
ANGAP
Association Nationale pour la Gestion des Aires Protégées
National Association for the Management of Protected Areas

Fourth Quarterly Report, Third Project Year
July–September 1995



Submitted to
United States Agency for International Development, Madagascar
Contract No. 623-0110-C-00-1041-00

Submitted by
Tropical Research and Development, Inc.
Gainesville, Florida USA

November 1995



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Tropical Research and Development, Inc.
Highlights of the Fourth Quarter, Third Project Year

Introduction

This past quarter, the fourth quarter of ANGAP's third project year, was a time of unprecedented achievement. While significant results have been attained in previous quarters and are expected in the quarters to come, we would like to take this opportunity to highlight a few of this quarter's outstanding accomplishments.

ACCOMPLISHMENT:

ANGAP's Mission Statement was written and approved at a TR&D retreat.

To establish, conserve, and manage in a sustainable manner a network of National Parks and Reserves representative of the biological diversity and the natural environment unique to Madagascar. These protected areas, sources of national pride for both present and future generations, should be places of preservation, education, recreation, and contribute to the development of peripheral zone communities and to regional and national economies.

RESULT:

Senior association staff members developed a realistic plan to fulfill ANGAP's mission.

- In the week following the retreat, the first draft of the five-year plan was completed, with activities and budgets developed under the following headings: 1) Establishment of a Network of National Parks and Reserves, 2) Conservation of a Network of National Parks and Reserves, 3) Management of a Network of National Parks and Reserves, 4) The Protected Areas—a Place of Education, 5) The Protected Areas—a Place of Recreation, 6) The Contribution to the Development of Peripheral Zone Communities, 7) The New Organigram and Statutes Changes Needed, and 8) A Five-year Budget.

ACCOMPLISHMENT:

TR&D facilitated a workshop that featured South Africa's National Parks Director of Administration, Mr. Herman Botha.

RESULT:

ANGAP has moved significantly closer to its goal of becoming Manager of Madagascar's National Parks.

- 1) Significant advances in the direct management of Isalo National Park (see project document)
- 2) Development of ANGAP's five-year program plan (Environmental Plan-2), including a detailed budget
- 3) Park-specific management classifications determined by ANGAP:

| CATEGORY | DEFINITION | NUMBER OF PARKS LISTED |
|-------------------|---|------------------------|
| <i>Category A</i> | Parks and reserves with ecotourism-related revenue-generating potential | 9 |
| <i>Category B</i> | Reserves lacking revenue-generating potential, but experiencing significant peripheral-zone pressure on resources | 19 |
| <i>Category C</i> | Limited revenue-generating potential and insignificant peripheral-zone pressure on resources | 7 |

ACCOMPLISHMENT:

TR&D facilitated and supported a week-long workshop on financial planning and park feasibility studies presented by the South Africa National Parks Board Director of Finance, Mr. I.J.J. Havenga.

RESULT:

ANGAP prepared a realistic feasibility study for use of USAID and World Bank monies in Isalo for 1996 and 1997.

Further, ANGAP's understanding of "sustainability" has been greatly increased, and the workshop directly led to the confirmation of ANGAP's long-term strategy and a complete reevaluation of funding requirements and designations for the next five-year environmental program.

ACCOMPLISHMENT:

Publication of a four-color brochure for each of the priority parks. (See appendix 2.)

RESULT:

The brochures will sell for approximately \$1.60. The revenue will be reinvested into other publicity and communications endeavors.

ACCOMPLISHMENT:

The "National Parks and Reserves of Madagascar" 24-month calendar (1996-97) was completed and is on sale for \$25. Revenue from calendar sales will also be reinvested. The calendar is professional quality. It was designed by consultant Elizabeth Woodwell, using photographs by many well-known national and international photographers (David Haring, Mark Partridge, Steve Zack, and others) who donated the use of their photographs.

ACCOMPLISHMENT:

The TR&D chief of party established a financial monitoring system covering all publicity and marketing materials funded through the TR&D \$90,000 marketing budget line item.

RESULT:

ANGAP's accounting section will now be able to produce, on a monthly basis, a table showing the items sold, total funds from sales, and remaining inventory for all items in stock. We have also provided a means of tracking the funds generated by sales and used to purchase new items for sale.

ACCOMPLISHMENT:

ANGAP's video (French version) of the four priority national parks (Isalo, Amber Mountain, Andasibe, and Ranomafana) was completed.

RESULT:

This video is intended not only for publicity, but as a potential source of additional revenue.

ACCOMPLISHMENT:

TR&D has assisted ANGAP in acquiring new space on the ground floor of the association's building.

RESULT:

This space will serve as the location for tourists to purchase park entrance tickets in Antananarivo. There is room to create a small shop for sale of various items, including products created by the peripheral zone populations of the various parks and reserves.

Acronyms

| | |
|-------|--|
| ANGAP | National Association for the Management of Protected Areas (Association Nationale pour la Gestion des Aires Protégées) |
| DIVB | Department of Information and Valorization of Biodiversity |
| DRHC | Department for Human Resources & Communication (of ANGAP) |
| DSEP | Departement Suivi Evaluation et Planification |
| PACT | Private Agencies Cooperating Together |
| SAVEM | Sustainable Approach for Viable Environment Management |
| TR&D | Tropical Research & Development, Inc. |

Section I: Tropical Research and Development, Inc.—Quarterly Report

A. Narrative

1. Background

The final objective of ANGAP's institutional contract is the establishment of an entity with sufficient authority and capability to perform its management functions. Achieving this objective will require the creation of a biodiversity information unit, an integrated conservation and development project, and protected-area monitoring and evaluation capability within ANGAP. Tropical Research and Development, Inc. (TR&D) has provided leadership to the association in defining 1) an overall integrated conservation and development project strategy for the protected-area program; 2) the approach to hypothesis testing within integrated conservation and development projects working in Madagascar; 3) the monitoring and evaluation system for ANGAP and the protected-area program; 4) the long-term sustainability of the protected-area program; and 5) the needs assessment and implementation strategy for georeferenced database management systems for biodiversity data. Current contract obligations extend through December 31, 1996, for a total estimated cost of \$6,069,175. The level of effort includes 138 person-months of long-term technical assistance and 40 person-months of short-term technical assistance. USAID is in the process of fully funding the contract.

2. Expected results

TR&D's contractual responsibilities for institutional development of ANGAP can be summarized in the following expected results or task areas, all to be achieved by the end of the contract.

2.1. Task 1: Establishment of a technically and professionally credible role for ANGAP in shaping policy and support in preparation for its long-term institutional role in biodiversity conservation in Madagascar

The overall strategy adopted to reach these results includes the following three subobjectives:

- 1) Support ANGAP and the protected-area program in clarifying and developing medium- and long-term objectives and help provide the strategic planning necessary to accomplish these objectives. This support includes assistance to the association as it seeks to become the "national park service" for Madagascar, as well as assistance in ecotourism development as it relates to the protected areas. This task also includes study of and possible changes in ANGAP's basic organizational structure. Priority has been given to four national parks—Ranomafana, Andasibe, Amber Mountain, and Isalo—with a fifth, Masoala, still under consideration because of the need to add a marine component.
- 2) Support ANGAP in its role of coordinating the protected-area program (which currently has 39 protected areas) and its evolution towards ever greater responsibilities in direct management of the protected areas.
- 3) Provide institutional support in achieving ANGAP's purposes and objectives in

implementing a national policy on biodiversity.

2.2. Task 2: Development of ANGAP's institutional capacity in administration and finance

The overall strategy through which results will be accomplished includes four objectives:

- 1) *Reinforcement of ANGAP's capacity for personnel management.*—Meeting this objective has included such activities as encouraging graded salary scales and written job descriptions for personnel.
- 2) *Reinforcement of ANGAP's administrative and financial procedures.*—This support has included assistance in putting into place a computerized accounting system and training of personnel in financial management.
- 3) *Reinforcement of the association's capacity for grants management.*—Efforts have been made to improve relationships between ANGAP and the Private Agencies Cooperating Together (PACT) grants management unit through team-building and other activities; also, efforts were made to assist the association in focusing its grants management experience in areas consistent with its long-term vision.
- 4) *Financial viability of ANGAP beyond the projected end of donor funding.*—Support has led to involvement in trust fund development, including seeking donors interested in making capital investments in such a trust fund, considering and actively searching for ecotourism-generated funds, and investigating other means of generating revenue.

2.3. Task 3: Establishment of a system coordinating the activities of individual protected-area managers

The strategy being used focuses on setting up a systemwide monitoring program in close collaboration with the protected-area managers, based on a series of programmatic steps (described below under monitoring and evaluation) that will lead to establishing priorities, setting out testable hypotheses that link development with conservation goals, and identifying target populations and the scale of activity outputs thought necessary to achieve impact and visible results. Having jointly achieved this, the two parties (ANGAP and the protected-area managers) are able to monitor program progress together and to make course corrections as needed. Coordination includes communication of results through the protected-area program network and through periodic team-building workshops among all those concerned in the management of the protected-area program. A major focus of our efforts has been to develop within ANGAP a service-orientated philosophy toward the protected-area programs—rather than a philosophy of top-down control.

2.4. Task 4: Development of socioeconomic and biodiversity policy support and monitoring

2.4.1. Task 4A: Development of ANGAP's capacity to shape biodiversity policy and planning on behalf of the Government of Madagascar

Our overall strategy and expected results follow:

- 1) The Department of Information and Valorization of Biodiversity (DIVB) will be separated into information and valorization divisions for biodiversity data management (1995–96). It will be our long-term objective to keep the information component within ANGAP, while moving most of the valorization component—relating to biodiversity *outside protected areas*—into the Bureau of Water and Forests (1996–97).
- 2) The information component will support and manage all data concerning the protected areas of Madagascar currently coordinated by ANGAP (1995–96). This component will include the technical tools (e.g., geographic information system) and databases needed to manage the data and it will support DIVB and field operator protected-area biodiversity activities as well as ANGAP's monitoring and evaluation activities within the protected-area programs (1995–96). This division will also provide technical data management support to all departments of ANGAP (1995–96). The information component will eventually become part of a future national park service "technical unit" (1997–99).
- 3) The valorization of biodiversity data management activities will be more national in focus and will not be limited to the protected areas. Initially this valorization division of ANGAP's DIVB will provide support to the Bureau of Water and Forests' biodiversity unit (1995–96); later it will provide all the technical biodiversity data management activities outside protected areas under the Bureau of Water and Forests' responsibility (1996–97). ANGAP itself will focus its biodiversity data collection and management activities only within the protected-area limits and within the defined peripheral zones (1997–99).

2.4.2. Task 4B: Development of ANGAP's capacity to monitor and evaluate the impact of conservation and rural development activities on protected areas

Our overall strategy and expected results can be summarized as follows:

- 1) A systemwide ANGAP monitoring system will be put into place by working closely with protected-area field operators who have been officially engaged by the Government of Madagascar, through the Bureau of Water and Forests and ANGAP, to manage the integrated conservation and development projects in the protected areas. This system will need to respond to the biodiversity and socioeconomic monitoring needs of the Government of Madagascar, ANGAP, and USAID for information coming from the protected areas of Madagascar and their defined peripheral zones.

- 2) To accomplish this objective, the monitoring and evaluation system will create four levels of monitoring:
 - a) annual monitoring indicators for implementation of integrated conservation and development project process;
 - b) annual monitoring indicators for long-term integrated conservation and development project impact;
 - c) semiannual output indicators (associated with annual work plan activities); and
 - d) assessment of the short-term impact of project activities on the protected area (hypothesis testing), including socioeconomic surveys on key development activities targeted for the four top priority pressures on the protected area in priority subzones as well as ecological monitoring of the protected area (indicator species, stream water quality).
- 3) Integrated conservation and development project activities will be monitored to assess *impact* on:
 - a) those groups of people most directly benefiting from project activities, among whom behavioral changes with regard to protected-area natural resources are expected, and
 - b) the protected area.

2.5. Task 5: Establishment of ANGAP as a source of information and hub of an education and communication network on biodiversity conservation

Our overall strategy and expected results include improvement in communication interchange and support in three principal areas:

- 1) Between ANGAP and other institutions within Antananarivo (e.g., e-mail links and exchange of database catalogs with USAID, the Organization de Recherche Scientific de Territoire de Outre Mer, the Malagasy Geographic Organization, etc.);
- 2) Between ANGAP and its protected-area network (e.g., packet radio training, maintenance, and communication; e-mail links with field operators);
- 3) Between ANGAP and the general public (national and international). This improvement in communication is accomplished through supporting the association's Hanitriniala quarterly review (by writing articles or reviewing them), through helping develop publicity tools for the association (e.g., posters, calenders, display booths, CD-ROM protected-area information disks, etc.), and through supporting television and radio coverage of important association conferences and workshops.

2.6. Task 6: Professional development for ANGAP and integrated conservation and development project staff in appropriate technical fields

Our overall strategy for accomplishing this objective and the expected results include:

- 1) Long-term and annual review of institutional training needs with departments of ANGAP.
- 2) Planning and implementation of an annual training program for ANGAP, the Bureau of Water and Forests, and protected-area program staff. The emphasis for training will be on increasing general program planning and management skills and on monitoring and evaluation, analysis and reporting, park management and planning, and ecotourism. Most of this training will be accomplished in-country. Our training strategy requires that all short-term expatriate technical assistance personnel be assigned to specific in-country local personnel who will receive direct "hands-on" training through association. We also attempt to identify and bring back the same short-term technical assistants to provide long-term training continuity.
- 3) Development of local institutional training capacities in providing in-country training.

3. Summary of implemented activities

Core activities initiated and/or completed during the current quarter, including 33 person-months of short-term technical assistance, are summarized below in terms of the six major tasks and expected core results outlined in Section 2. In this quarterly report, TR&D also provides USAID Madagascar with tables summarizing significant contract activities completed during the past six months and planned for the next six months, as well as tables showing short-term technical assistance and training activities completed during the past quarter (see Appendix 1).

3.1. Tropical Research and Development, Inc. (prime contractor) Activities

3.1.1. Task 1: Establishment of a technically and professionally credible role for ANGAP in shaping policy and support in preparation for its long-term institutional role in biodiversity conservation in Madagascar

- 1) A one-week visit (August 29–September 2) was made by the South Africa National Parks Board Director for Administration, Mr. Herman Botha. Botha specifically assisted ANGAP in looking at its current legal status and determining what changes might need to be planned during the next environmental program (PE-2) to permit it to function properly as Madagascar's national parks and reserves institution. It became clear that ANGAP's legal status as an association is a very important accomplishment for the program and is exactly what the foundation needed to build a semi-independent national parks service (similar to South Africa's own). ANGAP's mission statement must now be officially recognized by the country's highest governing body—the National Assembly. Botha provided important advice on key actions the association would need to take to ensure its future efficacy and offered a detailed list of administrative "functions" the

association would need to fulfill (Botha 1995). Botha left ANGAP a copy of the park board's own constitution and bylaws, which show clearly how South Africa's government establishes supervisory control of a nongovernmental entity (the National Parks Board) in the management of parks for the public trust (all lands belong to the people of South Africa through the state). Botha also helped reorient the association's new organigram to include two (rather than one) operational divisions: one for conservation management and one for tourism and marketing development—with the other departments functioning as "service departments."

- 2) The South Africa National Parks Board director of finances also made a one-week visit (September 24–29). Mr. Havenga assisted the association's Department of Administration and Finance, along with the Isalo National Park manager, in preparing a financial analysis for current funding. That funding includes \$250,000 provided by USAID to Isalo National Park (through the PACT grants management unit) as well as complementary World Bank funding to Isalo and other protected areas for 1995–96. Mr. Havenga also helped the department to review the budget plan for ANGAP's next five-year program (PE-2, 1997–2001).
- 3) ANGAP senior staff retreat (September 3–10) at St. Marie. During a week of intensive discussion, association directors, division leaders, and two TR&D technical advisors met to plan and begin writing ANGAP's formal program document for the next five-year environmental program (PE-2), beginning in 1997. The association, for the first time, developed the wording for its mission statement.
- 4) One short-term expatriate consultant, Mrs. Mabrouka Gasmi from Reunion, assisted ANGAP's documentation center in an internal reorganization. Priorities were set for software development, targeting the kind of documentation and users for this center, and a plan of work was completed for the association's documents expert. The center has been closed down for a three-month period to permit entry of ANGAP documentation into the database for correct future monitoring and use.
- 5) A six-week study concerning the status of the peripheral zone around each protected area was initiated during the quarter by a local firm, Orgasys. The peripheral zone is important for a number of reasons. It includes the people who receive the 50 percent of revenues generated by park tourist entrance fees to support microprojects. It is the area from which many of the direct pressures upon the park or reserve come—and where ANGAP would like to target special assistance in reducing these pressures. It is an area of choice for the establishment of tourist facilities and services for the leading national parks and reserves with tourism potential. Different integrated conservation and development projects have defined the peripheral zone in different ways, and ANGAP would like to determine whether or not it would be possible to level a special "tax" on tourist infrastructure in this zone to generate income that would help sustain these parks. The study is therefore intended to determine whether or not it would be possible, legally, to come to a common definition of "peripheral zone" which could serve these various purposes.

- 6) Dr. Richard Swanson, principal technical advisor to ANGAP, completed a document reviewing the history of the association's institutional development and detailing some of the major accomplishments of the program. The document, titled *National Parks and Reserves, Madagascar's New Model for Biodiversity Conservation: Lessons Learned Through Integrated Conservation and Development Projects (ICDPs)* (October 1995), reviews lessons learned from the experience of the integrated conservation and development projects and discusses directions and issues to be dealt with in the years to come.

3.1.2. Task 2: Development of ANGAP's institutional capacity in administration and finance

- 1) New and very important legislation was passed by the Government of Madagascar in July 1995 that makes it possible to establish an Environmental Trust Fund in Madagascar. ANGAP expects to be actively moving to create a "window" in this legislation by developing a trust fund for the national parks and reserves. Communications with the McArthur Foundation in Chicago, Illinois, continue, with hopes that technical assistance will be available before the end of the year to assist in setting up this trust fund.
- 2) Support to ANGAP's administrative section continued with regard to modification of park entrance fee structures and formats and to research and film fees within the parks and reserves. Orgasys was contracted to assist the association with determining its legal options in this area. The work was completed. Basically, ANGAP has always legally had the right, even the obligation, to set park and reserve visitation fees according to norms it develops. Recommendations were made for both filming and research fees within the parks and reserves. The association plans to move actively on this after their next board of directors meeting in October.
- 3) Assistance was provided to ANGAP's director of administration and finance by two of the most qualified personnel on the South Africa's National Parks Board (Botha, Director of Administration, and Havenga, Director of Finance). This valuable assistance was targeted toward the association's institutional legal statutes and the five-year budget plan for the next environmental program. ANGAP needed assistance in balancing funding levels (\$30+ million) over five years between different components of a parks service and in developing marketing plans and revenue-generating infrastructure. This budget estimate is to be submitted to foreign donors and the World Bank.
- 4) As part of an endeavor to identify sources of revenue which will contribute to long-term sustainability, in August ANGAP received its first shipment of brochures for the priority national parks and reserves. Funded through TR&D and USAID, four separate high-quality color brochures (of Isalo, Ranomafana, Andasibe, and Amber Mountain, with 3,000 copies each) were produced for the association by a local printer (see Appendix 2). Plans are to sell each brochure for about \$1.60, double the production cost. The revenue will be plowed back into other publicity and communications endeavors. Significant numbers have been sold in the five weeks since they have become available to tour operators for use in promotional materials in tour packages in Europe.

- 5) Another income-generating and publicity activity was completed this quarter with the final correction and send-off of proofs for the "National Parks and Reserves of Madagascar" 24-month calendar (1996-97). The calendar is beautiful and of very high quality. It was designed by consultant Elizabeth Woodwell, using photographs by many well-known national and international photographers (David Haring, Mark Partridge, Steve Zack, and others) who voluntarily gave the use of their works of art for the benefit of Madagascar biodiversity protection. The calendar is being produced in South Africa by Photoscan of Pretoria and should be on sale in Madagascar by mid-October for \$20.
- 6) The TR&D chief of party established a financial monitoring system covering all publicity and marketing materials funded through the TR&D \$90,000 marketing budget line item. ANGAP's accounting section will now be able to produce, on a monthly basis, a table showing the items sold, total funds from sales, and remaining inventory for all items in stock. We have also provided a means of tracking the use of funds brought in from sales in purchasing new items for sale. Table 8 provides the details for this, and it will become a regular inclusion in future quarterly reports.

3.1.3. Task 3: Establishment of a system for coordinating the activities of individual protected-area managers

- 1) As part of USAID reorientation for improved results from program activities, TR&D staff continued to work closely with the agency—and with the PACT grants management unit, Knowledge and Effective Policies for Environmental Management, ANGAP, and selected Malagasy government agencies (the Bureau of Water and Forests, Office National de l'Environnement)—to understand "reengineering" concepts and to initiate them. These efforts were largely completed through a series of workshops.
- 2) An important meeting among ANGAP, USAID, the PACT grants management unit, and the integrated conservation and development project operators of the priority parks (Isalo, Ranomafana, Amber Mountain, Andasibe, Masoala) took place at the World Wide Fund for Nature (WWF) headquarters in Antananarivo on August 10. The meeting resulted in a much clearer sense of the mutual expectations of the association and these key operators concerning the future of these programs. It was clarified that ANGAP does expect to take management control of each of these parks (key for tourism development and ANGAP's sustainability) during the next phase of the program, and that there is a need to begin now to move in this direction. These integrated conservation and development projects were encouraged to move more quickly in terms of developing park management plans and the needed park infrastructure. The first step of this process is underway with the ongoing discussions about the transfer of WWF's Amber Mountain complex park management program to ANGAP. For its part, the association explained that the integrated conservation and development project concept will not be abandoned during the next phase and asserted that ANGAP's definition of the "development" aspect, as far as its own activities are concerned, will be limited to the following: 1) microprojects from 50 percent of the park entrance fees; 2) ecotourism development in and around the parks and reserves; 3) environmental education; 4) limited, targeted development actions against pressures on the parks; and 5) involvement

in community actions leading to improved natural resource management through long-term contracts for concessions. The last two actions will not be implemented by association personnel, and they will be coordinated by the park development coordinator. ANGAP would also be a partner, through this coordinator, with nongovernmental organizations and other groups working in more general rural development activities in the area.

