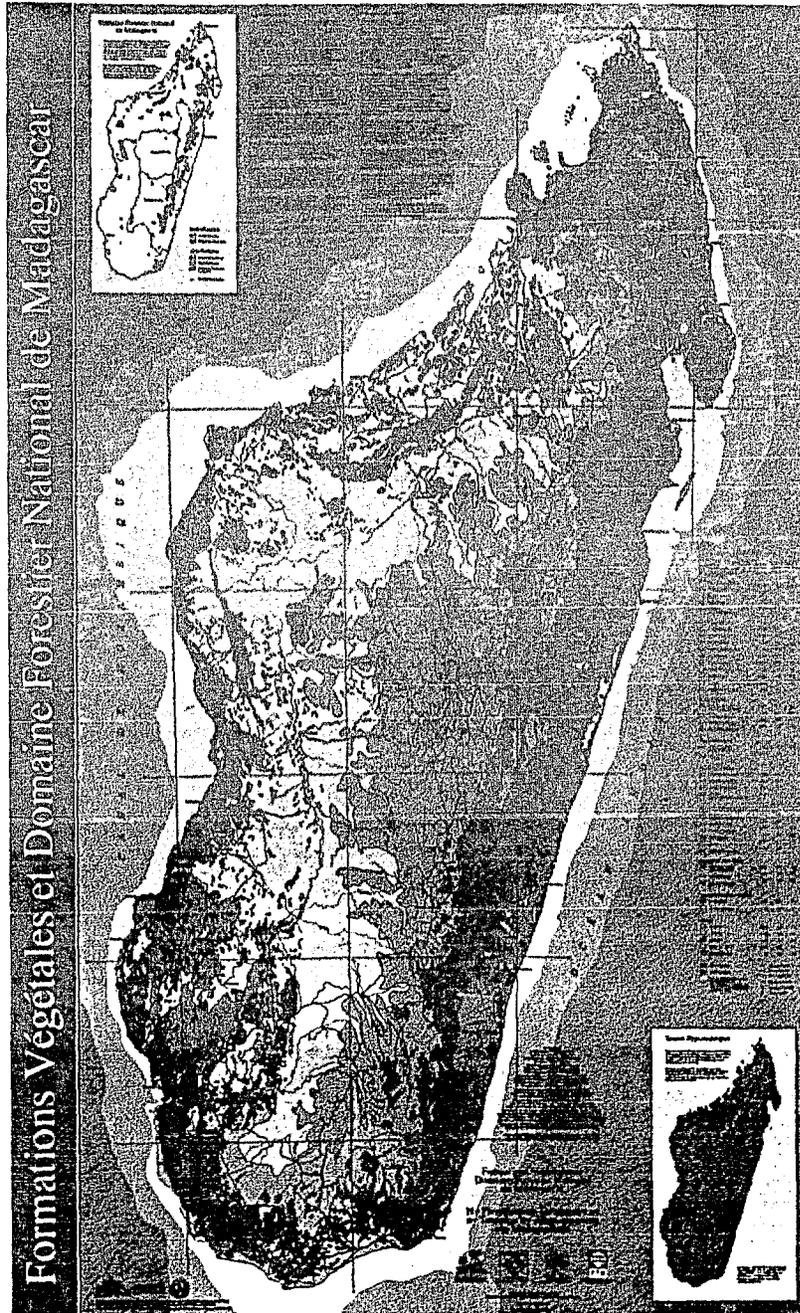


# GEF DESIGN ASSISTANCE TO PE2: SUMMARY OF FINDINGS



December 1, 1995

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## GEF DESIGN ASSISTANCE TO PE2: SUMMARY OF FINDINGS

### INTRODUCTION

Madagascar's biodiversity is recognized as among the most unique and threatened on the planet. In 1990, a fifteen-year environmental action plan (NEAP) was launched, with various funding sources, to help conserve this heritage. The initial five-year phase of this plan, PE1, is nearing completion. This document summarizes the results and major conclusions a GEF-financed process to assist in identifying priority actions to protect biological diversity in Madagascar as a component of the second phase of the national Environmental Program. This process was designed by CI and UNDP to provide state-of-the-art scientific input, ensure participation in program design by the full range of stakeholders from resource users to policy makers, and to draw on the lessons learned in the implementation of PE1. The process was constituted in three parts, each of which are summarized in this document. These are:

- Scientific Priority-Setting Workshop
- Participatory Options and Priorities Process (POPP; French PPDOP)
- Policy Studies

The process was based on a proven methodology for scientific priority-setting developed by Conservation International, and on an innovative approach for participation (PPDOP) and integrating lessons learned (Policy Studies) developed by Government's GEF Steering Committee, UNDP and CI. The Government GEF Steering Committee was composed of the National Office of the Environment (ONE), the National Protected Area Management Association (ANGAP), the Department of Waters and Forests (DEF) and UNDP-Madagascar with advice from Conservation International. The PPDOP process was recognized as innovative and exemplary by the World Bank and key donors, and because of its recognized importance has now been extended to PE2 as a whole.