3.1.4. Task 4: Development of socioeconomic and biodiversity policy support and monitoring

3.1.4.1. Task 4A: Development of ANGAP's capacity to shape biodiversity policy and planning on behalf of the Government of Madagascar (see section 3.3)

3.1.4.2. Task 4B: Development of ANGAP's capacity to monitor and evaluate the impact of conservation and rural development activities on protected areas

- 1) The monitoring and evaluation advisor completed field visits to Isalo (August 14–18) and Ranomafana (September 19–22). At Isalo, monitoring and evaluation activities were initiated in what is a new site for ANGAP. Actual recruitment of monitoring and evaluation staff cannot take place until the PACT grants management unit and USAID funding begins—hopefully in November. Continued support to the Ranomafana integrated conservation and development project focused on assisting new monitoring and evaluation local socioeconomic staff members to put into place impact-monitoring activities among some 80 households. Four key program activities were identified for this study:
 - a) a group of peripheral zone families who have established a small tented campsite with a portion of the money from the 50 percent of park entrance fees given to peripheral zone residents;
 - b) a group of 13 community groups (men and women) creating handicrafts that are sold through a park-sponsored crafts shop;
 - c) tourist increases as an economic stimulus to the original three, now five, and soon to be six hotels in Ranomafana; and
 - d) the 45 households involved in a 30-hectare marsh reclamation program permitting intensive rice farming (many of these households were formerly landless and major contributors to slash and burn pressures upon park forests).
- 2) A short-term Malagasy consultant was recruited September 11 to assist ANGAP and the TR&D monitoring advisor in putting into place impact monitoring studies in integrated conservation and development projects. ANGAP and TR&D central staff are not able to spend more than three to four days at a time in any one site on field visits—a length of time inadequate for helping program monitoring and evaluation staff visit distant field locations for household selection, questionnaire development, etc. The TR&D monitoring and evaluation advisor spent time in Antananarivo and Ranomafana this

quarter to help train Mr. Henry Abel-Ratovo in the monitoring and evaluation system and the work which needs to be done. Mr. Ratovo will be spending four-week periods in Ranomafana, Andasibe, Amber Mountain, and Zahamena during the coming months. Each four-week period will be divided into two separate support visits.

- 3) This September, the TR&D monitoring and evaluation advisor prepared—with ANGAP's Department of Monitoring, Evaluation, and Planning and the PACT Grants management unit—for the upcoming annual monitoring and evaluation workshop held in Antsiribe on October 2–7. Dr. Swanson prepared a short general opening presentation for this workshop, titled "Protected Area Monitoring and Evaluation: General Orientations."

3.1.5. Task 5: Establishment of ANGAP as a source of information and hub of an education and communication network on biodiversity conservation

- 1) ANGAP's video (French version) of the four priority national parks (Isalo, Amber Mountain, Andasibe, and Ranomafana) was completed this quarter. The eight-minute footage for each national park, with audio tracks, is of professional quality. This video is intended not only as a source of publicity for Malagasy and expatriates alike but as a potential source of additional revenue. ANGAP expects to recoup at least the expense of creating the video. TR&D (United States) will be duplicating copies for sale during the month of October.
- 2) The creation of four publicity pamphlets for the four priority national parks was completed with the assistance of a short-term consultant, Ms. Suzanne Jeanine Lucie.
- 3) ANGAP's documentation center benefited from a professional documentation center advisor this quarter. The mission of this documentation center was defined (narrowed) and a system was put into place to make protected-area documentation more useful to ANGAP and its direct partners.
- 4) TR&D has assisted ANGAP in acquiring new space on the ground floor of the association's building. This space, with a large glass display area, will serve as the location for tourists to purchase park entrance tickets in Antananarivo. There is room to create a small shop for sale of various items, including products created by the peripheral zone populations of the various parks and reserves. Preparation of this display area was contracted out to a Malagasy firm during this quarter and has been completed.

3.1.6. Task 6: Professional development for ANGAP and integrated conservation and development project staff in appropriate technical fields

Thirty-five person-months of training were completed during the past six months, much of it during this past quarter. Specific major activities are highlighted below:

- 1) Planning for the rest of this year, based on the new partnership with the South Africa National Parks Board:

- a) Mr. Charles Rakotondrainibe, "Park Manager" for Isalo National Park, returned August 20 after 12 weeks of training in South Africa's national parks. The training appears to have been extremely useful, because Mr. Rakotondrainibe has shown increased confidence in the direction he would like to take Isalo National Park. The training has also been of major importance in the completion of the project document for Isalo's funding through USAID and the World Bank.
- b) "Park managers in training" from Ranomafana, Andasibe, Lokobe, and Masoala left for South Africa on August 12 and returned on September 23. Masoala, Lokobe, and Andasibe managers visited Tsitsikamma to understudy the activities of the park warden and staff (game rangers, technical staff, tourism staff, and environmental educators), with emphasis on forest and marine environmental management and tourism utilization. The Ranomafana park manager began with the program at Tsitsikamma and then moved on to Golden Gate, with emphasis on management of mountain environment, grassland habitat, fire management, walking trails, and youth activities. All returned with a new vision of where they could take their own programs.
- c) ANGAP's Director of Public Relations and Ecotourism, Ms. Jacqueline Rakotoarisoa, spent 10 days with her counterpart in South Africa's National Parks Board (Susan van der Merwe) between August 2-12. She was accompanied by the personal administrative assistant to the association's director general; this assistant spent time with two personal assistants to Dr. G. A. Robinson (the Park Board's Executive Director) reviewing office management issues.
- d) Five protected-area personnel programs (three from Ranomafana, one from ANGAP, and one from the Andohahela) were prepared for a six-week interpretation center training in Arkansas between October 9-November 14. Two of these programs are to be supported by the TR&D training budget.
- e) Three Peace Corps volunteers were engaged over this quarter to provide intensive (one-on-one) conversational English language training to ANGAP senior staff. In spite of an extremely busy staff schedule, the association's staff obtained 82 person-hours of training during this time.

3.2. Current buy-ins

There were no buy-ins in the quarter.

3.3. Current subcontracting activities

The Tropical Forest Management Trust has been subcontracted to provide a long-term geographic information system advisor to assist with the development of the DIVB within ANGAP. Specific activities of the subcontractor for the reporting period are discussed below, in terms of the contract task objectives.

3.3.1. Task 3: Establishment of a system for coordinating the activities of individual protected-area managers

- 1) On behalf of ANGAP and its partner nongovernmental organization operators, the DIVB negotiated a very important agreement with Madagascar's National Cartographic Institute, setting out the standards for digital mapping (costs of products, penalties for delays, precision required, etc.), the procedures for controls and penalties, and the intellectual property rights associated with these data. This was the fruit of eight months of very difficult negotiations. Now ANGAP's partners can directly, and more rapidly, order digital map products from the National Cartographic Institute, simply by referring to this agreement. The data obtained in this way can also be used directly by ANGAP or any other protected-area operator.
- 2) Following the agreement noted above, the DIVB issued a contract with the National Cartographic Institute representing the following integrated conservation and development project operators: Zombitse/Vohibasia, Andringitra, Andasibe/Mantadia, Amber Mountain, Marojejy/Anjanaharibe, Andohahela, Ranomafana, and Isalo. This contract represents more than one year of work for the institute.
- 3) The DIVB centralized the purchase of aerial photography and map products for Isalo and Lokobe and the acquisition of satellite imagery from the United States Geological Survey for Masoala, Amber Mountain, and Andohahela.
- 4) The DIVB began the process of installing geographic information system computer units and software in Amber Mountain and Ranomafana and technically supported Andasibe, Andohahela, and the WWF Antananarivo headquarters (Andringitra and Zombitse) in moving in this direction.
- 5) The department also established the norms for photo-interpretation work at the level of the various priority protected areas. We have observed significant improvement in the quality of and ability to use these materials.

3.3.2 Task 4: Development of socioeconomic and biodiversity policy support and monitoring

3.3.2.1. Task 4A: Development of ANGAP's capacity to shape biodiversity policy and planning on behalf of the Government of Madagascar

- 1) The Tropical Forest Management Trust geographic information system technical advisor, Mr. Jean-Michel Dufils, developed a document concerning the reorientation of the objectives and strategy for ANGAP's DIVB (summarized in 4.3.1.1).
- 2) Mrs. Chantal, head of the DIVB's subsection on Information Valorization, participated in a month of training in France during this quarter. This training included a seminar on the "Economic Evaluation of Biodiversity" in Montpellier, France, followed by training in Paris on "The Management of Renewable Resources for Common Property." The objective was to permit ANGAP to develop the competence needed to participate

actively in the definition and application of policies concerning community management of natural resources initiated during the Mahajunga and Antsiribe conferences last year.

- 3) DIVB staff were present and played an active role in all the important meetings during the past quarter concerning Madagascar biodiversity. These included the Global Environmental Fund scientific workshop to establish biodiversity priorities for Phase 2 of the environmental action plan, the National Convention on Madagascar Biodiversity, and the International Seminar on Madagascar's Biodiversity, in Paris.
- 4) The DIVB negotiated and revised the first research convention between ANGAP and an international institution (Stony Brook–Institute for the Conservation of Tropical Environments) on Isalo and Manombo.

3.3.2.2. Task 4B: Development of ANGAP's capacity to monitor and evaluate the impact of conservation and rural development activities on protected areas

Technical assistance provided by Tropical Forest Management Trust's geographic information system advisor helped field programs advance in addressing the spatial information needs of ANGAP's ecological monitoring system.

- 1) The Tropical Forest Management Trust advisor provided technical assistance to Ranomafana and Andohahela field personnel by providing training opportunities in the DIVB's geographic information system computer room. Data obtained from the field (vegetation, water resources, population, etc.) were used to produce socioeconomic and ecological cartographic products. Some of these products are provided in Appendix 2 as an example of the work accomplished. They have provided valuable reference tools for program field workers.
- 2) Analysis of forest cover during the 1950s for the Ranomafana region was completed. Preliminary classification of vegetation of the same region from two satellite images (1989–90) has been initiated and is currently undergoing field verification.
- 3) A vegetative map of the Andohahela region was established using the 1990 satellite images.
- 4) Collaboration was initiated with the state's information data bank in order to use a common geographic reference base and a common codification system for socioeconomic variables (i.e., village names, etc.). ANGAP's DIVB provided its skills in terms of numerical georeferenced databases and the information data bank made available its data from the recent national census. A pilot project in the Fianarantsoa is under way.

3.3.3. Task 5: Establishment of ANGAP as a source of information and hub of an education and communication network on biodiversity conservation

- 1) The DIVB initiated regional collaboration between integrated conservation and

development project operators and other institutions and projects for the purpose of collecting and exchanging data: a) WWF Andohahela and the Southern Development Project (European Development Fund); b) Cellule Information Ankarafantsika and the International Work Bureau; and c) Ranomafana and the state's information data bank.

- 2) Collaboration and exchange of data was also effected with a number of national and international institutions: a) Kews Gardens (geology and vegetation data); b) Organization de Recherche Scientific de Territoire de Outre Mer/LRSAE (hydrology and meteorological data); c) Geneva Botanical Garden (vegetation study from Manongarivo region); d) state's information data bank (codification and national census data); e) Clark University (road network in Fianarantsoa region).
- 3) The Tropical Forest Management Trust advisor initiated and supervised a study of ANGAP's documentation center, undertaken by short-term advisor Mrs. Gasmi (see section 3.1.1 number 4).
- 4) ANGAP's DIVB recruited a new technician, Ms. Lanto, to manage day-to-day operations in the geographic information system laboratory and to manage the input of numerical data.

3.3.4. Task 6: Professional development for ANGAP and integrated conservation and development project staff in appropriate technical fields

Specific major activities in training include:

- 1) The subdepartment head of the DIVB responsible for geographic information system development within ANGAP, Mr. Alain Randriamaherisoa, attended an advanced three-week geographic information system course at the Environmental Sciences Research Institute in Redlands, California. TR&D also sent Mr. Jean-Solo, geographic information system technician from the integrated conservation and development project of Masoala, to this same training session. Training was offered by Mr. Dangermond, president of the Environmental Sciences Research Institute, following a visit by Ms. Faramalala, director of ANGAP's DIVB, and Mr. Jean-Michel Dufils, the Tropical Forest Management Trust advisor, to the United States earlier this year.
- 2) The DIVB provided training in photo-interpretation, map digitization, and analysis of data in its geographic information system laboratory to personnel from the following integrated conservation and development projects: Masoala, Amber Mountain, Andohahela, Zahamena, Andasibe, and Ranomafana. This training was intended to support spatial data analysis needed for ecological monitoring.
- 3) A remote sensing training session, in collaboration with Mr. Jim Rowlands of the United States Geological Survey's Eros Data Center, was given to geographic information system technicians of the integrated conservation and development projects of Masoala and Ranomafana, as well as to personnel of the Department of Water and Forests and the National Center for Environmental Resources.

- 4) Mrs. Chantal, head of the Information Valorization subsection of the DIVB, followed a training program on the economic evaluation of biodiversity in CIRAD/Paris.

4. Performance

4.1. Tropical Research and Development (prime contractor)—Performance

TR&D is on target in all task areas outlined above.

Field staff benefited during this quarter from the visit of Mrs. Sally Dickinson, president of TR&D, and Dr. Pauline Wynter, TR&D home-office project manager (August 9–15).

4.1.1. Park planning and ecotourism

One significant result of the St. Marie strategic planning session for ANGAP in September was the development, for the first time, of the association's mission statement. According to that statement, the association's goal is:

“To establish, conserve, and manage in a sustainable manner a network of National Parks and Reserves representative of the biological diversity and the natural environment unique to Madagascar. These protected areas, sources of national pride for both present and future generations, should be places of preservation, education, recreation, and contribute to the development of peripheral zone communities and to regional and national economies.”

Having developed this mission statement, ANGAP senior staff proceeded to analyze the different functions the parks system would need to perform to carry out this mission. The staff then outlined priority activities to be initiated and sustained by the program and determined the nature of the organizational structure (functional organigram) that would be needed to implement the activities. In the week following this retreat, the first draft of the five-year plan was completed, with activities and budgets developed for the following outline headings, following the basic functions of the mission statement: 1) establishment of a network of national parks and reserves; 2) conservation of a network of national parks and reserves; 3) management of a network of national parks and reserves; 4) the protected areas—a place of education; 5) the protected areas—a place of recreation; 6) the contribution to the development of peripheral zone communities; 7) the new organigram and statute changes needed; and 8) a five-year budget.

4.1.2. Park management by ANGAP

During the past quarter, ANGAP has moved much closer to realizing one of the basic concepts of its long-term vision—being the manager of Madagascar's national parks and reserves. Significant advances in this direction are evidenced by:

- 1) The progress made in the direct management of Isalo National Park, as demonstrated by its project document (for USAID and World Bank funding).

- 2) The substantial document prepared for the next environmental plan (PE-2), which outlines to the government and donors ANGAP's program plan for the next five years, including a detailed budget. This plan is coherent and consistent with its stated long-term vision.
- 3) The movement by a number of the Sustainable Approach for Viable Environment Management (SAVEM) projects to associate ANGAP more directly with park management. This movement is apparent in Amber Mountain, Masoala, and Ranomafana, and there seems to be progress with Andasibe as well. All of these are priority parks. ANGAP recognizes that the various national parks and reserves under its direction cannot all be managed in the same manner. Thus they have been classified into three categories, each with its own management structure, activity areas, and corresponding budget line items.

Category A: All national parks and reserves with the potential to generate revenue through the development of ecotourism. These are the parks which may someday contribute significantly to the financial base needed to sustainably conserve and manage Category B and C reserves. Nine parks and reserves are classified here.

Category B: All reserves without significant ecotourism potential but nevertheless experiencing significant pressures from local peripheral zone populations on reserve natural resources. Some targeted peripheral zone development activities will need to be encouraged and proper conservation surveillance and supportive infrastructure will need to be maintained. Nineteen reserves are classed here.

Category C: All reserves with neither significant ecotourism potential nor significant pressures from local peripheral zone populations on reserve natural resources. A limited conservation surveillance infrastructure and presence is required. Seven reserves are classed here.

4.1.3. Program sustainability

Perhaps the most important achievement this quarter, on this subject, took place during the week-long intensive workshop on financial planning and park feasibility studies given by the South Africa National Parks Board Director of Finance, Mr. Havenga. His advice has helped ANGAP understand more completely what it means to "become sustainable."

Important issues included the establishment of a series of operating financial "principles." Havenga stressed that the creation of a healthy financial base is essential for ANGAP's future to permit it to fund and maintain the conservation activities. The need for the association to develop a decision-making framework from top to bottom was evident. Sustainability is impossible without the financial discipline of "transferring all money that has been budgeted for the replacement of assets on a monthly basis to a trust fund that has been specifically put in place for this purpose. It must be policy that income must be higher than expenses, and the indicated annual escalation of income percentages must also be higher than the percentage increase in expenses" (Havenga, 1995). Mr. Havenga's assistance led ANGAP, for the first

time, to prepare a realistic feasibility study for use of USAID and World Bank monies in Isalo for 1996 and 1997. One version of this analysis shows Isalo National Park revenue exceeding expenses by 1998, with revenue quickly increasing beyond this time, which will allow support of other reserves lacking ecotourism revenue potential.

This study has confirmed to ANGAP the validity of its long-term strategy toward sustainability and has led to a complete reevaluation of the amount and designation of money ANGAP hopes to receive during the next five-year environmental program beginning in 1997.

4.1.4. Monitoring and evaluation

The monitoring and evaluation system developed last year, and revised and agreed to during the October 1994 Andasibe monitoring and evaluation workshop, included four major types of information:

- 1) Indicators for monitoring institutional and program development of ANGAP and field integrated conservation and development projects as well as the processes needed to achieve this (annual).
- 2) Indicators for monitoring long-term impact of program activities. This included development of spatial and ecological monitoring, such as indicator species, and monitoring of plots within protected areas and in peripheral zones for biodiversity makeup and change (annual).
- 3) Output indicators associated with annual work plan activities (semiannual).
- 4) Indicators for monitoring the short-term impact of program activities on protected areas, which included development of hypothesis statements for major program activities (annual). To achieve this, integrated conservation and development projects agreed (at Antsiribe) to select a sample of 15–20 households associated with up to four activities each program considered well focused toward reducing the four highest ranked threats (and possibly others) upon their protected areas. These were to be the “indicator households and activities” to be monitored more closely for impact. Personnel from ANGAP, TR&D, and the Government of Madagascar devoted a great deal of time in the field to encourage integrated conservation and development projects in prioritizing threats, identifying causes, identifying activities responding to these threats, developing hypothesis statements on cause-effect relationships between proposed activities and anticipated impact, and determining scale (sample size) for impact, etc.

For information types 1 and 2 above, substantial progress has been achieved in some integrated conservation and development project programs—however, some have failed to submit any information at all. For the 1994 year activities, ANGAP received the tables for this information only in the annual reports of Ranomafana, Amber Mountain, Masoala, Andohahela, Zahamena, Marojejy, and Andringitra. This indicates that other programs have not fulfilled their designated responsibility in this area.

For information type 3, output indicators in semiannual reports, even less was completed. Only five of the six SAVEM integrated conservation and development projects (Ranomafana, Amber Mountain, Zahamena, Andohahela, and Masoala) provided this information.

For information type 4, socioeconomic impact at the household level—results of hypothesis testing, there have been mixed results. While most integrated conservation and development projects went through the process of identifying threats and causes, developing activities with hypothesis statements, etc., few succeeded in taking the next step of selecting sample households to monitor. In many cases, this appears to be because:

- 1) the integrated conservation and development project in question did not hire monitoring and evaluation staff to organize and implement this, or
- 2) monitoring and evaluation field staff received conflicting messages (from the integrated conservation and development project and ANGAP) about their priorities in developing field-level monitoring, or
- 3) in some cases, integrated conservation and development projects perhaps did not feel obliged to follow a monitoring and evaluation plan promoted from ANGAP; they could develop their own.

It can be difficult, in the field, to choose an activity for impact monitoring, if the project activities were not initially grounded in a detailed, well thought-out hypothesis. In many cases, there was uncertainty about what kind of measurable “effects” the selected activities could be expected to have in “reducing pressures.” For example, what kind of behavioral impact, whether short or long-term, could one reasonably expect intensified rice farming (new varieties, water management) to have on “reducing tavy farming”? How does one realistically measure this? Perhaps the linkage is neither clear nor direct enough or perhaps the threat to the resource base (the park or reserve) is not direct and clear. As we have seen, integrated conservation and development projects in Madagascar have essentially been able to justify every kind of activity imaginable because of some hypothesized direct or even indirect linkage.