## SCIENTIFIC PRIORITY-SETTING WORKSHOP

The Scientific Priority-Setting Workshop involved the leading scientists from Madagascar and abroad in an effort to identify the highest priority areas for biodiversity conservation and research. It culminated an intensive data collection, preparation, and analysis effort involving over one hundred of the world's foremost authorities on Madagascar's flora, fauna and anthropology.

The defining element of a priority-setting workshop is that it is a consensus-building process, based on the expert knowledge of field biologists working in a particular region. Individual scientists may be expert only on certain taxa or geographic areas within the region. By synthesizing the knowledge and experience of many scientists, the priority-setting workshop process generates a more complete understanding of the region as a whole. This recorded body of knowledge then represents the most comprehensive scientific consensus available for the region.

### Workshop Preparation and Methods

The specialists participating in the Madagascar workshop were divided into eight thematic subgroups, which began work four months prior to the workshop. Each subgroup had a national and international group leader responsible for compiling data from the group members. Coordination of the eight groups and a data management unit based at ANGAP was assured by two Scientific Coordinators, one based in Madagascar and the other in Europe. The groups were:

- socioeconomy
- paleobiology
- botany
- mammals
- birds
- reptiles and amphibians
- fish and aquatics
- invertebrates

Prior to the workshop, data collection was done concurrently by the working group leaders in Madagascar, the internationally based group leaders, and at CI in Washington. Base data, utilized as a set of reference maps, were developed and mapped at 1:1,000,000 scale. This map set was provided to each working group, and formed the common set of information for discussing and determining priority areas for biodiversity conservation. The base maps included hydrology, major roads, protected areas, major forested areas, major cities, Fivondronana limits, geology, soils, vegetation and elevation.

The workshop generated integrative priority areas in a two-step process. The specialists first defined geographic priorities for their thematic group. Each thematic group, using its own set of criteria and methods, delineated conservation priority areas on a base map and documented their decisions with tabular forms. Plenary sessions were held to allow each thematic group to discuss its methods and progress with the entire workshop.

The workshop as a whole then defined biogeographic regions and new groups were convened to define priorities within each of these regions. The workshop participants divided the country into five separate subregions: north, south, west, east, and southeast. One member of each thematic group joined each of the regional integrative groups. Each regional group reached a consensus on how to characterize and rank the subareas based on their combined understanding. The regional integrative groups brought together the findings of the thematic groups into a unified conservation priority assessment based on overall biodiversity and socioeconomic issues.

Though the different taxonomic specialists were working independently, most groups identified the same geographical hotspots for conservation and research action. Therefore the syntheses of the recommendations were rather straightforward. The final results were mapped, presented, and discussed by the entire workshop during the final plenary session. These national and regional priorities included biological priorities, research priorities, priorities based on the degree of destructive pressure and priorities for conservation action.

### **Results and Major Recommendations**

The workshop showed that while many of Madagascar's highest priority biological areas were receiving attention from government and donor organizations, many high priority areas were little known and receiving little conservation attention. Biological priority areas generated by the workshop are shown in Map 1, and research priorities are shown in Map 2. These maps present an historic consensus on the state of knowledge of Madagascar's biodiversity and its conservation.

Comparison of maps 1 and 2 with the existing Integrated Conservation and Development Projects (ICDPs) which form the frontline of the current approach to biodiversity conservation in Madagascar shows that while most ICDPs fall within the "Very High Priority" category for both research and biodiversity, few are in the highest priority (Exceptional) category. This means that many of the highest biological priority areas fall outside of the current ICDP protected areas, and the highest priority areas for research are also found largely outside of the ICDPs, particularly in the South and the North. This is because most ICDPs were chosen on multiple criteria, including watershed importance, tourism potential and donor interest, and not simply on biodiversity value. In the case of research, ICDPs have gradually generated biodiversity survey information which has shifted research needs to other areas. Because of the limited geographic scope of ICDPs, both of these results are probably inevitable using the ICDP approach. They suggest that alternative or complementary approaches need to be developed for conservation and research in high priority areas outside the ICDP network.

Carte Intégrée

**Importance Biologique**

Atelier de Priorisation de la Conservation  
à Madagascar  
Antananarivo, Avril 10 - 14, 1995

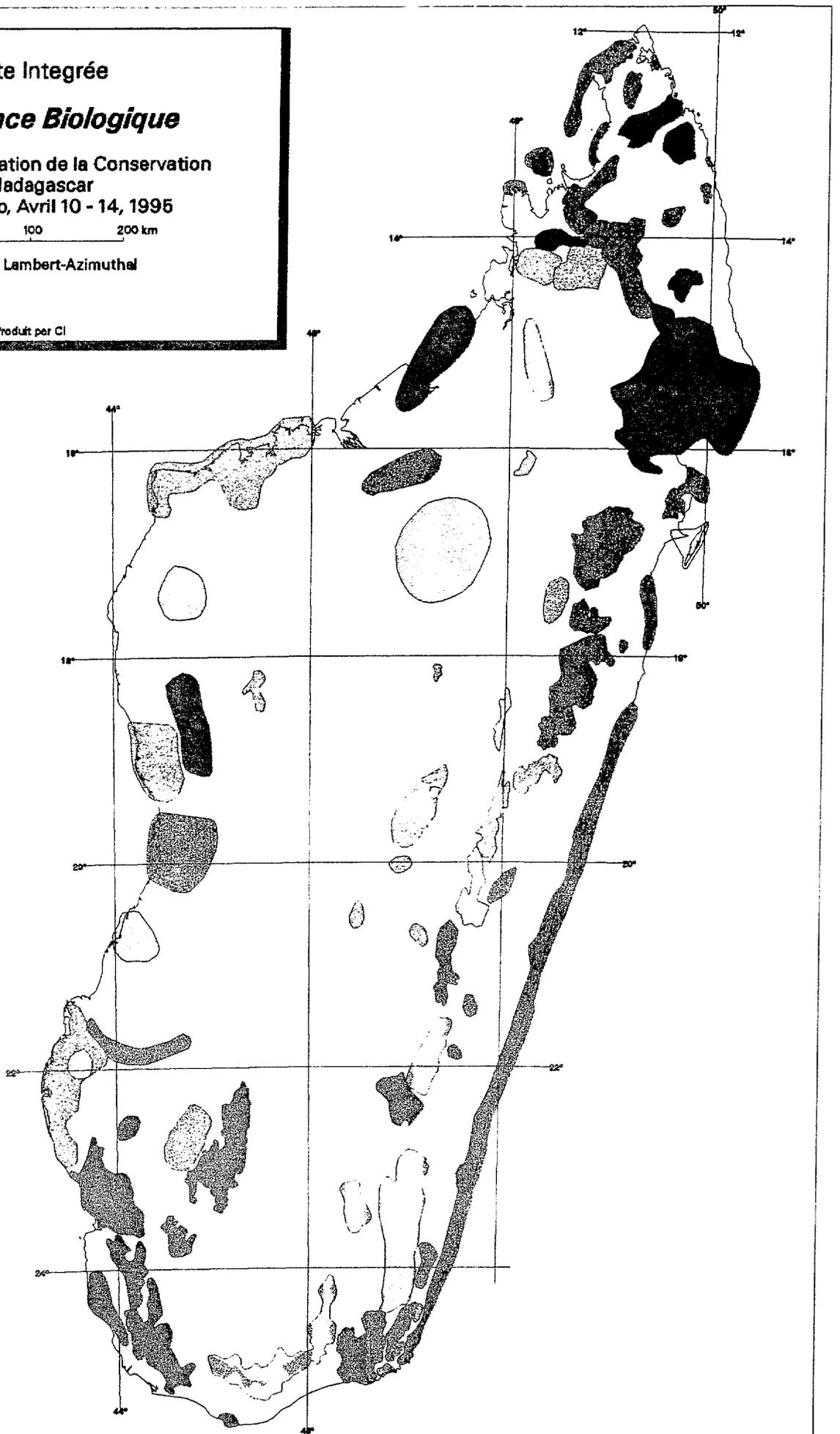
0 100 200 km

Projection: Lambert-Azimuthal

Produit par CI

Legende

-  Exceptionnelle
-  Tres Important
-  Important
-  Moyen
-  Faible
-  Tres faible
-  Inconnu
-  Pas d'information



Carte Intégrée

**Priorités des Recherches**

Atelier de Priorisation de la Conservation  
à Madagascar  
Antananarivo, Avril 10 - 14, 1995

0 100 200 km

Projection: Lambert-Azimuthal

Produit par CI

Legende

- Exceptionnelle
- Très important
- Important
- Moyen
- Faible
- Très faible
- Inconnu
- Pas d'information



Additional major conclusions from the workshop are:

- Overlay of the different priority areas with a map of the existing protected areas shows that many of the priority areas are not located within protected areas. Important gaps are found in the South and Southwest of Madagascar almost all the way from Morombe to Tolanaro. The dry forests of Northern Madagascar are also exceptionally important in all respects, but have very limited protection. The situation is similar in many other parts of Madagascar.
- Littoral forests in the east represent a unique ecosystem which is highly threatened and not protected. Other unique habitats not included in the present system of protected areas are dunes and inselbergs.
- Any remaining lowland rain forest needs immediate protection.
- The Northeast (Mananara-Maroaantsetra), as well as the eastern rain forest as a whole, is threatened by fragmentation. Though these ecosystems are covered by several protected areas, the forests between them are not.
- The installation of several regional museums and one national museum of natural history has been recommended.