Time is another problem. We know that changing behavior takes a great deal of time and that the full impact of many integrated conservation and development project activities may take years, even decades, to realize. This reality does not diminish the need to identify and monitor indicators (steps in the process of change) for the kind of positive change we hope to see as a result of program activities, but must be taken into account. Change can also be negative, and the potential impact of this needs to be known as soon as possible. The danger of negative change makes it even more important that the links between development activities and the conservation of the protected area be as direct and clear as possible.

Agreement is needed concerning the use of field personnel for program monitoring and about linking them in some more direct manner to ANGAP’s guidance. Ideally, it might be useful to see each integrated conservation and development project designate one specific person for geographic information system and for ecological and socioeconomic monitoring who would be in some way functionally attached to the DIVB’s monitoring unit (i.e., following a common

strategy for arriving at results which can be analyzed at a systemwide level).

4.2. Current buy-ins

There are no buy-ins to be reported.

4.3. Subcontractor performance

4.3.1. Tropical Forest Management Trust

The performance of Tropical Forest Management Trust is on target.

Activities of particular significance are described below.

4.3.1.1. Department of Information and Valorization of Biodiversity

The Tropical Forest Management Trust prepared a paper describing DIVB objectives and strategies in order to make a quick assessment, learn lessons, and redirect department activities for Phase 2 of the environmental program. The paper was also intended to review the long-term vision of ANGAP. Such reflection was necessary because the DIVB, created in a particular context (including the biodiversity planning service, the integrated conservation and development project, and Phase 1 of the environmental plan), has evolved considerably over the last year. ANGAP management misunderstood activities linked to biodiversity conservation support at the national level. One relevant example is the study of intellectual property rights concerning biodiversity. The study, conducted by Mrs. MacManus (June 1994), presented a summary of the judicial situation in Madagascar and suggested actions to be taken in order to ensure better legal protection of national interests in biodiversity commercial protection and exploitation. This study can only have impacts if there is a true political will to take the necessary legal measures and apply them. Creating this will is beyond the control of ANGAP.

Additionally, the DIVB appears to be better known, appreciated, and used by persons and groups not affiliated with ANGAP than by persons within the association itself. Activities should now be redirected to give assistance to other ANGAP departments. The reorganization of the ANGAP organigram as defined during the St. Marie workshop is badly needed and urgent. The DIVB's most significant experience includes its unanimously acknowledged expertise in geographic information systems and remote sensing, the technical support given to integrated conservation and development project operators and the links established with several national and international institutions.

4.3.1.2. Geographic Information System-ANGAP

4.3.1.2.A. Central level

The unit is thoroughly operational. A new staff member was hired on July 1 to maintain the computer room and capture data. About 15 persons outside ANGAP were trained to use the equipment. These individuals, who come from integrated conservation and

development projects, the Bureau of Water and Forests, the Centre National de Recherche Environnementale, and other institutions, work on a regular basis with ANGAP's geographic information system, thus enabling a continuous supply to databases. Important data have been obtained from several institutions. Because of their nature and varying origins, they are not always ready to be exploited, as they have not been properly formatted and structured. Control, formatting, and structuring are part of the daily maintenance of databases and require full-time qualified personnel, which is currently lacking. Data processing and analysis also require qualified personnel to ensure regular production of documents. "Rough" data cannot be sold because of intellectual property rights issues, but analysis and processing results may be of some added value in addition to their technical interest. In brief, to be a center of excellence, ANGAP's geographic information system must first become a productive expertise center.

4.3.1.2.B. Integrated conservation and development project operators' level

Following the decentralization strategy, the assistance given by ANGAP's geographic information system to operators has had remarkable results. The example of the Masoala pilot project has stimulated other projects that were first skeptical of the DIVB. During the last quarter, efforts were focused on Amber Mountain, Ranomafana, Andohahela, and the WWF geographic information system (which manages Andringitra, Pic d'Ivohibe, Zombitse, Vohibasia). The following table summarizes the SAVEM integrated conservation and development projects situation in September 1995.

| | Amber | Masoala | Zahamena | Andasibe | Ranomafana | Andohahela |
|--|------------|---------|------------|------------|------------|------------|
| Needs assessment | X | X | X | X | X | X |
| Order equipment | X | X | X | X | X | X |
| Install equipment | X | X | in process | in process | X | X |
| Geographic information system training | in process | X | in process | in process | X | X |
| Pilot project | | X | | | X | X |
| Geographic information system unit operational | | X | | | X | X |

5. Scope of work

5.1. Park management position

A scope of work was prepared for a new park operations advisor position at ANGAP. This advisor would support one of the two operational divisions—park operations or management. It is to begin on or about January 1, 1996. Proposed initially for a 12-month period, this position is

essential for ANGAP for at least the next three years, and possibly longer. It is urgent that this position be filled as quickly as possible to relieve Dr. Swanson, who has been serving in this role in addition to his duties as monitoring and evaluation advisor and TR&D chief of party.

It is the field team's observation that ANGAP needs one other long-term technical advisor, to support ANGAP's operational division of marketing and ecotourism.

B. Administrative information

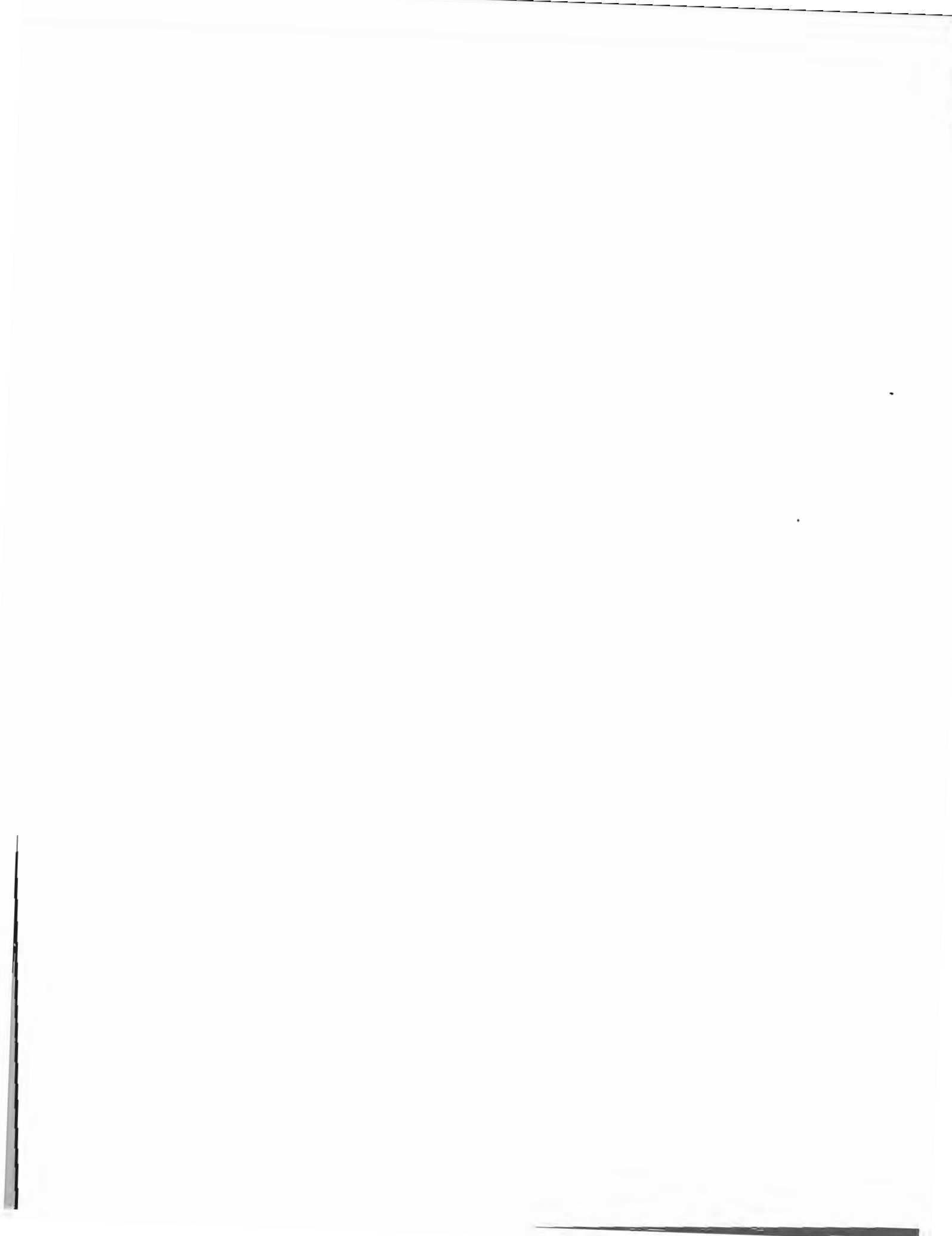
Contract Data

| | |
|--|----------------|
| 1) Total value of contract | \$6,069,175.00 |
| 2) Quarter expenditures (July–September 1995) | \$ 257,893.12 |
| 3) Cumulative expenditures to date (September, 1995) | \$4,032,294.32 |
| 4) Remaining unexpended balance | \$2,036,880.68 |
| 5) Percent unexpended | 33.56 percent |

Section II: Project officer's comments

Section III: Contract office's comments

APPENDICES



Appendix 1. Tables

| | |
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Table 1. Short-term Technical Assistance
 Total Short-term Technical Assistance in contract = 40 person months
 TR&D Budget Line Item 45-21

| Dates | Number of Weeks (Program) | Number of Weeks Used | Dates Planned | Scope of Work complete? | Mission Clear? | Date Arrived | Date Departed | Date Draft | Date Final | Translated? | Budgeted | Actual Cost | Balance | Name |
|---|---------------------------|----------------------|------------------|-------------------------|----------------|--------------|---------------|------------|------------|-------------|--------------|--------------|--------------|---|
| 1994 | | | | | | | | | | | | | | |
| Ecotourism Training | 5 | | July 8-Aug. 13 | Y | Y | July 8 | Aug. 13 | Aug. 12 | Sept. 10 | Y | 8400 | 12149 | -3649 | James MacGregor |
| Communication Training | 3 | | May 22-June 12 | Y | Y | May 27 | June 12 | June 10 | Aug. 15 | Y | 5040 | 5248 | -208 | Mary Leeds |
| Intellectual Property Rights/Biodiversity | 5 | | Aug. 14-Sept. 3 | Y | Y | Aug. 14 | Sept. 3 | Sept. | Oct. 15 | Y | 5040 | 5567 | -527 | Marianne Guerin McManus |
| Park Management (Systems Level) | 6 | | Nov. and Dec. | Y | Y | Nov. 6 | Dec. 15 | Dec. 15 | Dec. 23 | Y | 10080 | 8576 | 1504 | Antoine Clouet (Systems) |
| Trust Follow-ups in WDC (World Bank, USAID) (Pauline Wynter) | 1 | | Quarters 3 and 4 | Y | Y | | | | | | 1680 | 2649 | -969 | Pauline Wynter |
| Total: | 18 | | | | | | | | | | 30240 | 34289 | -4049 | |
| 1995 | | | | | | | | | | | | | | |
| Protected Area/Peripheral Zone Concessions Study: Park Entrance fee legal change (local) | 8 | 4 | 2nd Quarter | Y | Y | June 22 | August | August | | | 13440 | 4236 | 9214 | Orgasys |
| Protected Area/Peripheral Zone Concessions Study: Peripheral Zone Legal Definition (local) | | 6 | 3rd Quarter | Y | Y | August 25 | October | | | | | | | Orgasys |
| Protected Area/Peripheral Zone Concessions Study: Service Zones for Park Infrastructure (Local) | | | 4th Quarter | | | | | | | | | | | |
| Park Management (Systems Level) | 5 | | Quarters 2 and 3 | | | | | | | | 8400 | | 8400 | |
| Park Management (Park Level) | 8 | 9 | Quarters 1 and 2 | Y | Y | Feb. 16 | March 31 | March 29 | | | 13440 | 8965 | 4475 | Jay Miller, Arkansas State Park System |
| Peripheral Zone Town--Ecotourism Planning | 4 | | 3rd Quarter | | | | | | | | 6720 | | 6720 | |
| Ecotourism (I) | 12 | 7 | 1st Quarter | Y | Y | Feb. 14 | March 30 | March 29 | | | 20160 | 14235 | 5925 | James MacGregor (third visit) |
| Sustainable Rainfed Agriculture | 9 | | Quarters 1 and 2 | Y | | | | | | | 15120 | | 15120 | |
| Aerial Photography Consultant (M&B) (LT Indicators) (LH-B&P) (5 PW) | 10 | | 2nd Quarter | | | | | | | | 16800 | | 16800 | |
| Sustainable Harvesting of PA Natural Resources (community-based contracts) | 16 | 10 | 1st Quarter | Y | Y | May 18 | July 21 | July 21 | | | 26880 | 6797 | 20083 | Mario Gauthier + 2 Malagasy (Ony, Benjamin) |
| Trust Follow-ups in WDC (World Bank, USAID) | 1 | 1 | 2nd Quarter | Y | | | | | | | 1680 | 3896 | -2216 | Pauline Wynter |
| Biodiversity Classification (Ethnoscience, Folk Class.) (Monitoring and evaluation) | 7 | | Nov. and Dec. | | | | | | | | 11760 | | 11760 | |
| (1) Reorganization of Documentation Center/ Publications Database | | 1 | 3rd Quarter | Y | Y | Sept. 17 | Sept. 23 | Sept. 23 | | | | | | Mabrouka Gasni |

| Duties | Number of Weeks (Program) | Number of Weeks Used | Dates Planned | Scope of Work complete? | Mission Clear? | Date Arrived | Date Departed | Date Draft | Date Final | Translated? | Budgeted | Actual Cost | Balance | Name |
|---|---------------------------|----------------------|------------------|-------------------------|----------------|--------------|---------------|------------|------------|-------------|-------------------------|---------------|--------------|---|
| (2) Assistance in monitoring and evaluation field impact studies | | 8 | 3rd Quarter | Y | Y | Sept. 19 | Dec. 15 | Oct. 6 | | | | | | Abel-Ratovo Henri |
| Platinum training in accounting | 1 | | 4th Quarter | | | | | | | | 1680 | | 1680 | |
| ANGAP Personalization (Local Commercial Marketing Public.) (LH) (12 PW) | 4 | | 4th Quarter | | | | | | | | 6720 | | 1220 | Calendars, Posters, Videos, Pamphlets, etc. |
| (1) Design of 4 Priority Area Pamphlets for Tourists | | 2 | 3rd Quarter | Y | Y | May 18 | July 21 | July 10 | July 21 | Y | | 2000 | | Suzanne Chaussivert Remuzat |
| (2) Design of 1996-97 ANGAP Protected Area Calendar | | 2 | 3rd Quarter | Y | Y | June 12 | July 28 | July 18 | | Y | | 3500 | | Elizabeth Woodwell |
| Protected Area Assessment (Level 2 Areas) (120 PD, LH) (24 PW) | 8 | | Quarters 4 and 1 | Y | | | | | | | 13440 | | 13440 | |
| Total Used: | 93 | 48 | | | | | | | | | Estimated Total: | 156240 | 43619 | 112621 |

South Africa National Parks Board/Sister Parks Support Agreement (travel + per diem only) (TR&D Line Item)

| | | | | | | | | | | | | | | |
|--|---|---|-------------------|---|---|-----------|----------|--|----------|---|------|-----|-----|---|
| (1) Exploratory visit for Sister-Parks-System Relationship | 1 | 1 | 4th Quarter, 1994 | Y | Y | Dec. 4 | Dec. 10 | | Dec. 23 | Y | 1000 | 600 | 400 | Dr. Robbie Robinson, Exec. Dir., National Parks Board |
| (2) Setting up of ANGAP and Parks Board Partnership Training Program, etc. | 1 | 1 | 2nd Quarter | Y | X | May 21 | May 27 | | May 27 | Y | | | | Dr. Herb Martin, Parks Board Dir. of Research & Development |
| (3) Consultancy to advise on ANGAP legal institutional status | 1 | 1 | 3rd Quarter | Y | Y | August 29 | Sept. 2 | | Sept. 2 | Y | | | | Mr. Herman Botha, Parks Board Dir. of Administration |
| (4) Assistance to ANGAP in preparing Isalo financial feasibility study | 1 | 1 | 3rd Quarter | Y | Y | Sept. 24 | Sept. 30 | | Sept. 30 | Y | | | | Mr. I.J.J. Haveaga, Parks Board Dir. of Finance |

Third Quarter, July-September, 1995, 35 persons weeks of short-term technical assistance used

Short-term technical assistance, International \$280 per day plus per diem

Short-term technical assistance, Local \$100 per day (all expenses)

Man Weeks are calculated at \$280 per day @ 6 days per week or \$6,160 per month

Man Weeks for short-term technical assistance, for expatriate and local consultants are combined in table (local 1/3 of expatriate)

1996

| | | | | | | | | | | | | | | |
|---------------------------------------|-----------|--|------------------|--|--|--|--|--|--|--|--------------|--|--------------|----------|
| Park Management (Systems Level) | 4 | | Quarters 1 and 4 | | | | | | | | | | | |
| Park Management/Planning (Park Level) | 8 | | Quarters 1 and 2 | | | | | | | | 13440 | | 13440 | |
| Ecotourism | 6 | | Quarters 1 and 2 | | | | | | | | 10080 | | 10080 | |
| Aerial Photo Monitoring (LH expt) | 8 | | Quarters 3 and 4 | | | | | | | | 13440 | | 13440 | |
| Not Yet Planned | 2 | | TBD | | | | | | | | 20160 | | 20160 | |
| Total | 38 | | | | | | | | | | 63840 | | 63840 | 0 |

Table 2. Major activities accomplished during past six months (April–September, 1995) by task area

| 2A. <i>Task 1: Establishment of a technically and professionally credible role for ANGAP in shaping policy and planning and support in preparing for its long-term institutional role in biodiversity conservation in Madagascar.</i> | | | |
|---|---------------------------|--|---------------------------|
| Scheduled | ANGAP Department/Level | Description | Date Completed |
| April | DIVB | Study tour at INBIO (DIVB and DEF representative) | April 21–May 8 |
| May–September | DIVB | Implementation of the SIG/ANGAP georeferenced database at a national level | Ongoing |
| August | TR&D chief of party/DSEP | South Africa National Parks Board Mr. Botha, Dir, Administration, support on legal institutional statues of ANGAP | August 29– September 2 |
| August | DG | Orgasys completed study of Park Entrance Fees, and gave debriefing | August 8 |
| September | TR&D chief of party | Completion of paper on ANGAP's evolution towards a national parks system and lessons learned with Integrated Conservation and Development projects | September 30 |
| September | TR&D and ANGAP | Senior ANGAP strategic retreat at St. Marie | September 3–10 |
| September | TR&D/DSEP | Chief of party assistance in week-long discussions with Mr. Herman Botha, on ANGAP future institutional status | August 29– September 2 |
| October | TR&D/DSEP/DAF/DRHC | Chief of party assistance in week-long discussions with Mr. I.J.J. Havenga for Isalo financial feasibility study | September 24–29 |

2B. Task 2: Development of ANGAP's institutional capacity in administration and finance

| Schedule | ANGAP Department/Level | Description | Date Completed |
|--------------------|---------------------------|--|-----------------|
| September | DSEP/TR&D chief of party | S. Africa National Parks Board, Mr. Havenga, Director of Finance: Feasibility study for Isalo + PE-2 support | August 24-29 |
| September | DIVB/TFMT | Mrs. Mabrouka Gasmi professional documentation support to ANGAP documentation center | September 11-16 |
| July-August | DG | Completion of legal study of ANGAP's right to set park entrance fees; debriefing to ANGAP board | August 8 |
| September-November | DG | Study underway to determine legal definition of protected area peripheral zones and uses | Ongoing |
| September | TR&D chief of party | Creation of financial tracking system, within DAF, for USAID ANGAP marketing development funds (Table 8) | September |

2C. Task 3: Establishment of a system of coordinating activities of individual protected area managers

| Schedule | ANGAP Department/Level | Description | Date Completed |
|-----------|---------------------------|--|----------------|
| June | DIVB | Presentation of the GEF workshop and the Masoala geographic information system results during DIRNAT meeting in Morondava | June 24 |
| June-July | TRD/USAID/ICDP | Participation in USAID reengineering and team-building workshops | July-July |
| August | ANGAP/TR&D/PACT/ICDP | Clarification of Integrated Conservation and Development projects' and ANGAP's roles in transition to ANGAP national parks service—day meeting | August 10 |
| September | ANGAP | Senior staff retreat (St. Marie) to prepare PE-2 five-year program, ANGAP mission statement created | September 3-10 |

2D. Task 4A: Development of the capacity for ANGAP to shape biodiversity policy and planning on behalf of the Government of Madagascar

| Schedule | ANGAP Department/Level | Description | Date Completed |
|------------------|---------------------------|--|----------------|
| April | DIVB/DSEP | PreGEF Workshop | April 10-14 |
| June | DIVB/DSEP | Final plan for the protection of ANGAP's computer equipment | June 15 |
| New | DIVB | Elaboration of conventions for research on Isalo and Manombo with ICTE and Stony Brook | August 30 |
| New | DIVB | Second document on objectives and strategy for DIVB completed | September 15 |
| January-February | DG/TR&D COP | Sustainable harvesting of protected area and peripheral zone natural resources, Zahamena (Gauthier, Nadia) | May 18-July 21 |

2E. Task 4B: *Development of a capacity to monitor and evaluate the impact of conservation and rural development activities on protected areas*

| Schedule | ANGAP Department/Level | Description | Date Completed |
|----------------|---------------------------|--|-----------------|
| March | DIVB | Pilot monitoring and evaluation using GIS/ANGAP | Ongoing |
| April | DIVB | Specifications for acquisition of new GIS equipment for GIS/ANGAP and ICDP (second needs assessment) | June 5 |
| May | DIVB | Technical support to Isalo for biodiversity inventory and mapping | Ongoing |
| May | DIVB | Preparation of GIS remote sensing training plan for ICDPs with CFSIGE | Ongoing |
| May | DIVB | Implementation of the Masoala GIS unit | August 31 |
| May | DIVB | Implementation of the Zahamena GIS unit | Ongoing |
| May | DIVB | Implementation of the Ranomafana GIS unit | August 16 |
| May– September | DIVB | Implementation of ICDP's georeferenced database (Amber Mountain, Aahamena, Masoala, Ranomafana, Andohahela) | Ongoing |
| August | DSEP/TR&D COP | Monitoring and evaluation field-support visit to Isalo | August 14–18 |
| September | DSEP/TR&D COP | Monitoring and evaluation field-support to Ranomafana (impact studies) | September 19–22 |
| Sept.-Dec. | DSEP/TR&D COP | Recruitment of temporary assistance to monitoring and evaluation field-impact studies program with ICDPs | September |
| September | DSEP/TR&D COP | Preparation for IDCP monitoring and evaluation workshop at Antsirable, first week of October; preparation of short paper by the chief of party | |

2F. Task 5: Establishment of ANGAP as a source of information and hub of an education and communication network on biodiversity

| Schedule | ANGAP Department/Level | Description | Date completed |
|---------------|---------------------------|---|-----------------|
| May | DIVB | Agreement between ANGAP and FTM on quality standards for production/acquisition of digitized data | June 30 |
| June-July | DRHC/TR&D chief of party | Completion/publication of four ANGAP posters on protected areas | July |
| May-September | DIVB | Acquisition of digitized data from FTM for ICDPs and GIS/ANGAP | July 25 |
| August | DRHC/TR&D chief of party | Preparation/Completion/Publication of 4 priority park tourist pamphlets | August |
| September | DIVB | Conference on Madagascar biogeography in Paris | September 28 |
| New | DIVB | Participation at the National Meeting on Biodiversity sponsored by the 'Academia Nationale de Madagascar' | April 7 |
| New | DIVB | Communication at 2nd International Meeting "South-South" sponsored by UNESCO (Mananara) | June 23 |
| New | DIVB | Technical support to produce the <i>Guide of Trees for Ranomafana</i> with Dan Turk | July 30 |
| New | DIVB | GIS map production to support short-term technical assistance in natural resource management by local governance team in Zahamena | August 15 |
| September | DRHC/TR&D chief of party | Completion of French version of 4 priority parks video (5-minute segments each) (now awaiting publication) | September |
| September | DRHC/TR&D chief of party | Completion of publication of 1996-97 Madagascar protected area calendar (high quality publication) | September |
| September | DRHC/DIVB | Professional documentation center assistance—improved environmental education communication | September 11-16 |

2G. *Task 6: Professional technical development for ANGAP and integrated conservation and development staff*

| Scheduled | ANGAP Department/Level | Description | Date completed |
|----------------|---------------------------|---|------------------------|
| May | DIVB | PCI remote sensing for ANGAP/DEF/ICDP training with USGS | April 10-30 |
| June | ANGAP/DEF | Annual team-building meeting | August 22-25 |
| May-June | DIVB | Recruitment of a technician for data entry and computer maintenance | July 1 |
| June | DIVB | GIS conservation training for the Masoala GIS specialist at the ESRI in the United States | August 25 |
| June | DIVB | Aerial photo interpretation in Amber Mountain | Ongoing |
| June | DIVB | Aerial photo interpretation in Ranomafana | Ongoing |
| June | DSEP/ICDP | Isalo park manager received 12 weeks of management training in South Africa (National Parks Board) | June 14-August 19 |
| June | DSEP | Annual ICDP, ANGAP national directors meeting | June 27-30 |
| July | ANGAP/ICDP | Trainers' Training | July 24-26 |
| July-September | ANGAP | English language training for ANGAP staff, Peace Corps assistance (3 volunteers) | July-September |
| New | DIVB | Training in digitizing for Amber Mountain ICDP staff | June 30 |
| New | DIVB | Training in digitizing for Zahamena ICDP staff | August 30 |
| New | DIVB | Photo-interpretation and digitizing for WWF/Zombitse-Vohibass | September 30 |
| August | DSEP/ICDP | Four park managers receive 6-8 weeks of management training in South Africa (National Parks Board) | August 12-September 24 |
| August | DRHC | ANGAP's director of ecotourism spent 10 days with National Parks Board, South Africa, on tourism and publicity issues | August 2-12 |
| September | DIVB | Valuation of biodiversity training for DIVB staff | August 20-September 30 |
| New | DIVB | Training in digitizing, GIS, and map production for Ranomafana ICDP staff | September 15 |

Table 3. Training and workshops supported by TR&D in 1995

| Department | Topic | Dates | Dates held | Number of Participants | Number of Days | Person-days Training | Lead Trainers/ Firm | Intended for | Total Budgeted | Total Obligated | Balance in U.S. dollars |
|--|---|-------------------------------|------------------------|------------------------|----------------|----------------------|---------------------|--|----------------|-----------------|-------------------------|
| DSEP | Monitoring and evaluation third stage visits (sampling, questionnaire preparation, training, and monitoring and evaluation) | Quarters 1 and 2 | | | | 0 | | | 1,000 | | 1,000 |
| | 1. Ranomafana | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 2. Amber Mountain Complex | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 3. Masoala | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 4. Andohahelo | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 5. Andohahelo | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | Monitoring and evaluation fourth stage visits (data analysis) | 3rd Quarter | | | | | 0 | | 1,500 | | 1,276 |
| | 1. Ranomafana | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 2. Andohahelo | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 3. Zahamena | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 4. Andohahelo | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| | 5. Masoala | | | | 1 | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 224 | |
| | 6. Amber Mountain Complex | | | | | 0 | DSEP | CTP, DIRNAT, personnel suvi-evaluation | | 0 | |
| Annual monitoring and evaluation workshop (review indicators, reporting, analysis) | October 9-13 | | | 5 | | 0 | DSEP | Operator Monitoring and evaluation staff, DIRNATs and/or CTP/DEP | 3,000 | 2,750 | 250 |
| IMPREVU | | | | | | | | Improve | 4,500 | | (1,750) |
| | Abel Razovo, consultant monitoring and evaluation | September, November, December | | 1 | 90 | 90 | DSEP, CTP | DSEP, COP | | 2,296 | |
| | Rasolofo and Alphonse, Program Management, South African Parks Board | October, November | October 30-November 14 | 2 | 11 | 22 | South African Parks | Rasolofo Dir, DSEP and Alphonse | | 4,000 | |
| | Rasolofo and Alphonse, Interpretation Center Training, program management | October, November | November 15-25 | 2 | 7 | 14 | Arkansas Parks | Rasolofo Dir, DSEP and Alphonse | | 10,000 | |
| | | | | | | | | Subtotal | 19,000 | 19,270 | (270) |
| DRHC | Agroforestry Training | | October 4-7, 1994 | 7 | 4 | 28 | | ICDP Technicians | 500 | 389 | 111 |
| | Annual DIRNAT/ANGAP/GMU/ICDP Meeting | June | June 27-30 | 22 | 4 | 88 | ANGAP | DIRNAT, DEF/Operators/GMU/CTP/CTSIO | 6,000 | 5,000 | 997 |
| | ANGAP/DEF workshop (team building) | | August 22-25 | 19 | 4 | 76 | ANGAP | DG/DEF | 2,000 | 2,683 | (683) |
| | Trainers' Training | June | July 24-28 | 8 | 5 | 40 | ANGAP | DRHC/DEF/MINENV/Trainer Bemaraha | 3,000 | 2,674 | 326 |
| | Management workshop (human resources, marketing, communication) | September | | | | 0 | Univ. of Pittsburgh | ICDP DIRNATs, ANGAP | 10,000 | 0 | 10,000 |

| Department | Topic | Dates | Dates held | Number of Participants | Number of Days | Person-days Training | Lead Trainers/ Firm | Intended for | Total Budgeted | Total Obligated | Balance in U.S. dollars | |
|------------|--|----------------------------|-------------------------|------------------------|----------------|----------------------|--------------------------|--|----------------|-----------------|-------------------------|--------|
| | Staff retreat (senior staff, 10 and office staff, 14) | | September 4-9 and 18-22 | 12 | 6 | 72 | DG | ANGAP Senior staff | 5,000 | 6,216 | (1,216) | |
| | Senior staff strategic retreat | February | January 30-February 1 | 20 | 3 | 60 | DG | ANGAP Senior staff, chefs de cellule | 2,000 | 909 | 1,091 | |
| | Divers Improvis | | | | | 0 | | | 23,000 | | 8,505 | |
| | • Classe verte | | April 9 and September | 5 | 1 | 5 | Samuel COM | Winners at School | | 749 | | |
| | • Atelier UTCE in Poindorane | | March 14-17 | 1 | 4 | 4 | Hery Zo | Meeting w/ ONE and Environment Ministry | | 70 | | |
| | • Formation Ecotourism Bemaha | | April 8 and 9 | 1 | 2 | 2 | Hery Zo | Meeting w/operator and Local authorities | | 22 | | |
| | • Workshop: Participation de la Population dans les PCDI (Aranrabe) | | May 17-18 | 2 | 1 | 4 | Jacky Hery Zo | Local Populations /PCDI | | 208 | | |
| | • Report reproduction | | | | | | | | | 305 | | |
| | • Hery Zo, Interpretation Center Training | October 9- November 3 | | 1 | 20 | 20 | Arkansas Parks | Hery Zo, formateur | | 5,805 | | |
| | • DRHC, Interpretation Center training and Banff course | November 19- December 1 | | 1 | 7 | 7 | Arkansas Parks and Banff | Jacky, DRHC | | 6,000 | | |
| | • English Training | | July, August, September | 12 | | 18 | Peace Corps | ANGAP Staff | | | 1,285 | |
| | | | | | | | | | Subtotal | 51,500 | 32,328 | 19,172 |
| DAF | Formation du personnel: gestion des stocks, recyclage comptabilis | October, November | | | | 0 | South African Parks | Rurimo Dir DAF | 2,500 | 2,000 | 500 | |
| | | | | | | | | | Subtotal | 2,500 | 2,000 | 500 |
| DIYB | Ateliers/Suivi Ecologique (held w/ M&E workshop) | October 9-13 | | | | 0 | DIYB/DEP | Selected ICPD operator staff/DEP/ANGAP | 3,000 | 1,843 | 1,157 | |
| | Ateliers/GIS/RS (3 ateliers) | | | 25 | | 0 | DIYB | Selected ICPD operator staff/DEP | 4,500 | | 4,500 | |
| | Ateliers: Divers Improvis (normalization, droits propriete) | | | 50 | | 0 | DIYB | ICPD/DEP/ANGAP | 4,500 | | 4,500 | |
| | Formations (GIS/RS) | | | 12 | | 0 | DIYB | Operators/DEP/ANGAP | 4,500 | | 4,500 | |
| | Formation: Photo-id | | February 27- March 3 | 10 | 5 | 50 | DIYB/CFSIG | Operators/DEP/ANGAP | 3,000 | 832 | 2,168 | |
| | Formation: Global Positioning System | | January 23-27 | 9 | 5 | 45 | DIYB/CFSIG E | Operators/DEP/ANGAP | 3,000 | 799 | 2,201 | |
| | Formation: collecte d'info | | | 12 | | 0 | DIYB | Operators/DEP/ANGAP | 3,000 | | 3,000 | |
| | Formation: Divers/ Improvis | | | 6 | | 0 | DIYB | Operators/DEP/ANGAP | 1,500 | | 1,500 | |
| | Locale: GIS/RS | | | | | 0 | DIYB | DIYB staff | 2,000 | | 2,000 | |
| | Locale: Maintenance info | | | | | 0 | DIYB | DIYB staff | 1,500 | | 1,500 | |
| | Locale: Divers/Improvis | | | | | 0 | DIYB | DIYB staff | 1,000 | | 1,000 | |
| | Divers/Improvis | | | | | 0 | DIYB | DIYB staff | 4,500 | | 2,858 | |
| | Linking Institutional Database | August, September, October | | 1 | 60 | 60 | Herimanjato, Consultant | DIYB Staff | | 1,642 | | |
| | Exterieur: GIS/RS: INBio Conference and Visit of Institutions in Paris | | April 24- May 1 and 5 | 2 | 7 | 13 | INBio Conference | Lydie, DEP and Far, DIYB | 25,000 | 21,572 | 3,428 | |
| | Exterieur: Maintenance information | November, December | | 1 | 20 | 20 | Learning Tree | Avo-Haja | 14,000 | 7,600 | 6,400 | |
| | Bureau: B.D. Biodiversite : ESRI | | August 7-25 | 1 | 15 | 15 | ESRI USA | AJain SIG DIYB | 15,000 | 8,900 | 6,100 | |

| Department | Topic | Dates | Dates held | Number of Participants | Number of Days | Person-days Training | Lead Trainers/ Firm | Intended for | Total Budgeted | Total Obligated | Balance in U.S. dollars |
|---|---|----------|------------------------|------------------------|----------------|----------------------|----------------------|--|----------------|-----------------|-------------------------|
| | Exterieur: Valorisation Biodiversite: CIRAD | | August 22-September 28 | 1 | 29 | 29 | CIRAD, FRANCE | Chantal VAL DIVB | 15,000 | 9,040 | 5,960 |
| | Exterieur: Divers/ Imprevu | | | | | 0 | | | 5,000 | | (3,000) |
| | • Convention sur la biodiversite Biologique, Djakarta | | November 6-17 | 1 | 10 | 10 | | Para Dir. DIVB | | 6,000 | |
| | • Database development and review coordination | | November | 1 | 10 | 10 | South African Parks | Para Dir. DIVB | | 2,000 | |
| | | | | | | 0 | | | | | |
| | | | | | | | | Subtotal | 110,000 | 60,228 | 49,772 |
| Park Management Plan and Ecotourism Development | Workshop on Park Management and Ecotourism | | | | | | | | 10,000 | 0 | 9,343 |
| | • Workshop Miller and McGregor | | March 28 | 50 | 1 | 50 | J. MacGregor/ ANGAP | ANGAP, ICDP DIRNATS, DEF | | 657 | |
| | On-the-job training in ecotourism, marketing, park management | | January-December | | | | DRHC/DSEP | ANGAP/ICDP | 15,000 | | 8,965 |
| | • Ecotourism | | | | | | | | | | |
| | • Training with JM/MDG | | February 18-March 28 | 2 | | 10 | Jay Miller/ McGregor | Nurina Ecot. DRHC and Jacky Dir. DRHC | | 1,381 | |
| | • Jacky, ecotourism training | | August 5-15 | 1 | 8 | 8 | South African Parks | Jacky Dir. DRHC | | 1,500 | |
| | • Marketing | | | | | | | | | | |
| | Eliane, park office organizational procedures and duties | | August 23-September 3 | 1 | 7 | 7 | South African Parks | Eliane Administrative assistant of DG | | 1,500 | |
| | • Park Management--training with JM/MDG | | February 18-March 28 | | | 39 | Jay Miller/ McGregor | Mamadou, Alphonse, Futur-Park Managers- Charles, Tomboua | | 836 | |
| | • training with Dr. Hall | | May 17-19 | 2 | 3 | 5 | Dr. Hall Martin | Alphonse and Charles Park Manager Isalo | | 741 | |
| | • training with Mr. Botha | | September 1 | 15 | 1 | 15 | Mr. Botha | ANGAP Directors + operators | | 77 | |
| | Study Visit to South African Parks | | | | | | | 1 DSEP, 1 DRHC (+7 ICDP reps.) | 7,500 | | 1,203 |
| | • DG ANGAP | | March 15-26 | 1 | 10 | 10 | South African Park | DG ANGAP | | 1,668 | |
| | • Park Management training, Park Manager of Isalo | | June 14-August 19 | 1 | 47 | 47 | South African Parks | Charles Park Manager Isalo | | 4,629 | |
| | Permutation des guides | | | | | 0 | | | 10,000 | | 6,459 |
| | 1. Beza mahafaly | January | February 6-11 | 20 | 5 | 100 | Hery Zo | Guides de Beza | | 1,657 | |
| | 2. Andasibe | | | | | 0 | Hery Zo | Guides d'Andasibe | | | |
| | 3. Ranomafana | February | February 20-25 | 20 | 5 | 100 | Hery Zo | Guides de Ranomafana | | 1,314 | |
| | 4. Isalo | April | | | | 0 | Hery Zo | Guides d'Isalo | | | |
| | 5. Montagne d'Ambre | October | | | | 0 | Hery Zo | Guides de la Montagne d'Ambre | | | |
| | 6. Morondava | | | | | 0 | Hery Zo | Guides de Morondava | | | |
| | 7. Masoala | March | March 6-12 | 26 | 5 | 130 | Hery Zo | Guides de Masoala | | 569 | |
| | | | | | | 0 | | | | | |
| | Divers/Imprevu | | | | | 0 | | | 10,500 | | (1,500) |
| | • Park Management training: Park Manager Lokobe | | August 12-September 24 | 1 | 30 | 30 | South African Parks | Tomboua/Robert, Park Manager Lokobe | | 3,000 | |

| Department | Topic | Dates | Dates held | Number of Participants | Number of Days | Person-days Training | Lead Trainers/ Firm | Intended for | Total Budgeted | Total Obligated | Balance in U.S. dollars |
|------------|---|-------|----------------------------|------------------------|----------------|----------------------|---------------------|---|----------------|-----------------|-------------------------|
| | • Park Management training: Park Manager Manombo | | | | | | South African Parks | Park Manager Manombo | | 3,000 | |
| | • Park Management training: Park Manager Bemaraha | | | | | | South African Parks | Park Manager Bemaraha | | 3,000 | |
| | • Park Management training: Park Manager Masoala | | August 12– September 24 | 1 | 30 | 30 | South African Parks | Rakotomalala Jocelya, Park Manager Masoala | | 1,000 | |
| | • Park Management training: Park Manager Andasibe | | August 12– September 3 | 1 | 15 | 15 | South African Parks | Andriamanantenana Herijana, Park Manager Andasibe | | 1,000 | |
| | • Park Management training: Park Manager Ranomafana | | August 12– September 24 | 1 | 30 | 30 | South African Parks | Ravelomanantsoa Zeze, Park Manager Ranomafana | | 1,000 | |
| | | | | | | 1,425 | | Subtotal | 53,000 | 28,530 | 24,470 |

¹ 64.6 person months of training.

Table 4. Activities Pending

| Scheduled | ANGAP Department/Level | Task Number | Description | New Date |
|-----------|---------------------------|----------------|--|------------------------|
| April | DRHC | 6 | Tourist guide training in ICDP's/ currently under review | Temporarily suspended |
| May | DIVB | 4a | DIVB/ICDPs operators/national research centers workshop on research procedures within IC | Cancelled ² |
| June | DIVB | 4a | First workshop for the National Biodiversity Monograph | November |
| June | DIVB | 4b | Aerial photo interpretation in Andasibe | December |
| September | DIVB | 4a | Computer/Network maintenance training for DIVB | December |
| September | DIVB | 4b | Airborne videography pilot project with Conservation International | October–December |
| September | DRHC | 6 | Management training —Pittsburgh (Reprogrammed for 1996 with S. Africa Parks Board) | Refocused: 1996 |
| November | DRHC | 6 | Interpretation center and Banff Center Training for Jackie | Cancelled by Banff |

² Conventions will be negotiated with each concerned institution.