## **PARTICIPATORY OPTIONS AND PRIORITIES PROCESS (PPDOP)**

The Participatory Options and Priorities Process (POPP in english and PPDOP in French) was designed to involve a wide range of stakeholders in the design of PE2. It is intended to be a participatory stakeholder process addressing social and programmatic issues, complementary to the consensus built among scientific experts during the scientific workshop. In contrast to the scientific workshop, no proven method existed for the PPDOP. The PPDOP method was developed during a specially dedicated consultancy prior to the outset of the process.

### **Methods**

The PPDOP process designed by the consultancy and approved by the GEF Steering Committee unfolded in three stages:

Stage 1 involved interviews with local environmental stakeholders to identify environmental problems and possible solutions. This work drew on the national and regional level pressures identified by the scientific workshop.

Stage 2 was comprised of multi-local workshops at a regional level, involving key participants in the Stage 1 interviews in further prioritizing problems and possible solutions.

Stage 3 culminated the first phase of the process in a national-level workshop which synthesized the regional results with key national policy makers involved.

The figure on the following page illustrates this process. Results of the national workshop are incorporated into local interviews. The local consultations are consolidated in a number of multi-local workshops (five, in all, although the figure shows only three), and the process culminates in a national workshop which draws on the results of the scientific workshop, local consultation, multi-local workshops and the policy studies (études partenaires).

The PPDOP process is based on two guiding principles. The first is that conventional "causes" of resource degradation and biodiversity destruction (such as slash and burn agriculture) are in fact symptoms, not causes. These symptoms or proximal causes reflect larger causative factors which must be addressed if pressure on resources is to be reduced. Throughout the interview and workshop process, participants were repeatedly asked to seek deeper connections and identify ultimate causes, so that the results of the process would represent an attempt to arrest problems in their largest context. The second principle stressed during the PPDOP process was that local communities are in most cases the de facto resource managers. Participants in the PPDOP were asked to develop means of implicating these local resource managers into resource decision-making, planning and governmental regulation. The results therefore emphasize building local institutions to manage natural resources and building national institutions to support this process.