Table 5. Major activities planned for next six months (October, 1995—March, 1996)

| Fourth Quarter 1995 | | | |
|---------------------|-------------|---|--------------------|
| Scheduled | Task number | Description | Action |
| October | 1 | ANGAP completes five-year PE-2 document, describing evolution toward parks system management | ANGAP/TR&D |
| October | 4a | National workshop on research and development | DIVB/DSEP |
| October | 1 | ANGAP financial sustainability study and report for funding of Isalo completed—given to PACT | ANGAP |
| October 26 | 1 | TR&D chief of party participates in ANGAP board of directors meeting on park entrance fees | TR&D/ANGAP |
| October 16–18 | 1 | USAID reengineering retreat; creation of results packages | ANGAP/TR&D/USAID |
| October 19–20 | 3 | Meeting with WWF/Amber Mountain for gradual transfer of park operations to ANGAP | ANGAP/TR&D/ WWF |
| October 20 | 2 | Review of 3 submissions (Malagasy firms) for ANGAP fin. dept. support | ANGAP/TR&D |
| October 23–24 | 1 | ANGAP senior/junior staff internal review: clarification of delegation authority | ANGAP/TR&D |
| October 28–Dec. 3 | 6 | ANGAP director of park operations and associate take 5-week park management training (South Africa, Arkansas) | DSEP |
| October | 4b | Monitoring and evaluation workshop at Antsirabe | DSEP/DIVB |
| October–March | | Reengineering SA VEM/USAID with TR&D, PACT, KEPEM, ANGAP, etc. | Swanson and Dufils |
| October 9–November | 6 | Six trainees sent to Arkansas State Parks for interpretation center training | ANGAP/ICDP |
| October–December | 4a | Airborne videography pilot project with Conservation International (Zahamena, Masoala) | DIVB/DSEP |
| October–December | 4b | Field checks to update the vegetation map for Ranomafana | DIVB |
| October–December | 4b | Field checks to update the vegetation map for Andohahela | DIVB |
| October–December | 4b | Pilot monitoring and evaluation using GIS/ANGAP spatial data | DIVB/DSEP |
| October–March | 4b | Technical support to Isalo for biodiversity inventory and mapping | DIVB |
| October–December | 4b | Implementation of the Zahamena GIS unit | DIVB |

| | | | |
|---------------------------|----|--|---------------|
| October–December | 6 | Aerial photo interpretation in Ranomafana | DIVB |
| October–December | 6 | Aerial photo interpretation in Amber Mountain | DIVB |
| October–March | 4b | Monitoring and evaluation support to ICDP programs (socioeconomic and ecological monitoring) | TR&D COP |
| October–March | 3 | Control and validation FTM digitized data acquisition | DIVB |
| October–March | 5 | Recruitment of an assistant in GIS analysis | DIVB |
| October–March | 6 | Technical support to ICDP's GIS units | DIVB |
| November | 5 | Publication of ANGAP's 1996–97 protected area calendar; goes on sale | DRHC/TR&D COP |
| November | 2 | Pilot project begins to create satellite-based color tourist map of Isalo region | DIVB/DRHC |
| November | 4a | First workshop for the National Biodiversity Monograph | DIVB |
| November | 5 | Recruitment of an assistant in GIS analysis with ANGAP | DIVB |
| November | 6 | Preparation of GIS remote sensing training plan for ICDPs with CFSIGE | DIVB |
| November | 3 | Implementation of the Andasibe GIS | DIVB |
| November–December | 5 | Recruitment of a substitute for computer maintenance | DIVB |
| November–December | 5 | Computer Network maintenance training for DIVB staff (Paris) | DIVB |
| November | 2 | Pauline Wynter—short-term technical assistance (3 weeks) in support of trust fund efforts | TR&D |
| December–January | 1 | Completion of TR&D 1996 Annual Work Plan | TR&D |
| December–January | 1 | Completion of TR&D fourth quarter report for 1995 | TR&D |
| December–January | 3 | ICDP annual review field visits, in support of 1996 annual work plans | TR&D/TFMT |
| First Quarter 1996 | | | |
| January | 1 | Recruitment of new long-term park operations advisor (12 months); begin in January | TR&D |
| January | 1 | ANGAP Tana staff to be in proposed parks “uniform” by end of month; parks to follow | ANGAP |
| January | 5 | Implementation of a multimedia PC station with GIS ANGAP | DIVB |

| | | | |
|---------------|----|--|---------------|
| February | 5 | Extension of computer network to all ANGAP departments with UNIX server | DIVB |
| February | 4a | Second workshop on National Biodiversity Monograph | DIVB |
| January–March | 1 | Swanson and Dufils involvement in USAID reengineering in support of 3 results packages | TR&D/TFMT |
| January–March | 4a | Community-based sustainable natural resources management short-term technical assistance (Gauthier) | DSEP/TR&D COP |
| March–April | 5 | Jay Miller—short-term technical assistance (6 weeks) to support interpretation center development (Andohahela, etc.) | DRHC |
| March–April | 1 | Completion of TR&D 1st quarterly report, 1996 | TR&D |

Table 6: Major SAVEM TR&D Project Implementation Issues

| Project Issues Resolved³ | Actions Taken | Estimated Dates |
|---|--|------------------------|
| 1. Weakness of rural development component in implementation of ICDP | This issue is no longer directly linked to the support TR&D is giving to ANGAP. This has been refocused to park management and ecotourism. It remains an issue for ANGAP partners in peripheral zone development. | |
| 2. Need for national legislation imposing architectural and siting standards for ecotourism development in peripheral zones of protected areas.. | ANGAP has no authority over this area. It can attempt to influence those building in the peripheral zone through informal contracts. ANGAP's own infrastructure for tourism will be under site-by-site review by experts in the field. | |
| 3. Need for policy changes to expedite the reclassification of "Reserve Naturelles Integrales" to National Parks or Special Reserve status. | This is advancing. It is not an issue which should be of direct concern at this time. | |
| 4. Need for national policy legislation requiring all organizations collecting biodiversity samples for pharmaceutical or other commercial development to sign a contract defining eventual royalties or other benefits to be paid. | This is no longer a direct issue for ANGAP within the protected areas. ANGAP has established guidelines for this issue within parks and reserves. It will remain an issue for DEF outside protected areas. | |
| 5. Need to deal with the problem of who should be charged with enforcement of laws concerning protected areas. Should ANGAP have this function? | Issue basically resolved for now. South Africa advisors note that ANGAP has what it needs to hold those causing infractions. ANGAP should be able to be levy minor fines. | |

³ These are issues which concern ANGAP and the USAID-funded components of the SAVEM project generally and are not necessarily TR&D's technical and/or management responsibility to resolve, however, every effort will be made to deal with them. Many of these issues depend on changes being made in Madagascar's government policy, on shifting political realities, or the availability of sufficient financial resources.

Table 1. Technical Reports—Tropical Research & Development, Inc., ANGAP Madagascar
 USAID Contract # 623-0110-C-00-1041-00; Project #1365

| Name | Title | Date Published | | Language | | Number of Pages |
|--|---|----------------|------|----------|--------|-----------------|
| | | Month | Year | English | French | |
| Brusberg, Frederick | Monitoring and evaluation system for development of integrated conservation and development projects | November | 1992 | X | X | 25 |
| Peters, Joe | Ecotourism Development in Protected Areas in Madagascar | November | 1992 | X | | 104 |
| TR&D | Quarterly Report 1, November 1991–March 1992 (Project Year One, First and Second Quarters) | April | 1992 | X | | 17 |
| TR&D | Quarterly Report 2, April–June 1992 (Project Year One, Third Quarter) | July | 1992 | X | | 35 |
| TR&D | Quarterly Report 3, July–September 1992 (Project Year One, Fourth Quarter) | October | 1992 | X | | 18 |
| TR&D | Quarterly Report 4, October–December, 1992 (Project Year Two, First Quarter) | December | 1992 | X | | |
| MacGregor, James | PLANB GAP, Planification de l'Ecotourisme & Gestion des Aires Potentiels | February | 1993 | X | X | 30 |
| Swanson, Richard | Conservation and Socio-Economic Development: Monitoring & Evaluation | December | 1993 | X | X | 65 |
| TR&D | Quarterly Report 5, January–March 1993 (Project Year Two, Second Quarter) | April | 1993 | X | | |
| TR&D | Quarterly Report 6, April–June 1993 (Project Year Two, Third Quarter) | July | 1993 | X | | |
| TR&D | Quarterly Report 7, July–September 1993 (Project Year Two, Fourth Quarter) | October | 1993 | X | | |
| ANGAP | Etude sur le systeme de gestion des DEAP | August | 1994 | | X | |
| ANGAP | Elaboration d'un PAT au niveau des PCDI | April | 1994 | | X | |
| Cloutier, Robinson, Greaftel, Robinson | National Park System Development in Madagascar: Potential Role of ANGAP in its Management | December | 1994 | X | X | 115 |
| Dufils, Jean-Michel | Objectifs et Strategie de Mise en Oeuvre du Systeme d'Information sur la Biodiversite | February | 1994 | | X | 17 |
| Dufils, Jean-Michel | GIS/ANGAP, Analyse de Besoins (Document de Reference pour USGS) | March | 1994 | | X | 30 |
| Hagen, Roy | Vision a long terme des programmes pour les Aires Protegees de Madagascar | October | 1994 | X | X | 22 |
| Jenkins, Martin | Export/Trade in Madagascar's Plants and Animals: Consequences for Species Survival | January | 1994 | X | X | 100 |
| Jenkins, Martin | Export Trade in Madagascar's Wildlife: An Aid in Conservation | March | 1994 | X | X | 32 |
| Leeds, Mary | Communication & Consultation: Un cadre de travail pour un plan de communication pour l'ANGAP | August | 1994 | X | X | 88 |
| MacGregor, James | Planification et Formation en Ecotourisme et Aires Proteges | September | 1994 | X | X | 43 |
| MacGregor, James | Tourism Regional a Madagascar: Un Manuel de Travail pour la Planification du tourisme et de l'ecotourisme | June | 1994 | | X | 105 |
| MacGregor, James | Ecotourism Mission, Tulear & Nosy Be Ecotourism Workshops | August | 1994 | X | X | 130 |
| McManus, Marianne | Valorisation de la Diversite Biologique a travers les droits de la Propriete Industrielle & les Techniques Contractuelles | September | 1994 | X | X | 114 |
| Robinson, Peter | ANGAP's long term financial sustainability (Final Report) | July | 1994 | X | X | 63 |

| Name | Title | Date Published | | Language | | Number of Pages |
|--|--|----------------|------|----------|--------|-----------------|
| | | Month | Year | English | French | |
| Swanson, Richard | Development for Conservation: Monitoring & Evaluation | August | 1994 | X | | 57 |
| TR&D | Annual Work Plan, 1994 (Third) | January | 1994 | X | | |
| TR&D | Programme Annuel de Travail & Projet de Budget 1994 | January | 1994 | | X | |
| TR&D | Annual Work Plan, 1995 (Fourth) | December | 1994 | X | | 40 |
| TR&D | Semiannual Report 1, October 1, 1993-March 31, 1994 | October | 1994 | X | | |
| TR&D | Semi-Annual Report #2: April 1, 1994 through Sept 31, 1994 | November | 1994 | X | X | 55 |
| Training Report | Planification et Gestion des Projets de Developpement (Moromanga) | September | 1994 | | X | 107 |
| Training Report | Actes de la reunion annuelle des PCDI-Operateurs ANGAP-DEF - Toamasina du 30 Mai - 2 Juin | June | 1994 | | X | |
| Training Report | Les Methodes de Management Moderne et la Planification et le Management du Projet (Moromanga) | September | 1994 | | X | 153 |
| Training Report | Final Report: Planning and Management: Environmental Conservation Projects (U. of Pittsburgh, IMDI) | September | 1994 | X | | 54 |
| Training Report | Formation Organisee par le CFSIGE pour ANGAP: Compte Rendu de la Formation | August | 1994 | | X | 180 |
| Training Report | Occupations Humaines des Aires Protegees | August | 1994 | | X | |
| Training Report | Actes de la Reunion Annuelle des PCDI/Operateurs/ANGAP/DEF (Tamatave) | June | 1994 | | X | 75 |
| Training Report | Acte de l'Atelier sur le System de Suivi du Programme Aires Protegees (Antsirabe) | October | 1994 | | X | 71 |
| Training Report | Acte du Premier Atelier sur le Suivi Ecologique | May | 1994 | | X | 48 |
| Miller, Jay and MacGregor, James | Development of a National Park System in the Republic of Madagascar | March | 1995 | X | | 75+ |
| Faramalala Miadana et Raharimaniraka Lydie | Rapport de Mission sur l'Atelier "Prospection de la Biodiversite" (INBio/Costa Rica) | May | 1995 | | X | 36 |
| ORGASYS | Etude sur les Droits d'entree, de recherche, de filmage et de redevance dans les Aires Protegees | July | 1995 | | X | 39 |
| TR&D | Second Quarterly Report, Third Project Year, January-March 1995 | May | 1995 | X | | 26 |
| TR&D | Third Quarterly Report, Third Project Year, April - June 1995 | July | 1995 | X | | 18 |
| TR&D | Fourth Quarterly Report, Third Project Year, July-September 1995 | October | 1995 | | X | 25 |
| Nadia Rabesahala and Mario Gauthier | Conception et Mise en Oeuvre d'un Contract d'Accord pour l'utilisation durable des Ressources Naturelles entre les Communauts du Terroir d'Ambodivoangy (Zahamena) | September | 1995 | X | X | |
| Mabrouka Gasmi | Compte rendu de la mission de consultation pour la mise en place du systeme d'information documentaire de l'ANGAP | September | 1995 | X | | 5 |
| Training Report | Occupations Humaines des Aires Protegees: Actes du Colloque de Mahajanga (SEDRIC) | April | 1995 | | X | 117 |
| Swanson, Richard | Antsirabe Monitoring & Evaluation: General Orientations | September | 1995 | | X | 4 |
| Dufils, Jean-Michel | Reflections on Reorientations for ANGAP's DIVE Department | September | 1995 | X | | 8 |
| Botha, Herman | Actions that should be Taken to Ensure Efficient Future Fonctionning of ANGAP | September | 1995 | | X | 26 |
| Havenga, J.J.J. | Feasibility Study for Isalo National Park | September | 1995 | | X | 18 |

| Name | Title | Date Published | | Language | | Number of Pages |
|------------------|---|----------------|------|----------|--------|-----------------|
| | | Month | Year | English | French | |
| Swanson, Richard | National Parks and Reserves, Madagascar's New Model for Biodiversity Conservation: Lessons Learned Through Integrated Conservation and Development Projects (ICDPs) | October | 1995 | | X | 38 |
| Training Report | Actes de La Reunion Annuelle De Coordination du Programme Aires Protegees (Morondava- DIRNAT Annual Meeting) | June | 1995 | X | | 85 |

| ANGAP products for sale | Production | | | | | Sales from July 1-September 30, 1995 | | | | Inventory as of September 30, 1995 | | |
|--------------------------|--------------------------|----------------|-----------|----------------------|----------------|--------------------------------------|----------------|------------------|----------------------|------------------------------------|---------------|--------------------------|
| | Total cost of production | Number ordered | Unit cost | Complimentary copies | Total received | Quantity sold | Sale price fmg | Total in fmg | Remarks | Total quantity of inventory | Unit value | Total value of Inventory |
| 1. Poster: Lemur | \$2,495.00 | 2,000 | \$1.25 | 80 | 2,080 | 5 | 50,000 | 250,000 | | | | |
| | | | | | | 34 | 20,000 | 680,000 | | | | |
| | | | | | | 26 | 23,775 | 618,142 | sold by TR&D | | | |
| | | | | | | 9 | 0 | 0 | Used for marketing | | | |
| Total Lemur | \$2,495.00 | 2,000 | | 80 | 2,080 | 74 | | 1,548,142 | | 2,006 | 20,000 | 40,120,000 |
| 2. Poster: Dry Forest | \$2,495.00 | 2,000 | \$1.25 | 62 | 2,062 | 4 | 50,000 | 200,000 | | | | 0 |
| | | | | | | 27 | 20,000 | 540,000 | | | | |
| | | | | | | 0 | 23,775 | 0 | sold by TR&D | | | |
| | | | | | | 0 | 0 | 0 | Used for marketing | | | |
| Total Dry Forest | \$2,495.00 | 2,000 | | 62 | 2,062 | 31 | | 740,000 | | 2,031 | 20,000 | 40,620,000 |
| 3. Poster: Andasibe | \$2,495.00 | 2,000 | \$1.25 | 121 | 2,121 | 4 | 50,000 | 200,000 | | | | |
| | | | | | | 26 | 20,000 | 520,000 | | | | |
| | | | | | | 33 | 23,775 | 784,565 | sold by TR&D | | | |
| | | | | | | 8 | 0 | 0 | Used for marketing | | | |
| Total Andasibe | \$2,495.00 | 2,000 | | 121 | 2,121 | 71 | | 1,504,565 | | 2,050 | 20,000 | 41,000,000 |
| 4. Poster: Baobab | \$2,495.00 | 2,000 | \$1.25 | 152 | 2,152 | 5 | 50,000 | 250,000 | | | | |
| | | | | | | 35 | 20,000 | 700,000 | | | | |
| | | | | | | 9 | 23,775 | 213,972 | sold by TR&D | | | |
| | | | | | | 9 | 0 | 0 | Used for marketing | | | |
| Total Baobab | \$2,495.00 | 2,000 | | 152 | 2,152 | 58 | | 1,163,972 | | 2,094 | 20,000 | 41,880,000 |
| Total Posters | \$9,980.00 | 8,000 | | 415 | 8,415 | 234 | | 4,956,680 | | 8,181 | | 163,620,000 |
| 5. Calendar | | | | | | | | | | | | |
| 6. Pamphlets: Isalo | \$2,258.00 | 3,000 | \$0.75 | 0 | 3,000 | 112 | 7,500 | 840,000 | | 2,886 | 7,500 | 21,645,000 |
| | | | | | | 2 | 0 | 0 | given gratis by DRHC | | | |
| 7. Pamphlets: Renomafana | \$2,258.00 | 3,000 | \$0.75 | 0 | 3,000 | 129 | 7,500 | 967,500 | | 2,869 | 7,500 | 21,517,500 |
| | | | | | | 2 | 0 | 0 | given gratis by DRHC | | | |
| 8. Pamphlets: Andasibe | \$2,258.00 | 3,000 | \$0.75 | 0 | 3,000 | 111 | 7,500 | 832,500 | | 2,887 | 7,500 | 21,652,500 |
| | | | | | | 2 | 0 | 0 | given gratis by DRHC | | | |

| ANGAP products for sale | Production | | | | | Sales from July 1-September 30, 1995 | | | | Inventory as of September 30, 1995 | | |
|--|--------------------------|----------------|-----------|----------------------|----------------|--------------------------------------|----------------|------------------|----------------------|------------------------------------|------------|--------------------------|
| | Total cost of production | Number ordered | Unit cost | Complimentary copies | Total received | Quantity sold | Sale price /mg | Total in /mg | Remarks | Total quantity of inventory | Unit value | Total value of Inventory |
| 9. Pamphlets: Amber Mountain | \$2,258.00 | 3,000 | \$0.75 | 0 | 3,000 | 56 | 7,500 | 420,000 | | 2,942 | 7,500 | 22,065,000 |
| | | | | | | 2 | 0 | 0 | given gratis by DRHC | | | |
| Total Pamphlets | \$9,032.00 | 12,000 | | | 12,000 | 416 | | 3,060,000 | | 11,584 | | 86,880,000 |
| 10. Video: Four Priority Parks (French) | | | | | | | | | | | | |
| 11. Video: Four Priority Parks (English) | | | | | | | | | | | | |
| 12. Other Items Purchased with Proceeds of Sales | | | | | | | | | | | | |
| Grand Total | \$19,012.00 | | | | | | | 8,016,680 | | | | 250,500,000 |

| Items | #Location of Inventory on September 30, 1995 | | | | | | | Total |
|--------------------------------|--|------------|------------|-------------|----------------|------------|--------------|-------|
| | ANGAP | Andasibe | Ranomafana | Isalo | Amber Mountain | TR&D | | |
| 1. Poster: Lemur | 1,840 | 51 | 0 | 10 | | 105 | 2006 | |
| 2. Poster: Dry Forest | 1,830 | 51 | | 10 | | 140 | 2031 | |
| 3. Poster: Andasibe | 1,890 | 51 | | 10 | | 99 | 2050 | |
| 4. Poster: Baobab | 1,911 | 51 | | 10 | | 122 | 2094 | |
| Total Posters | 7,471 | 204 | 0 | 40 | 0 | 466 | 8181 | |
| 5. Calendar | | | | | | | | |
| 6. Pamphlets: Isalo | 1,688 | | | 1198 | | | 2886 | |
| 7. Pamphlets: Ranomafana | 2,769 | | 100 | | | | 2869 | |
| 8. Pamphlets: Andasibe | 2,687 | 200 | | | | | 2887 | |
| 9. Pamphlets: Amber Mountain | 2,942 | | | | | | 2942 | |
| Total Pamphlets | 10,086 | 200 | 100 | 1198 | 0 | 0 | 11584 | |
| 10. Video: Four Priority Parks | | | | | | | | |
| 11. Video: Four Priority Parks | | | | | | | | |

Appendix 2. Park pamphlets from Isalo, Ranomafana, Amber Mountain, and Andasibe



Des sentiers pédestres pour bons marcheurs : pour découvrir tous les secrets de ce Parc, des circuits de 1 à 6 jours selon la forme physique.
 - 1 JOUR : la Piscine Naturelle, la cascade des Nymphes ou les Canyons.
 - 2 JOURS : 2 de ces 3 sites avec bivouac dans un canyon.
 Un circuit long (environ 43 km) en 6 jours/5 nuits mène à la Grotte des Portugais et permet une traversée du parc.

Walking trails for good hikers. 1 to 6 days tours (according to physical fitness) to discover the secret of the park :
 - 1 day : Piscine Naturelle, Nymphs cascade or Canyons
 - 2 days : 2 of the 3 sites with camping in a canyon.
 A longer 6 days/5 nights tour (about 43 km) leads to Portuguese Cave and traverses the park.

GUIDES

Accompagnement obligatoire.
 Voir "A.G.E.T.I." : guides spécialisés (botanique ornithologie), parlent français, anglais ou allemand assurent cuisine et portage.

Guides are compulsory. See A.G.T.I. Specialized guides (botany, birds) Speaking French, English or Italian, can cook and carry luggage



Conseils Pratiques
 en toute saison se munir de :
 - réserves d'eau potable (2l/j/pers)
 - vêtements chauds pour la nuit
 - aliments sucrés et fruits secs
 - produits contre les moustiques
 - crème solaire et chapeau
 - sachets pour détritus

Practical advice
 For any season, bring :
 - drinking water supplies (2 liters/day/pers.)
 - warm clothes for the night
 - sweet snacks and dry fruit
 - mosquito repellent
 - sun cream and hat
 - plastic bags for rubbish

Information - Autorisation
 Billet d'entrée obligatoire en vente à la Maison d'accueil du Parc
 Règlement au dos.

Entrance tickets are compulsory and available at Park Entrance. See regulations on the back.



Association Nationale pour la Gestion des Aires Protégées

L'A.N.G.A.P. est une O.N.G. d'appui chargée de mettre en oeuvre l'animation et la gestion d'un programme pour la conservation de la bio-diversité malgache :
 -coordonner : formation et information à tous les niveaux, activités de conservation au sein de 50 Aires protégées, développement rural ciblé dans les zones périphériques.
 -promouvoir les recherches sur la bio-diversité, le développement de l'écotourisme.
 -mobiliser les fonds nécessaires à la réalisation de ces programmes.

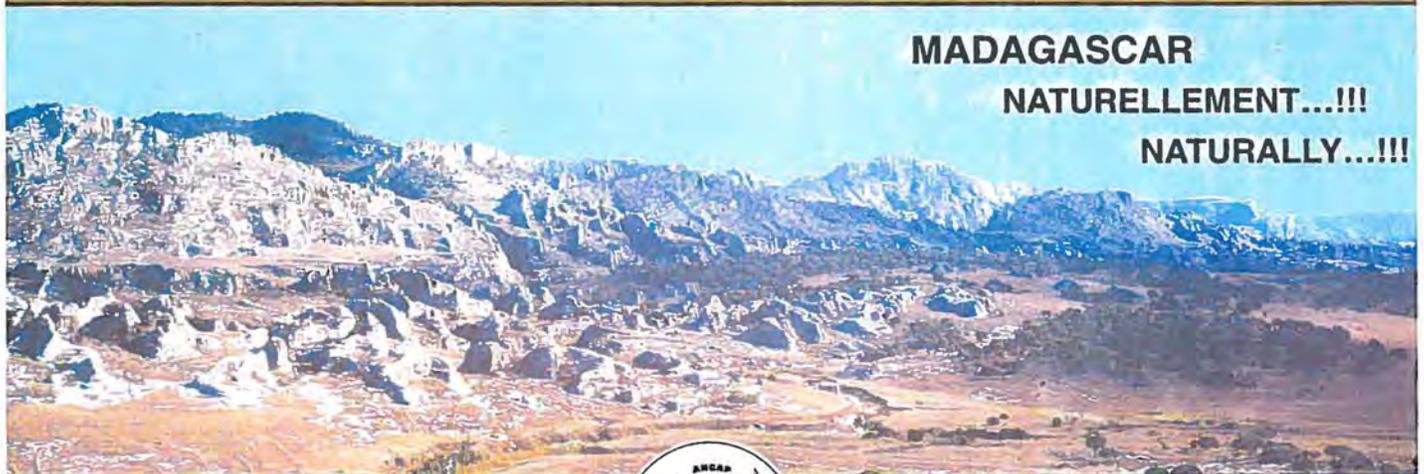
A.N.G.A.P. is an N.G.O. in charge of implementing the Malagasy biodiversity conservation program :
 - coordinate training and information at all levels, conservation activities in 50 protected areas, targeted rural development in peripheral zones.
 - promote biodiversity research and ecotourism development.
 - mobilize necessary funds for these programs.

EXPEDITION FASCINATION AU PAYS DES CANYONS

Au sud de l'île, ce parc a été créé en 1962.
OBJECTIF : Respecter la beauté ancestrale de ce site. Vestiges archéologiques et sanctuaires de rites funéraires lui confèrent une atmosphère magique faite de violents contrastes : Silence et soleil écrasent les falaises ocres ou pousse une rare végétation rupicole. Appels des lémuriers et chants d'oiseaux résonnent dans les oasis de verdure le long des rivières ou prospèrent des plantes exhubérantes.

A FASCINATING EXPEDITION AMONG CANYONS

*In the south of the island, this park was created in 1962
 Objective : Preserve the ancestral beauty of the site. Archeological relics and funeral sanctuaries create a magical atmosphere made of strong contrasts : silence and sun on sandy cliffs with rare rupicolous vegetation ; lemur calls and bird chirps in green oasis along rivers with luxuriant plants*



**MADAGASCAR
 NATURELLEMENT...!!!
 NATURALLY...!!!**

**PARC NATIONAL
 DE L'ISALO**



**ISALO
 NATIONAL PARK**



Satrana

Pachypodium

"Fenêtre de l'Isalo"

Aloé

Falaise de l'Isalo

Le Parc National de l'Isalo



Allitude entre 820 m et 1304 m
Elevation : 820 m - 1304 m

→ 226Km de Tuléar et 700 km de Tananarive
226 km from Tulear - 700 km from Tananarive

→ Climat tropical sec
Dry tropical climate

→ Températures abs : de 3° à 35°
Temperature from 3° to 35° c

→ Pluviométrie : 850 mm/an
Rainfall : 850 mm/year

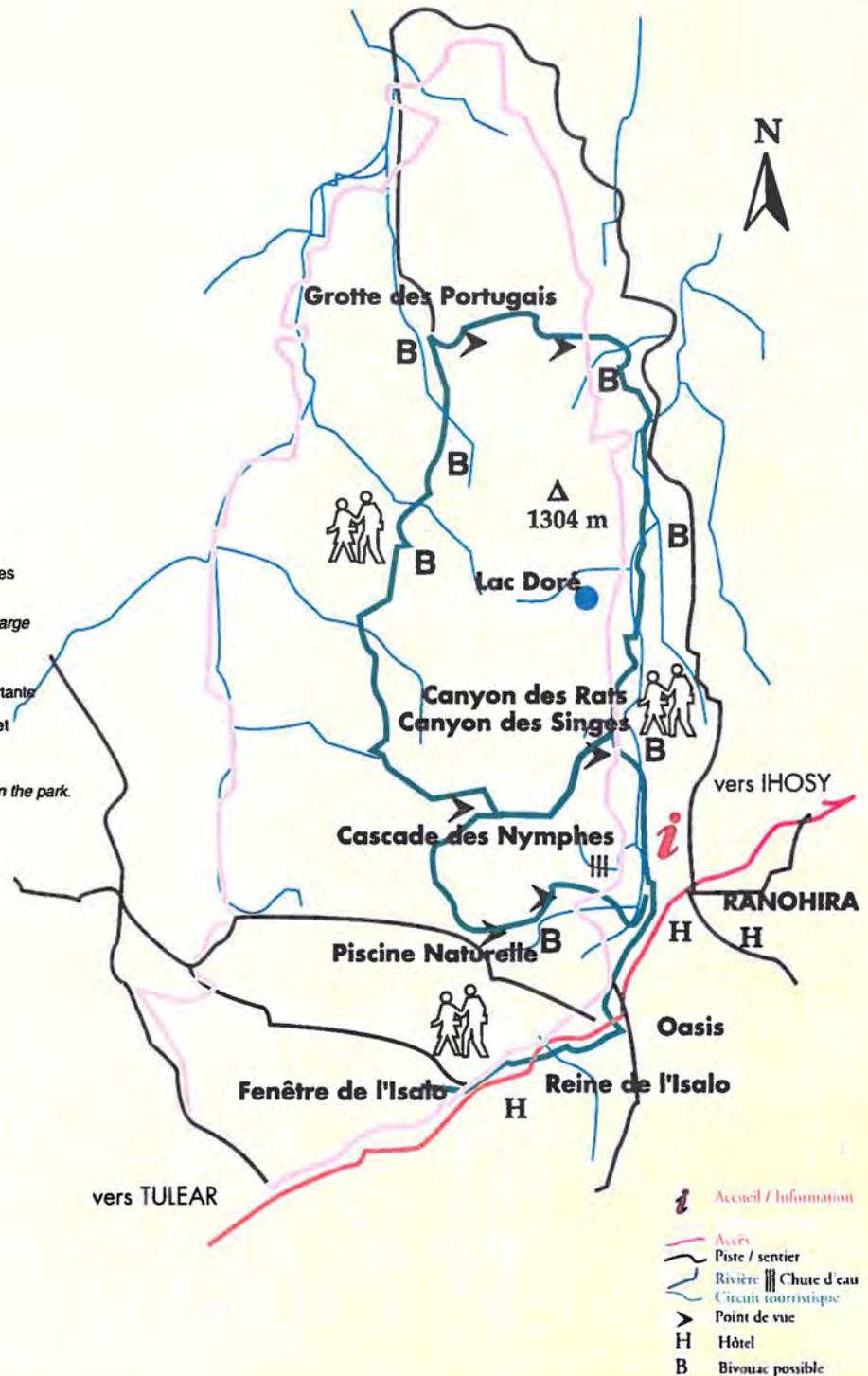
→ Superficie : 81 540 ha
Area : 81 540 ha

→ Massif gréseux fortement érodé. relief ruiniforme grandes étendues herbeuses.
Nombreux cours d'eau au fond d'étroits canyons.
Highly eroded sandstone massif. Ruiniform relief with large grassy areas.
Clear streams in deep, narrow canyons.

👤 Ethnie dominante Bara qui vit de l'élevage, mixité importante de Betsileo, agriculteurs.
Un droit d'usage dans le parc pour la récolte des fruits et des cocons du "tapia" et pour la collecte du miel.
Main ethnic group : cattle breeder Baras, and strong mixture of Betsileo farmers.
User right fee to collect fruit, tapia cocoons and honey in the park.



Lémur Catta



ENVIRONNEMENT

CULTURE

ECOTOURISME



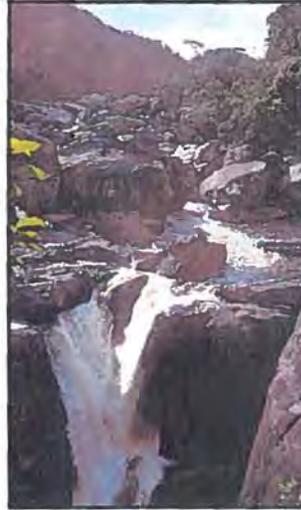
Circuits 1/2 ou 1 jour de difficulté moyenne sur un ou deux sites : beaucoup de zones non accessibles à cause du relief. Randonnées de plusieurs jours possible, mais il est interdit de camper et cuisiner dans ce Parc : Terrain de Camping, situé à proximité de la Maison d'accueil : tentes et abris sur place gestion assurée par les villageois. Après la marche, découvrez les délices de la Piscine d'eau chaude dans un cadre magique ou d'un massage et d'une douche revigorants à l'établissement thermal

1/2 or 1 day hikes in 1 or 2 sites : access to many areas in unavailable. Camping and cooking in the park are forbidden. Campsite near Park Entrance with tents and shelters are managed by villagers. After a walk in the forest, discover the pleasure of the hot springs pool set in a wonderful place or a massage or shower at the Thermal Spa.

GUIDES

Accompagnement obligatoire. Guides spécialisés (botanique, ornithologie), présents à la Maison d'accueil parlent français, ou anglais, assurent la cuisine sur le site de camping du Parc.

Guides are compulsory. Specialized guides (botany, birds) speaking French and English are available at the Park entrance can provide cooking assistance at park campsite.



Conseils Pratiques en toute saison... il pleut!
- vêtements chauds même le jour
- imperméables et bottes
- chaussures de rechange
- produits anti-moustiques/sangsues
- crème solaire - casquette
- sachets pour vos déchets

Practical advice
It rains the whole year!
- warm clothes even in daytime
- raincoats and boots
- change of shoes
- mosquito leech repellent
- sun cream and cap
- plastic bags for rubbish

Information - Autorisation
Billet d'entrée obligatoire en vente à la Maison d'accueil du Parc et à Fianarantsoa (Sofia/Plazza). Règlement au dos

Entrance tickets are compulsory and available at Park Entrance and in Fianarantsoa (Sofia/Plazza) See regulation on the back



Association Nationale pour la Gestion des Aires Protégées

L'ANGAP est une ONG, d'appui chargée de mettre en œuvre l'animation et la gestion d'un programme pour la conservation de la bio-diversité malgache
-coordonner : formation et information à tous les niveaux, activités de conservation au sein de 50 Aires protégées, développement rural cible dans les zones périphériques
-promouvoir les recherches sur la bio-diversité, le développement de l'écotourisme.
-mobiliser les fonds nécessaires à la réalisation de ces programmes.

ANGAP is an N.G.O in charge of implementing the Malagasy biodiversity conservation program :
- coordinate training and information at all levels, conservation activities in 50 protected areas, targeted rural development in peripheral zones
- promote biodiversity research and ecotourism development.
- mobilize necessary funds for these programs.

RANDONNEE MYSTERE AU PAYS DES BRUMES

A l'est, ce Parc a été créé en 1991
OBJECTIF : Protéger une richesse naturelle : un des deux territoires connus du lémurien "HAPALEMUR DORE" découvert en 1986 et du "Grand Hapalemur", il abrite une faune abondante et variée
Relief accidenté, chutes impressionnantes et sources d'eau chaude donnent une note d'insolite au charme de cette Forêt menacée aux essences exotiques et rares.

A MYSTERY HIKE IN THE MISTY COUNTRY

Located in the east, the park was created in 1991
Objective : preserve one of two known habitats of the Golden Bamboo Lemur discovered in 1986 and the Greater Bamboo Lemur.
An abundant and diverse fauna is found in the park.
Steep mountains, dramatic waterfalls and natural hot springs make this endangered and exotic forest charming and unusual.



MADAGASCAR
NATURELLEMENT...!!!
NATURALLY...!!!

PARC NATIONAL
DE RANOMAFANA



RANOMAFANA
NATIONAL PARK



Forêt de Talatakeley

Microcèbe

Flore étrange

La Namorona

Caméleon

Le Parc National de Ranomafana



Altitude entre 600 m et 1417 m
Elevation : 600m-1417m

→ 60 km de Fianarantsoa - 400 km de Tananarive
60 km from Fianarantsoa- 400 km from Tananarive

→ Climat tropical humide
Humid tropical climate

→ Températures abs : de -1° à 30°
Temperature : from -1 to 30°C

→ Pluviométrie : 2700 mm/an
Rainfall 2700 mm/year

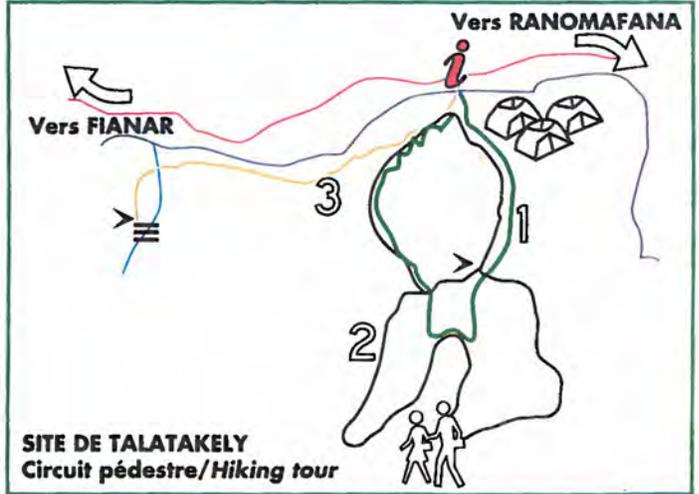
→ Superficie : 39.222 ha
Area : 39.222 ha

→ Massif de montagne à fortes déclivités. Nombreux blocs de granit d'où dévalent torrents et cascades. Installation hydroélectrique pour toute la région.
Mountainous massifs with steep slopes. Granite rocks, streams and waterfalls. Provides hydroelectricity for the whole region

👤 Ethnie dominante les Tanala "hommes qui vivent de la Forêt" forte mixité avec les Betsileo qui vivent de riziculture dans les vallées.
Main ethnic group : Tanala or "People from the forest" strong mixture of Betsileo who grow rice in lowlands.



Haplorhina G. G. G.



ENVIRONNEMENT

CULTURE

ECOTOURISME



Pistes intérieures carrossables, des circuits courts et faciles permettent un excellent contact avec cette nature luxuriante.

- 1 JOUR (environ 13 km, facile) : Grande Cascade Sentier Botanique/pique-nique à la Station des Roussettes, Petite Cascade/Petit Lac
- en 2 ou 3 JOURS (se munir d'une autorisation de camper) : montée à pied (environ 8 h) le long des crêtes jusqu'au Sommet d'Ambre - nuit(s) en bivouac aux Roussettes (terrain de camping) et Grand Lac.

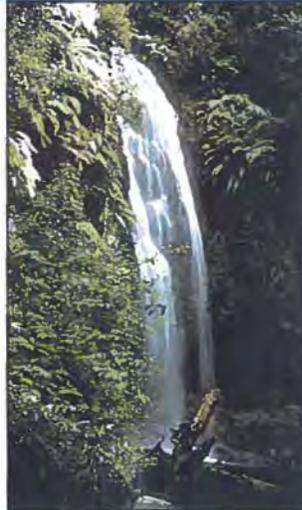
Internal trails accessible by car, short and easy tours allow close contact with the lush wildlife.

- 1 day tour (around 13 km, easy) : Grande Cascade, Botanical trail / picnic at Roussettes Research Station, Petite Cascade / Petit Lac
- 2 or 3 days tour (get a camping permit) - climbing to Amber peak (about 8h) - overnight camping at Roussettes (campsite) and Grand Lac.

GUIDES

Accompagnement obligatoire.
Voir "A.G.E.Z.A." : guides spécialisés (botanique, ornithologie), parlent français, anglais ou allemand assurent cuisine et portage.

Guides are compulsory.
See A.G.E.Z.A. specialized guides (botany, birds) speaking French, English or German, can cook and carry luggage.



Conseils Pratiques
en toute saison se munir de :

- vêtements chauds même le jour
- vêtement de pluie
- chaussures de rechange
- produit contre moustiques et sangsues
- crème solaire et casquette
- sachets pour vos débris

Practical advice
For any season, bring :

- warm clothes even in daytime
- rain gear
- a change of shoes
- mosquito leech repellent
- sun cream and cap
- plastic bags for rubbish

Information - Autorisation
Billet d'entrée obligatoire.
En vente au projet Montagne d'Ambre Diégo ou à l'accueil du Parc.
Règlement au dos

Entrance tickets are compulsory and available at the Amber Mountain Project office in Diego or at Park Entrance. See regulations on the back.



AVENTURE PASSION AU PAYS DES VOLCANS

A l'extrême nord, ce Parc a été créé en 1958
OBJECTIF Sauvegarder un trésor vital pour la région : ce massif de forêt pluviale le plus arrosé de l'île, véritable château d'eau, est aussi un paradis pour les botanistes.
Isolé au sein d'une région de savane sèche entourée par l'océan, ce refuge biologique unique abrite une Faune et une Flore qui se caractérisent par un endémisme élevé.

AN ENTHRALLING ADVENTURE AMONG VOLCANOES

In the far north of the island, this park was created in 1958
OBJECTIVE : preserve this region's biological treasure :
this rainy forest massif is a "water tower" and a botanist's heaven. Isolated in the dry savanna and surrounded by the ocean, this unique refuge contains endangered endemic fauna and flora.



Association Nationale pour la Gestion des Aires Protégées

L'A.N.G.A.P. est une O.N.G. d'appui chargée de mettre en oeuvre l'animation et la gestion d'un programme pour la conservation de la bio-diversité malgache :

- coordonner : formation et information à tous les niveaux, activités de conservation au sein de 50 Aires protégées, développement rural ciblé dans les zones périphériques,
- promouvoir les recherches sur la bio-diversité, le développement de l'écotourisme,
- mobiliser les fonds nécessaires à la réalisation de ces programmes.

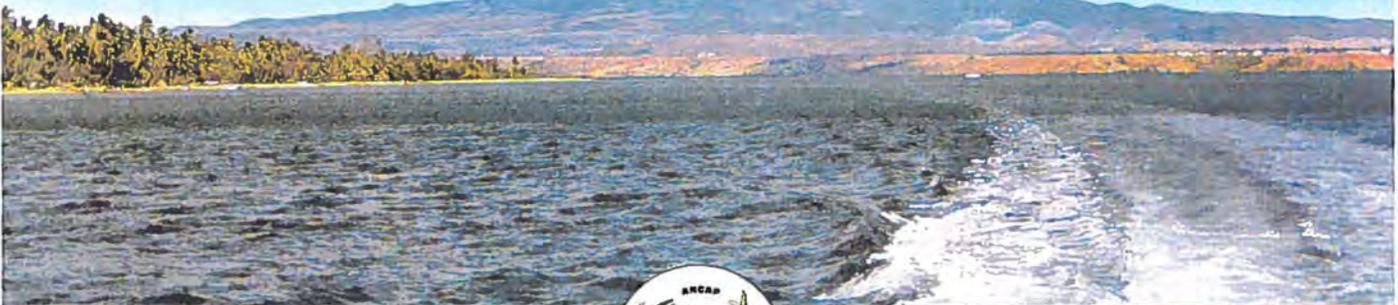
A.N.G.A.P. is an N.G.O. in charge of implementing the Malagasy biodiversity conservation program :

- coordinate training and information at all levels, conservation activities in 50 protected areas, targeted rural development in peripheral zones,
- promote biodiversity research and ecotourism development,
- mobilize necessary funds for these programs.

MADAGASCAR

NATURELLEMENT...!!!

NATURALLY...!!!