# CADRE GLOBAL DU PPDOP

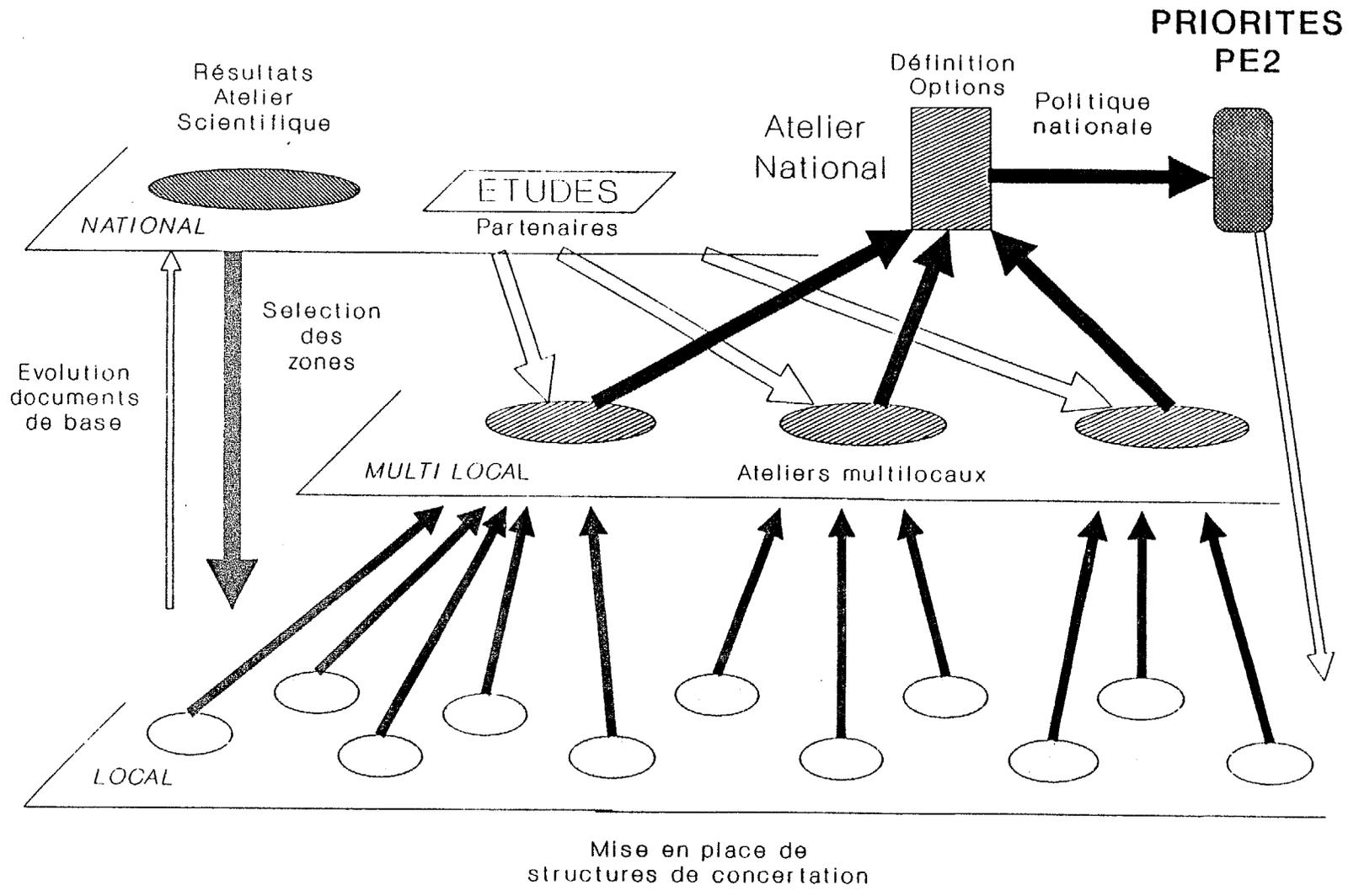


Figure 1

5A

## Results and Major Recommendations

The three-stage PPDOP process produced a set of recommendations which were fundamentally different from the documents being developed for PE2 at the time. The PPDOP result has been termed the "programmatic" approach. It prioritizes problems and responses first, then elaborates a coordinated institutional response based on these priorities. This contrasts with what has been termed the "institutional approach", which was being followed by PE2, in which institutional needs are given priority and then applied to perceived problems. Stakeholder involvement is much higher in the programmatic approach, and it generates fundamentally different modes of donor support. The institutional approach has in the past resulted in problems in institutional coordination in the implementation of PE1. Government and donors alike have therefore supported the extension of the PPDOP process to encompass all elements and all executing agencies of the PE2.

The priority targets for national conservation action generated through the PPDOP process of interviews, multi-local workshops and the national workshop may be summarized under two broad headings. These are:

- Factors influencing resource management systems
- Resource management systems themselves

Within these two major categories, the following priorities were identified:

### *Category 1: Modification of the conditions in which management systems function*

- clarifying and rendering effective the rules governing management of biodiversity resources
- modifying the timber and fuelwood markets by:
  - improving efficiency and sustainability of supply
  - decreasing demand and providing alternative sources of energy
  - improving market mechanisms including infrastructure and transportation,
- controlling population flux by:
  - improving living conditions in sites of exodus and thus stemming migration
  - shifting the locus of migration to zones already designated for agriculture
  - sedentarising migrants in non-nomadic production systems, and
- transforming biodiversity from a resource to be exploited to a treasure in and of itself, by promoting:
  - research to identify the extent and true value of existing biodiversity resources
  - ecotourism
  - the development of markets for non-timber forest products.

*Category 2: Modification of the systems of biodiversity resource management themselves*

- increasing the potential of natural resources through improved agricultural and management techniques
- developing human capital and a national environmental consciousness through sensibilization and education
- diversifying income-generating activities
- engaging a process of local resource management which acknowledges and builds upon existing community regulations and modes of organization among actors
- stabilizing the price of agricultural products by encouraging storage of surpluses.

Perhaps the most important conclusion of the PPDOP national workshop was that biodiversity could not be addressed as a sectoral issue. Biodiversity concerns were found to be represented in all components of PE2, as the figure on the following page illustrates. The solid black line in this figure illustrates the relative importance of each of the PE2 components in addressing the PPDOP biodiversity priorities. Since many of the highest priority biodiversity areas fall outside the protected area system, the multiple use forest component of PE2 will play a pivotal role in biodiversity conservation. Biodiversity is strongly implicated in the parks and tourism component for obvious reasons, but it is also significantly affected by the watershed and soil conservation component. The realization that biodiversity could not be isolated from other environmental concerns in composing PE2 solutions has led to the integration of the PE2 and PPDOP processes.

The PPDOP also produced a number of indirect effects, in the form of link between resource users and government, donors and executing agencies, and project operators and beneficiaries. One of the major indirect results of the PPDOP was the production of a replicable process. The PPDOP process may be repeated annually or at regular intervals to derive participatory consensus on problems and their solutions. This is especially useful for refinement of the PE2 in following years, and in monitoring. In the future, COS exercises may be opportunities to review and adjust PE2 programs based on input from processes such as the PPDOP. Extension of the PPDOP is currently underway, and the process itself is best seen as an iterative, continuous process, rather than as a single event or product.