PARC NATIONAL DE
LA MONTAGNE D'AMBRE



AMBER MOUNTAIN
NATIONAL PARK



Fougère arborescente

Le "Petit Lac"

Orchidées

Galidie

La "Grande Cascade"

Le Parc National de la Montagne d'Ambre



Altitude entre 800 m et 1475 m
Elevation : 800 m - 1475 m

→ 35 km de Diego - 1000 km de Tananarive
35 km from Diego - 1000 km from Tananarive

→ Climat tropical humide
Humid tropical climate

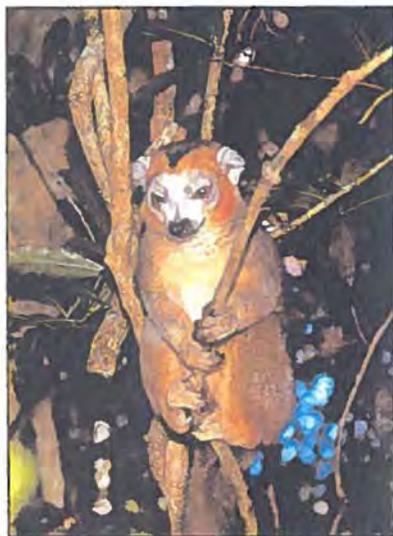
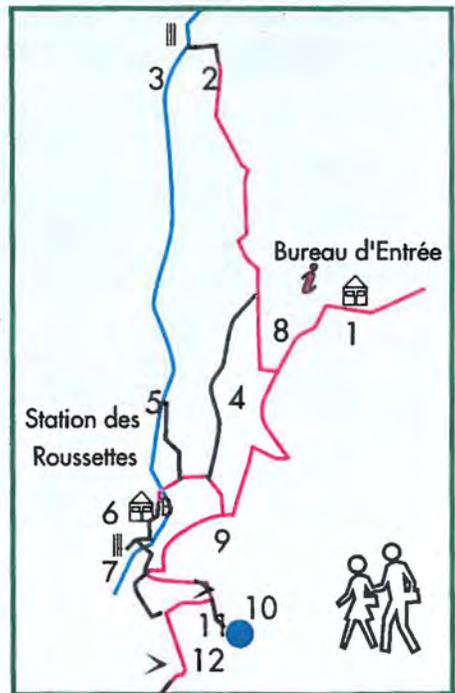
→ Températures abs : de 3° à 25°c
Temperature from 3° to 25°

→ Pluviométrie : 3585 mm/an
Rainfall : 3585 mm/year

→ Superficie : 18200 ha
Area : 18200 ha

→ Massif volcanique, roches basaltiques.
Nombreux torrents et cascades.
Volcanic massif with basalt rocks,
streams and waterfalls.

→ Ethnie dominante Antakarana.
Riziculture et élevage
Main ethnic group : Antakarana.
Rice and livestock



Coronatus

- | | |
|---|--|
| 1 Barrière du Parc National | 1 National park barrier |
| 2 Point de vue sur la Grande Cascade | 2 Overlook on the Grande Cascade |
| 3 La Grande Cascade | 3 Grande Cascade |
| 4 Sentier botanique | 4 Botanical trail |
| 5 La Cascade Younssique | 5 Younssique Cascade |
| 6 Station des Roussettes | 6 Roussettes Research Station |
| 7 La Petite Cascade | 7 Petite Cascade |
| 8 Piste de la Grande Cascade | 8 Grande Cascade trail |
| 9 Croisement des pistes vers Petit Lac et vers Station des Roussettes | 9 Crossing between trails to Petit Lac and Roussettes Research Station |
| 10 Descente vers Petit Lac | 10 Descent to Petit Lac |
| 11 Point de vue sur Diego et la Baie | 11 Overlook on Diego and the Bay |
| 12 Col des Fougères-Point de vue | 12 Fern pass - Overlook |

ENVIRONNEMENT

CULTURE

ECOTOURISME



Le domaine forestier des Indri peut être parcouru en 1 journée, mais il est possible de dormir en hôtel à Andasibe ou de camper à l'entrée du parc (dans la station forestière entrée payante). L'environnement immédiat offre à Mantadia une curiosité touristique inédite : l'exploitation de mines de graphite. Les bons marcheurs seront attirés par cette partie du Parc qui leur permettra d'effectuer des randonnées de 1 à 6 jours (sites de camping). Il ne faut pas oublier de découvrir les merveilles qu'offre le PARC aux ORCHIDÉES à PERINET (entrée payante).

The Indri's world can be seen in 1 day but you can stay overnight at the hotel in Andasibe or camp at the park entrance (entry fee to forest station) Graphite mine exploitation makes Mantadia an unusual touristic attraction. Good hikers will enjoy this portion of the park through 1 to 6 day walks (campsites). Do not forget the marvellous Orchid Garden in Perinet (entry fee).

GUIDES

Accompagnement obligatoire
Voir "A.G.A." : guides spécialisés
Suivez leurs conseils - soyez patients en attendant les lémunens
A.G.A. assure la logistique des bivouacs.

*Guides are compulsory.
See A.G.A., specialized guides
pay attention to their advice, be patient while lemur watching.
A.G.A. takes care of camping logistics.*



Conseils Pratiques

- observer les indri : tôt le matin
- Très humide en saison des pluies
- chaussures antidérapantes
- vêtements de pluie
- Prophylaxie anti-paludéenne
- Produits contre moustiques et sangsues
- Sachets pour vos détritus
- toilettes dans le parc (200 Fmg)

Practical advice

- Indris are best seen early in the morning
- Very humid in rainy season
- Good traction shoes
- Rain gear
- Anti-malaria medicines
- Mosquito/leech repellent
- Plastics bags for rubbish
- Toilets in the park (200 Fmg)

Information - Autorisation

Billet d'entrée obligatoire
En venie à la Maison d'accueil du Parc
Règlement au dos

*Entrance tickets compulsory and available at Park Entrance
See regulations on the back*



RENCONTRE EMOTION AU PAYS DE L'INDRI INDRI

A 2 h de Tananarive, union d'une Réserve Spéciale et d'un Parc National pour les touristes curieux et pressés
OBJECTIF : protéger un spectaculaire patrimoine au cœur de cette profonde forêt primaire. Dans cet unique domaine où vivent 62 groupes du plus grand des lémunens, la luxuriante végétation de la Falaise de l'Est fera le bonheur des naturalistes.

AN EMOTIONAL ENCOUNTER IN THE LAND OF THE INDRI

*Only 2 hours drive from Tana, this combination of a Special Reserve and National Park is ideal for tourists in a hurry.
Objective : preserve an extraordinary heritage in the deep heart of the primary forest.
62 groups of the largest lemur are found in this unique place. The lush eastern coast vegetation will please naturalists.*



Association Nationale pour la Gestion des Aires Protégées

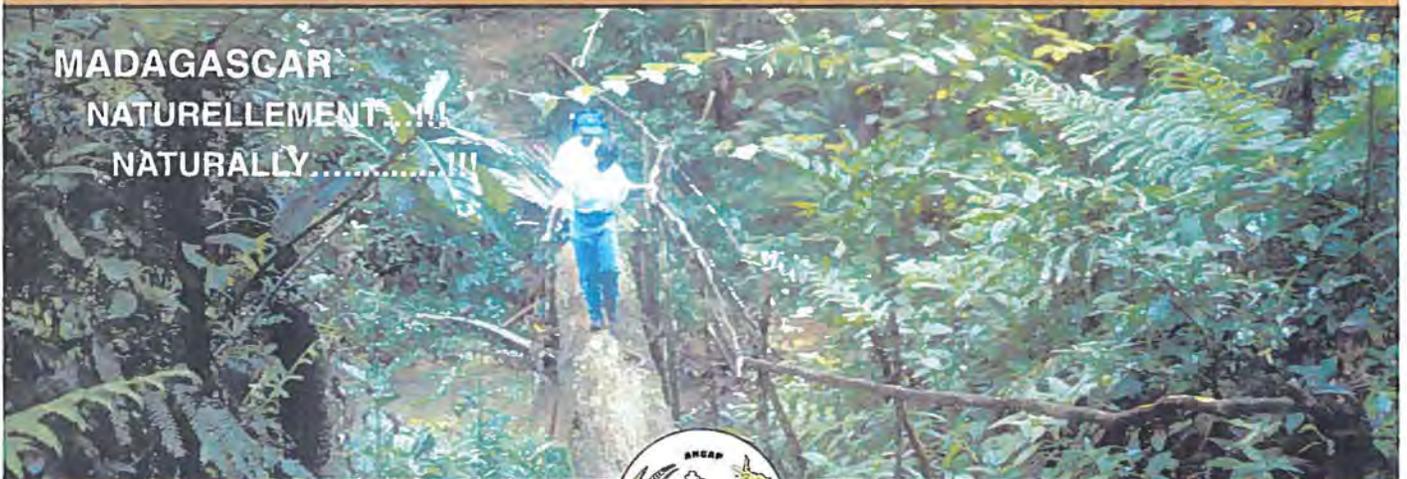
LANGAP est une O.N.G d'appui chargée de mettre en oeuvre l'animation et la gestion d'un programme pour la conservation de la bio-diversité malgache :

- coordonner : formation et information à tous les niveaux, activités de conservation au sein de 50 Aires protégées, développement rural ciblé dans les zones périphériques
- promouvoir les recherches sur la bio-diversité, le développement de l'écotourisme.
- mobiliser les fonds nécessaires à la réalisation de ces programmes

A.N.G.A.P. is an N.G.O in charge of implementing the Malagasy biodiversity conservation program :

- coordinate training and information at all levels, conservation activities in 50 protected areas, targeted rural development in peripheral zones.
- promote biodiversity research and ecotourism development.
- mobilize necessary funds for these programs

MADAGASCAR
NATURELLEMENT...!!!
NATURALLY.....!!!



PARC NATIONAL

SIBE



ANDASIBE

NATIONAL PARK



Caméleon

Lichens

Orchidée

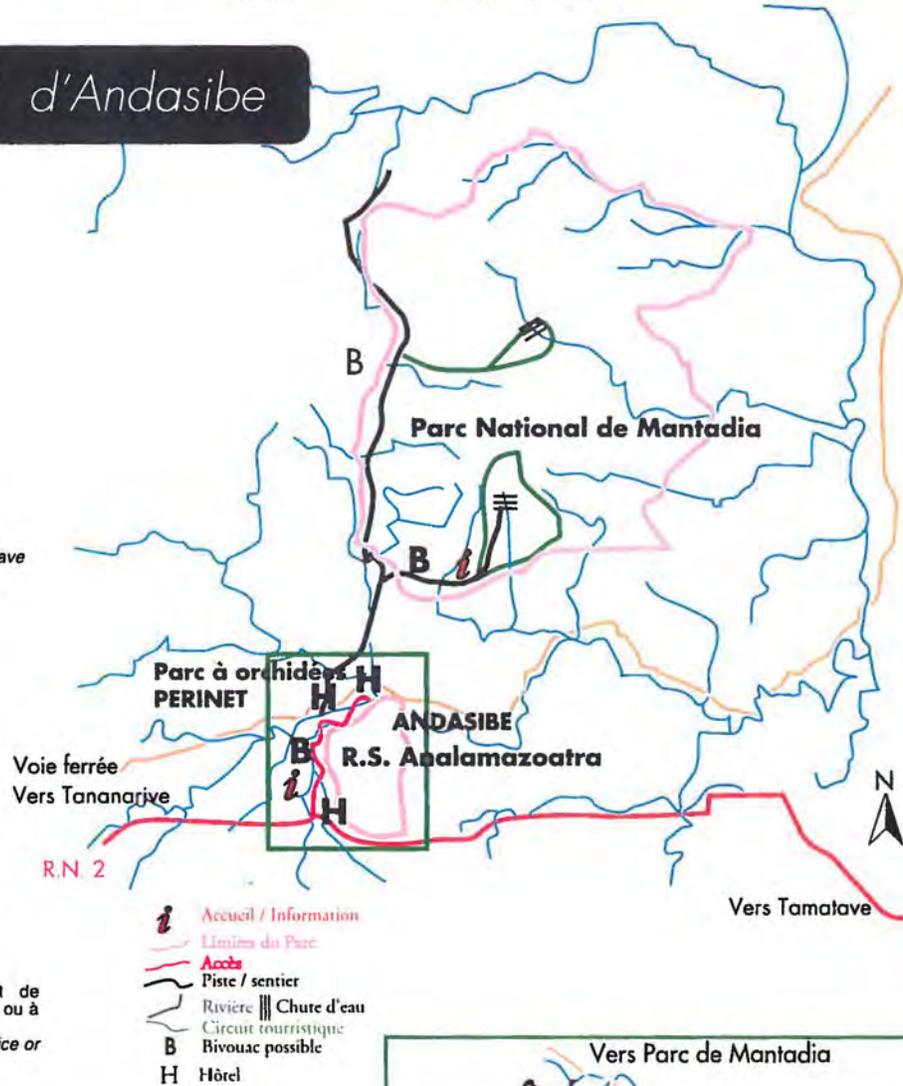
Buffet de la gare Andasibe

Grenouille

Le Parc National d'Andasibe



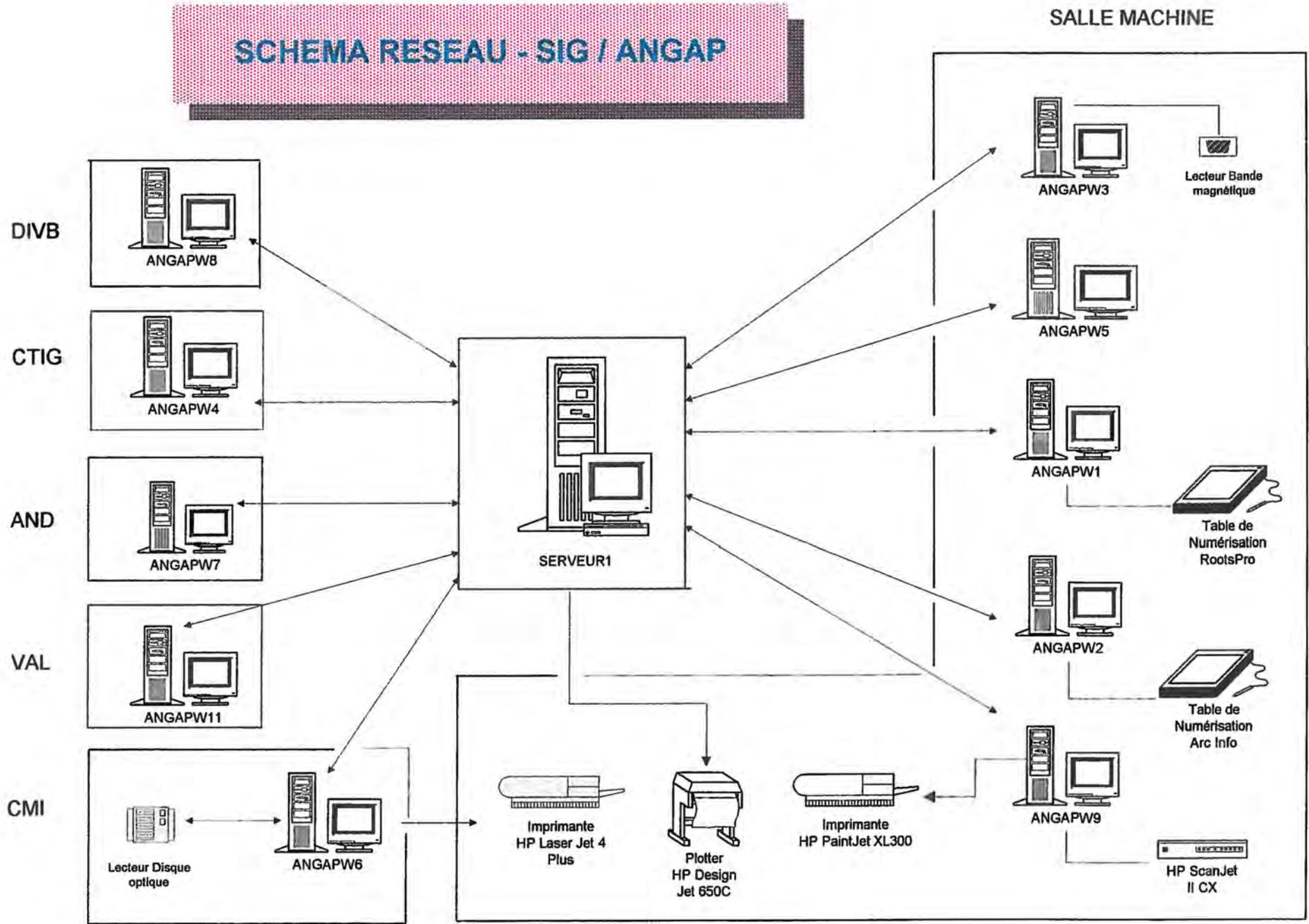
- ▲ Allitude entre 750 m et 1.250 m
Elevation : 750 m - 1250 m
- 140 km de Tananarive - 200 km de Tamatave
140 km from Tananarive - 200 km from Tamatave
- Climat tropical humide
Humid tropical climate
- Températures abs : de -10° à 27C
Temperature from 10° to 27°C
- Pluviométrie : 1.700 mm/an
Rainfall : 1700 mm/year
- Superficie : 12.810 ha
Area : 12.810 ha
- Relief très accidenté, succession de crêtes sur massif de gneiss au sol latéritique.
Very mountainous with a succession of peaks on gneiss massif and laterite soils.
- 👤 Ethnie dominante Betsimisaraka, qui vit de riziculture et d'emplois aux mines de graphite ou à la Compagnie ferroviaire.
Main ethnic group : Betsimisaraka who grow rice or work for graphite mines or railway company.



Indri - Indri

**Appendix 3. ANGAP Department of Information and Valorization of
Biodiversity—Assorted Geographic Information System Cartographic
Products**

SCHEMA RESEAU - SIG / ANGAP



LOGICIELS DISPONIBLES POUR CHAQUE MACHINE
(Salle SIG / ANGAP)

ANGAPW1

- Arc Info
- Arc View
- MapInfow
- Idrisiw
- PCI
- MsOffice
- Corel Draw
- Dbase IV

ANGAPW2

- x - MapInfow
- RootsPro *
- x - MsOffice
- Corel Draw

ANGAPW3

- Arc Info
- Arc View
- MapInfow
- Idrisiw
- PCI
- MsOffice
- Corel Draw

ANGAPW5

- Arc Info **
- Arc View **
- MapInfow
- MsOffice
- Corel Draw
- Visio
- o - Dbase IV

ANGAPW9

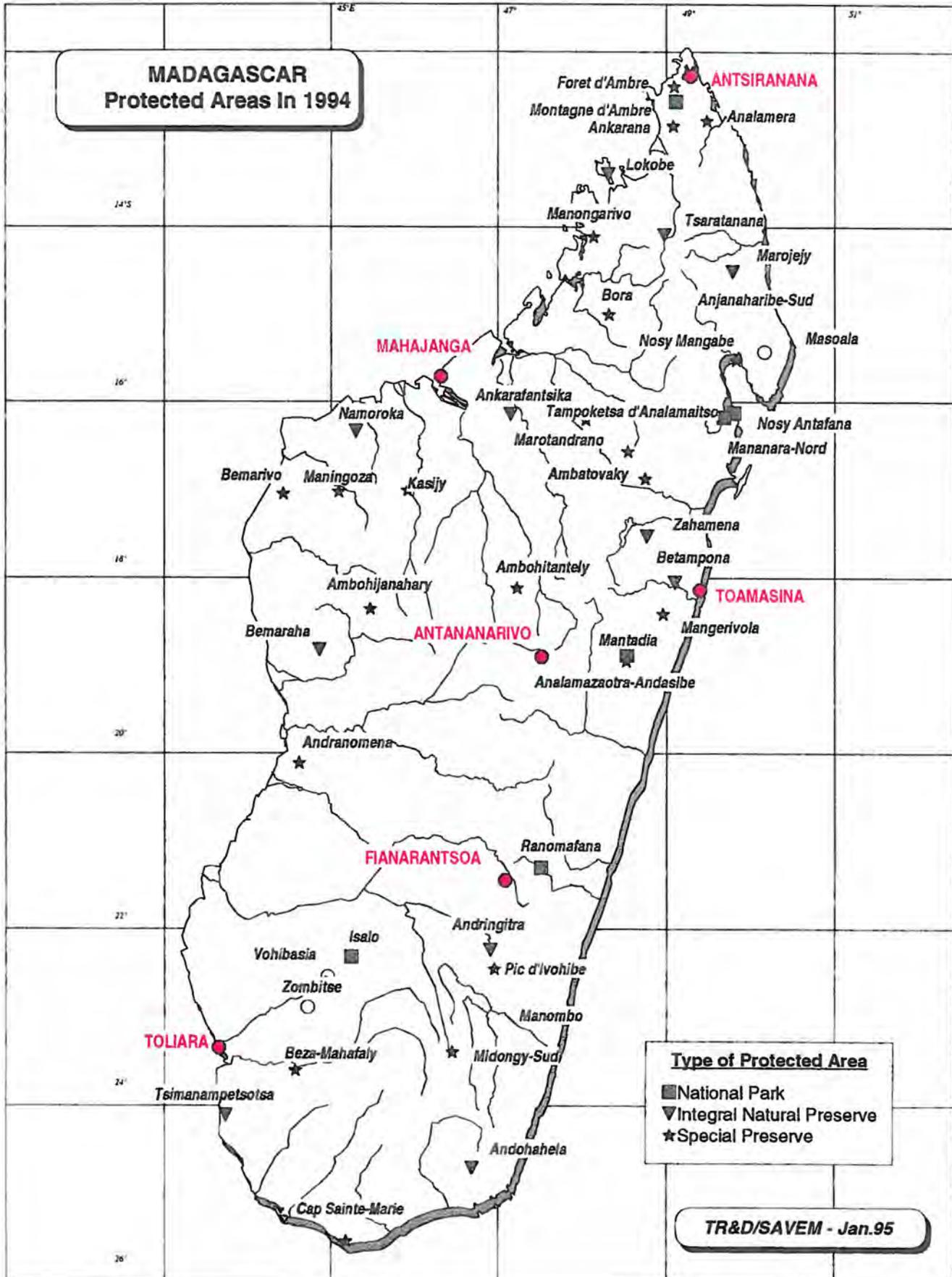
- MapInfow
- PCI
- MsOffice
- Corel Draw
- Deskscan

NOTES :