The PPDOP extension will help move each of the priorities identified at the national workshop forward toward intervention in the field. The emphasis of the extension is on working with executing agencies to produce coordinated multi-local approaches to the most pressing problems facing Madagascar. These approaches will be adaptable, and may be adjusted in the future based on input from an ongoing participatory process.

# LES PRIORITES DE CONSERVATION DANS LE PE2

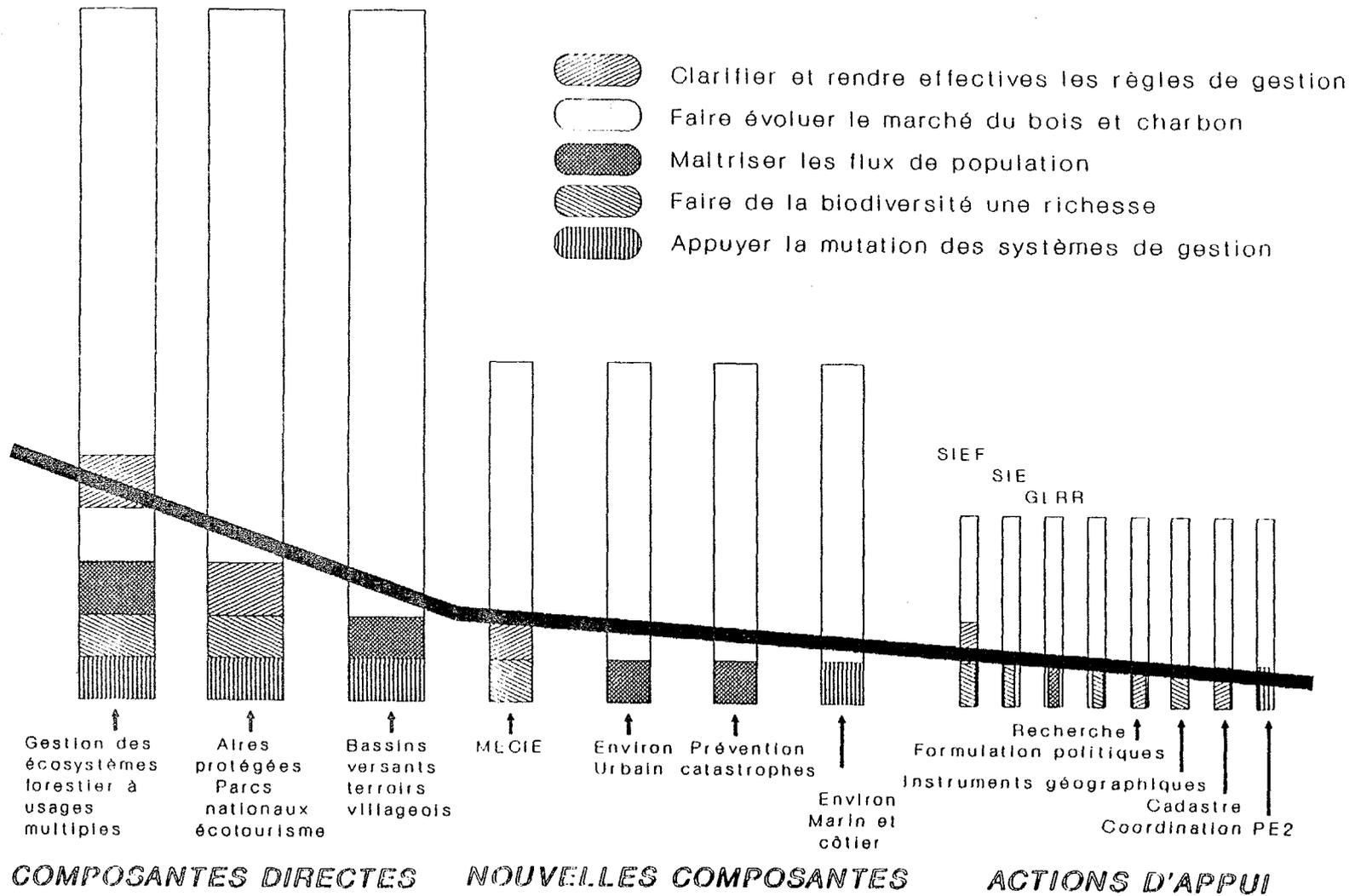


Figure 2

not

## POLICY STUDIES

The policy studies were conducted by a group of independent consultants, each chosen for their experience in Madagascar in relevant work. The studies are a broad, but not exhaustive, review of the lessons learned in key areas during the implementation of PE1. The full studies are available from UNDP, the World Bank, or Conservation International. The main conclusions of each report are summarized in brief below.

### Methods

Policy Study topics were selected by the GEF Steering Committee to represent key topics in which lessons learned from past experience could meaningfully inform future conservation interventions. Consultants were then selected who were particularly knowledgeable in each area. Several of the studies showed affinities and inter-relationships which made it desirable to have one consultant address more than one study.

Each study proceeded by reviewing known information on the issue, including published literature, donor studies and project internal documents. Key resource people were then interviewed to evaluate areas in which expert consensus was emerging on the issues examined. Where possible, expert groups were assembled to facilitate idea exchange and consensus-building.

### Study 1: Land Tenure [*Nadia Rabesahala Horning*]

- Three hypotheses (see figure following page) describe the relationship between security of tenure and pressure on natural resources. In two of these hypotheses, increased pressure on biodiversity is recognized as a possible result from formalizing security of tenure. The hypothesis that security of tenure inevitably leads to reduced pressure on natural resources and biodiversity is in serious question.
- Group tenure may be more effective than individual tenure in promoting conservation. Individual title may be culturally inappropriate in many instances in rural Madagascar. Group tenure, while having advantages and disadvantages, is lower in cost to implement, more compatible with traditional tenure systems and highly compatible with Government's efforts to decentralize.
- The tenure element of PE1 has moved ahead slowly due to lack of rural experience in the Direction Domaines and unrealistic expectations on the part of PE1. Problems of incompatibility with local cultural norms exist, and this has also significantly hindered the program.

- PE2 should consider abandoning the PE1 sectorial approach to tenure concerns altogether. Multi-sectoral support for local resource management may be a more effective approach to developing appropriate tenure responses.
- PE2/GEF tenure efforts should recognize these lessons and include emphasis on information exchange and monitoring of results, and coordinate ICDP (and other) efforts with tenure programs through formal institutional links. Small scale local trials and research are needed before any further comprehensive national program is pursued.

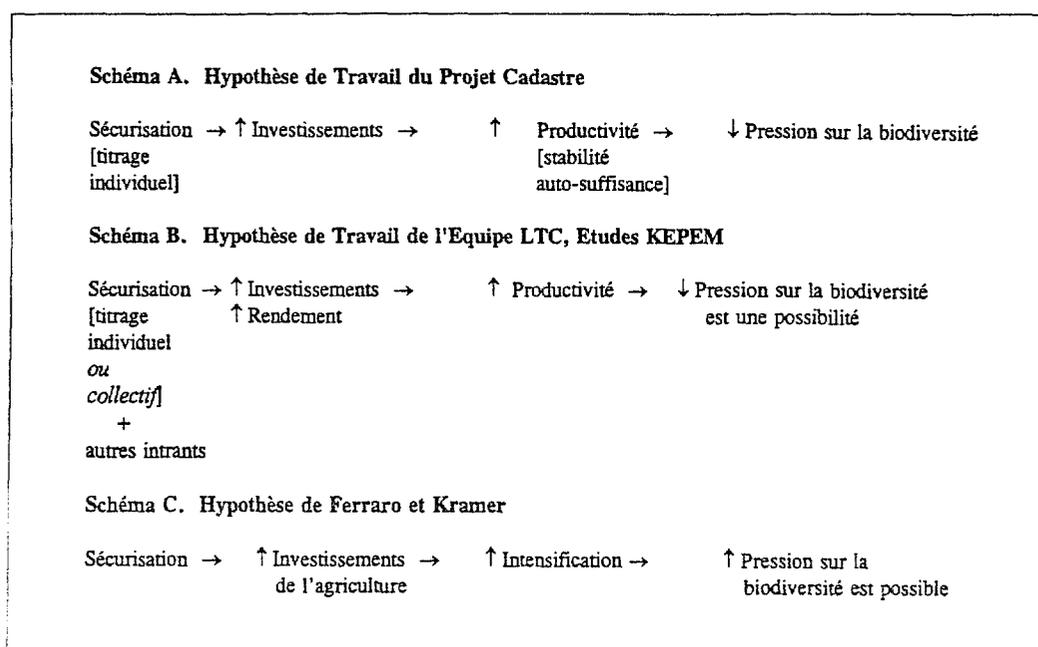


Figure 3

## **Study 2: Decentralization of Natural Resources Management** [*Nadia Rabesahala Horning*]

- Local management of natural resources has quickly been accepted by a wide range of decision-makers as a fundamental element of the government's program of decentralization, which was launched with the new constitution in 1992.
- The State's formal legal monopoly on regulation of resource use is belied by actual practice on the ground, in which most resource regulation takes place at the community level.
- State intervention is appropriate to mediate between communities and to protect the national interest. Community management is appropriate to manage day-to-day resource use. Donors and Government should work to reinforce appropriate application of both local control and state intervention/oversight.
- Effective local management can be based on a system of "Resource Management Contracts" involving all the players in resource use, including communities, the State, and the private sector. Such a system is largely untried and carries inherent risks, but is nonetheless promising.
- Mediation and negotiation are key to the contract approach, and must be carried out at the local level.
- Sectorial approaches to decentralizing natural resource management will need a formal coordinating mechanism which does not currently exist. An alternative is to create a program approach at the local level which is multi-sectoral.
- Information exchange and diffusion between communities and between levels of government will be essential to the success of the local resource contract approach. A cadre of mediators could form the core of an information dissemination and resource management contract approach to decentralized natural resource management.

## **Study 3: Biodiversity Prospecting** [*Marianne Guerin McManus*]

- Established and potential markets for biological resources are large and rapidly expanding. The sales for the US biotechnology industry increased thirty-eight percent over 1990 to approximately \$4 billion in 1991, while sales of plant-derived drugs in the US alone were estimated at \$15.5 billion in 1990. Madagascar, with its extraordinary levels of endemism (species found nowhere else on earth) is in a very strong position to participate in these markets.
- Unregulated markets will inherently inhibit the conservation of biological resources. Unregulated harvesting could easily wipe out a species forever, or cause other significant or irreversible damage.

- It is recommended that Madagascar should undertake the process of implementing the Convention on Biological Diversity by instituting appropriate legislation. This legislation should broadly declare the biodiversity of the country "national patrimony." It should establish specific, enforceable regulations governing access to and collection of biodiversity.
- The new legislation should draw on existing models in Costa Rica, Surinam, and elsewhere to create a specific mechanism for the return of economic benefits derived from biodiversity prospecting to Madagascar.

#### **Study 4: Conservation Finance** [*Marianne Guerin McManus*]

- Ecotourism revenue to support protected areas as planned in PE1 has fallen far short of projections. PE1 rejected "mass" tourism and focused on forest tourism. The market for forest tourism has proven too thin to provide adequate financial support to the protected area system.
- A more financially promising approach for PE2 would emphasize environment-friendly beach tourism as a base from which to market forest tourism. This will give Madagascar a more robust tourism base, and will facilitate building forest tourism adequate to provide significant revenues to the protected areas.
- Donors have over-supported central administration and ICDP's, making the protected areas system unlikely to be self-supporting.
- An endowment for the protected areas system is needed to augment revenue from tourism and to ensure some level of management even in reserves not receiving direct donor support.
- A declining fund should be considered to address the special conservation finance needs of the multiple use forests. Revenues from timber production, wildlife trade and bioprospecting in these forests can be expected to fund their management in the long term. However, current levels of revenue generation are extremely low. Proper management of multiple use forests to produce sustainable revenues will require up-front staff additions and training. Serious loss of biodiversity may result if rebuilding of the Direction des Eaux et Forêts is funded from forest production revenues alone before the capacity to properly manage and control exploitation exists.
- A declining fund would support the immediate addition and training of staff, and would gradually phase out as forest revenues are realized. The National Forest Fund is one possible vehicle for a multiple use or classified forest declining fund. The national environmental endowment is perhaps the best candidate vehicle.

### **Study 5: ICDP Lessons Learned** *[Lisa Gezon]*

- ICDPs are addressing only a part of the biodiversity conservation priorities of Madagascar. A more regional perspective is needed to address pressures coming from the outside of specific protected areas. A greater emphasis on institution building is needed at both the national and local level. This regional, institution building approach contrasts with the national sectoral approach of PE1.
- ICDPs should focus on identifying methods of developing social resource contracts, participation, integration of research, communication, training and monitoring. Project hierarchy has interfered with communication with target communities. Smaller, less bureaucratic projects with staff better trained in community extension techniques would be more effective.
- Rural development has been shown to have both positive and negative influences on pressure on biodiversity. A strong link is required between conservation and development in project dialogue and communities, projects must closely monitor and analyze conservation impacts of development activities, and conservation goals should be discussed in the development dialogue of the very outset of the project.
- Despite heavy donor interest, continuity of project finance has been a major constraint to success.
- The single greatest cause of internal project difficulties is the technical advisor-national director relationship. Formal decision authority rests with the national director, but technical advisors are held accountable by donors. Donors should empower national staff where possible. Technical advisors should be given full decision-making authority for a two year training period as a PE2 policy where it is agreed that they are needed.

### **Study 6: Natural Resource Management Institutions** *[Lisa Gezon]*

- ANGAP lacks a formal legal mandate to enforce protected area legislation. Further donor support should be conditioned on ANGAP receiving enforcement authority.
- ANAE has the most participatory approach of the PE1 institutions. However, its projects may be too small-scale to have an overall impact on environmental management.
- ONE's role is ambiguous, there is no clear accountability with its parent ministry. This accentuates a problem of a proliferation of PE1 institutions with inadequate, unclear or overlapping roles.
- PE2 should clarify institutional mandates, (including ANGAP/DEF, ONE, ANAE and FTM/DD) define limits of acceptable duplication and establish clear line of authority for resolving institutional disputes.