* : Sous - réseau

** : Logiciel installé mais clé non disponible

MADAGASCAR
Protected Areas In 1994

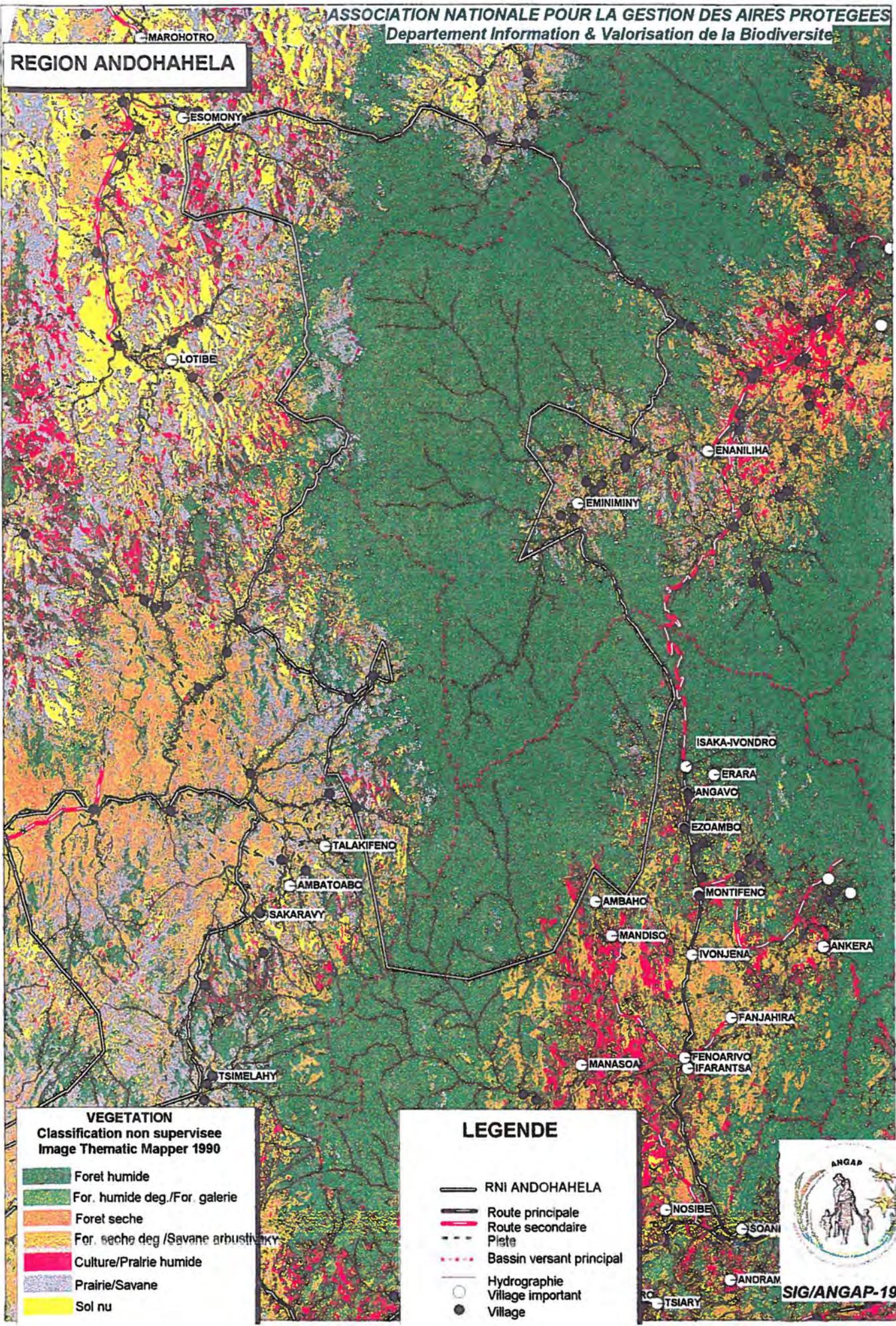


Type of Protected Area

- National Park
- ▼ Integral Natural Preserve
- ★ Special Preserve

TR&D/SAVEM - Jan.95

REGION ANDOHAHELA



VEGETATION
 Classification non supervisee
 Image Thematic Mapper 1990

- Forêt humide
- For. humide deg./For. galerie
- Forêt sèche
- For. sèche deg /Savane arbustive
- Culture/Prairie humide
- Prairie/Savane
- Sol nu

LEGENDE

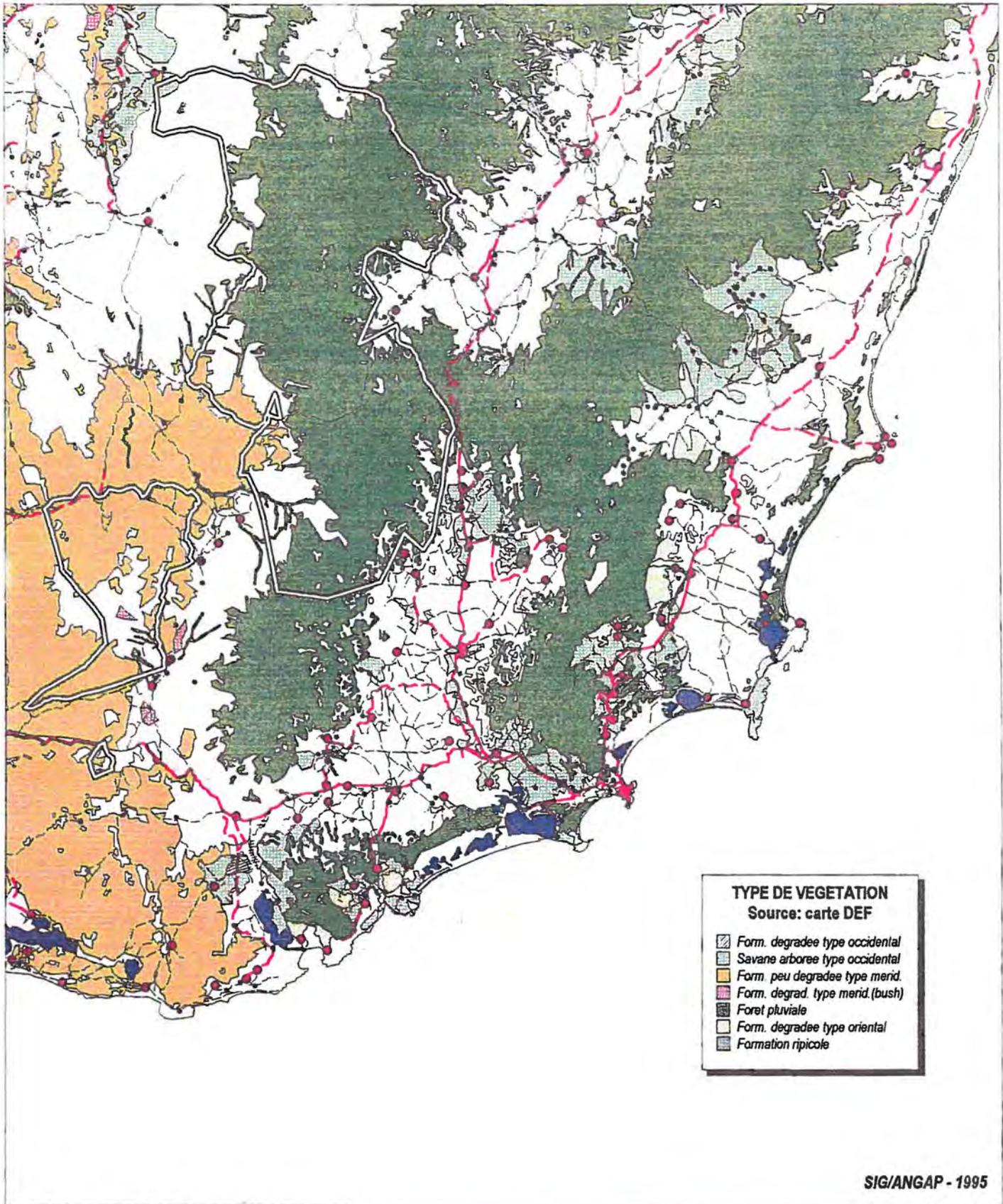
- RNI ANDOHAHELA
- Route principale
- Route secondaire
- Piste
- Bassin versant principal
- Hydrographie
- Village important
- Village



SIG/ANGAP-1995

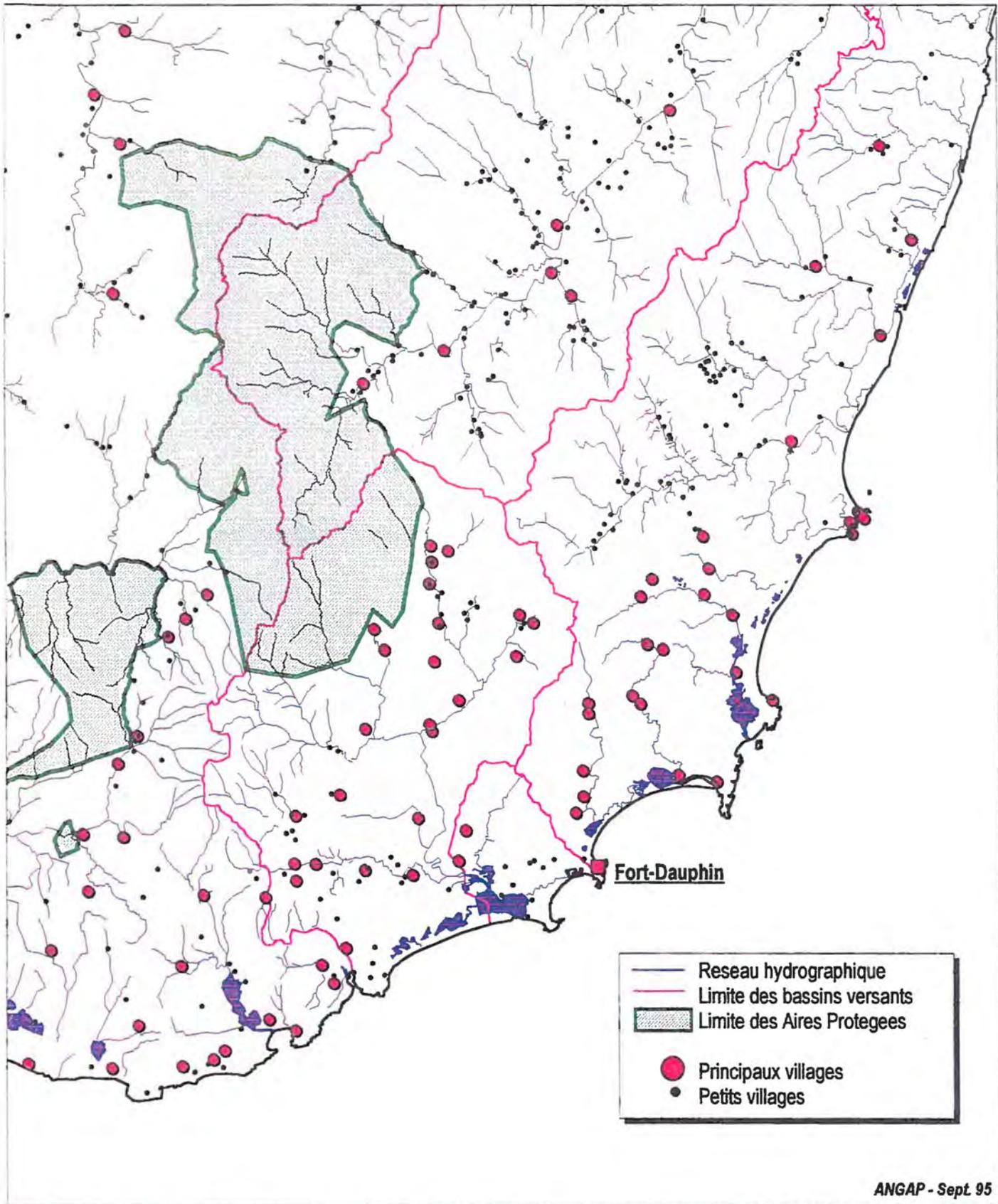
REGION ANDOHAHELA

Vegetation, routes & villages en 1950

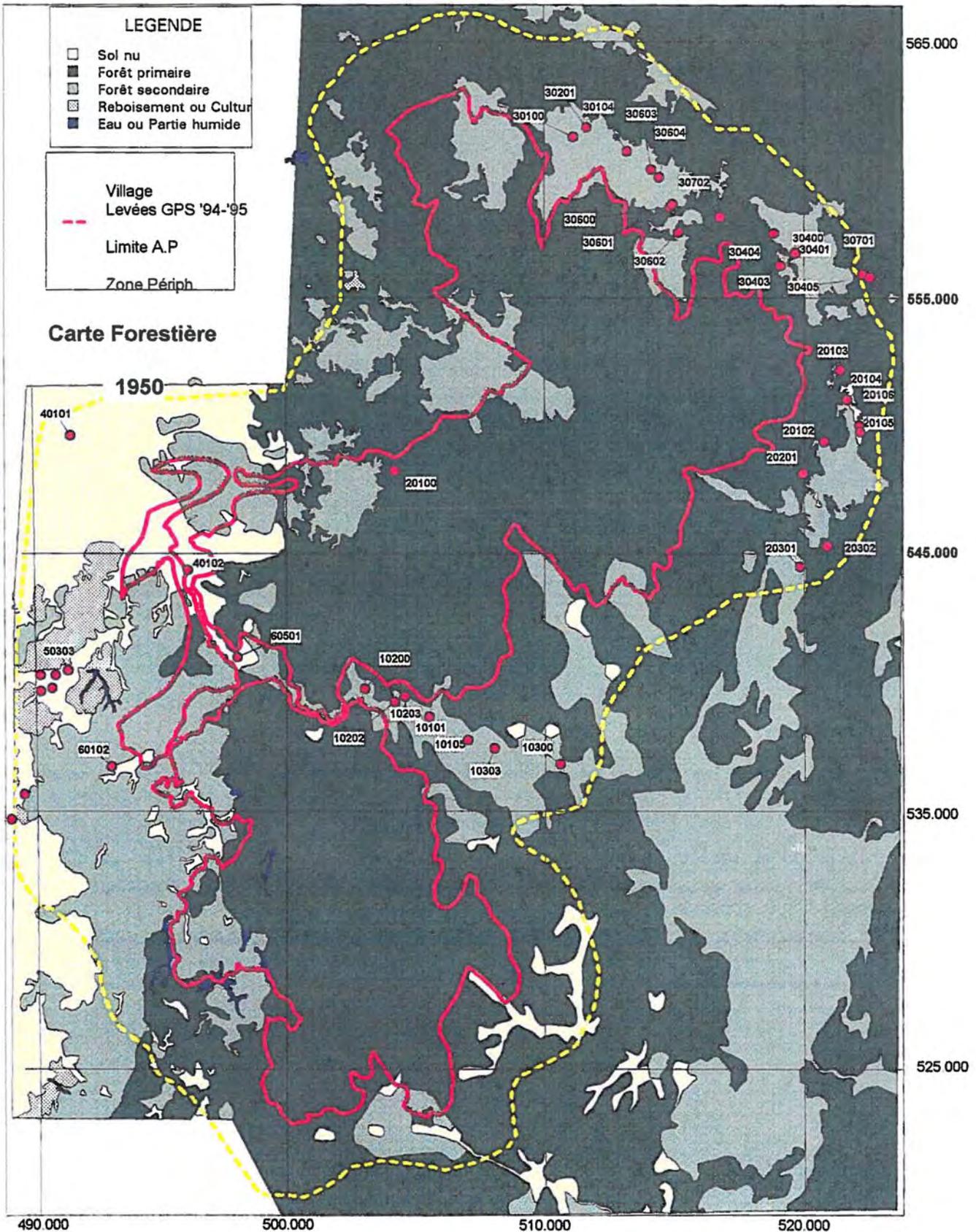


ROLE ECOLOGIQUE D'UNE AIRE PROTEGEE

Exemple R.N.I Andohaëla (Bassins versants & ressources en eau)



PARC NATIONAL DE RANOMAFANA



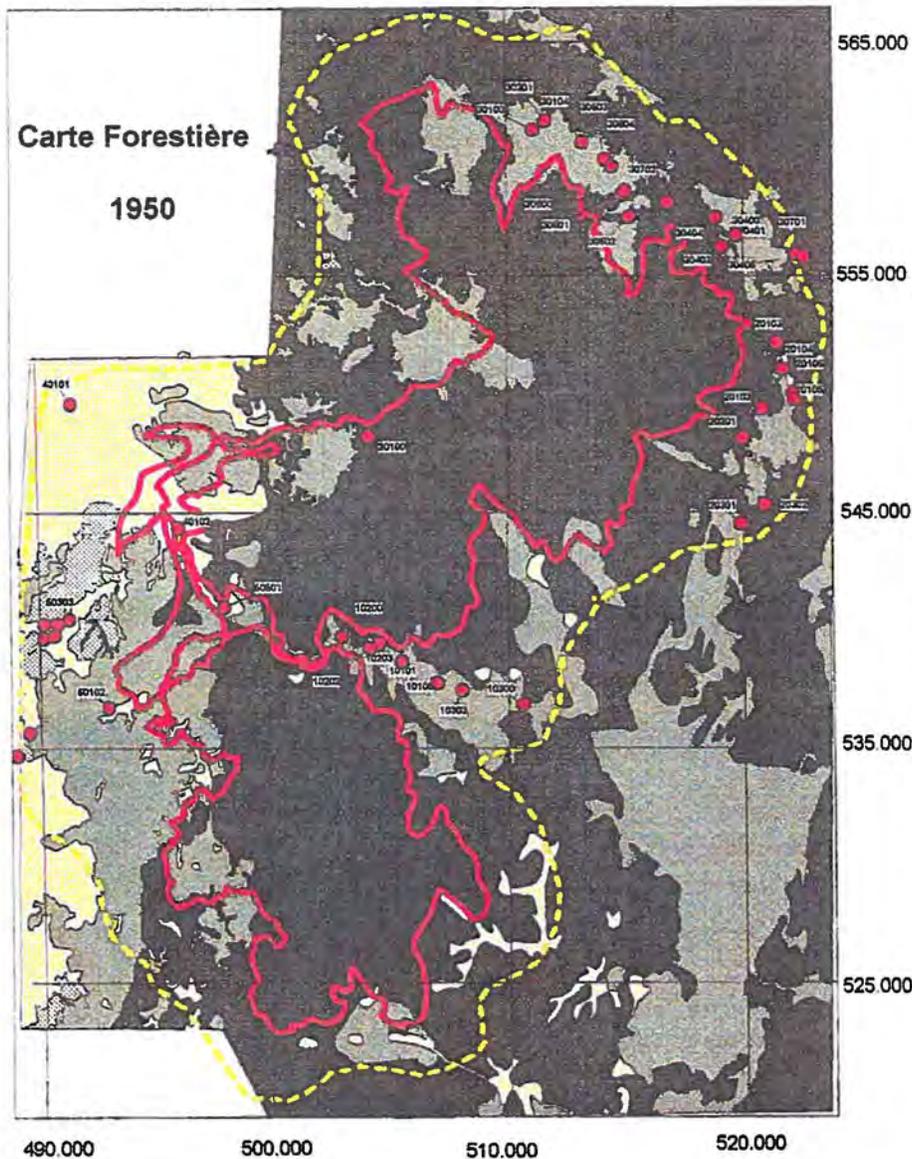
Source : - Direction des Eaux et Forêt
- Proiet Parc National de Ranomafana

ECHELLE 1:200.000

SIG / ANGAP
SIG / PPNR



PARC NATIONAL DE RANOMAFANA



| Code | Nom |
|-------|---------------------|
| | |
| | |
| | |
| | |
| 10101 | Ranomafana |
| 10105 | Mesomanga |
| 10200 | Ambatolahy |
| 10202 | Ambodikimba |
| 10203 | Tsararano |
| 10303 | Ankevohevo |
| 10300 | Ambodiaviavy |
| 10700 | Vohimarina |
| 20100 | Vohitrarivo |
| 20102 | Tsarahonenana |
| 20103 | Maromandia 1 |
| 20104 | Maromandia 2 |
| 20105 | Ambodimanga est |
| 20106 | Ambodimanga ouest |
| 20201 | Ambohipo village |
| 20301 | Vatofotsy village |
| 20302 | Ambodigoavy |
| 30100 | Ambohimiera |
| 30104 | Morondava |
| 30201 | Ambohimilanja |
| 30400 | Manarinony fkt |
| 30401 | Manarinony village |
| 30403 | Kianjanomby |
| 30404 | Soanierana |
| 30405 | Ambodiara |
| 30600 | Sahasomanga fkt |
| 30601 | Sahasomanga village |
| 30602 | Namahoaka |
| 30603 | Tsinjorano |
| 30804 | Ambalaomby |
| 30700 | Vohimena fkt |
| 30701 | Vohimena village |
| 30702 | Mataiotsio |
| 40000 | Manandroy |
| 40101 | Antsiho |
| 40102 | Amboditanimena |
| 50000 | Morafeno |
| 50302 | Amboninambia |
| 50303 | Analavory |
| 50305 | Ambozontany |
| 50306 | Sahaniaka |
| 80000 | Androy |
| 80100 | Ambatovaky |
| 80101 | Ambatovaky village |
| 80102 | Sahavondronina |
| 80501 | Vohiparara |
| 0 | |

LEGENDE

| | |
|--|------------------------|
| | Sol nu |
| | Forêt primaire |
| | Forêt secondaire |
| | Reboisement ou Culture |
| | Eau ou Partie humide |

ECHELLE 1:300.000

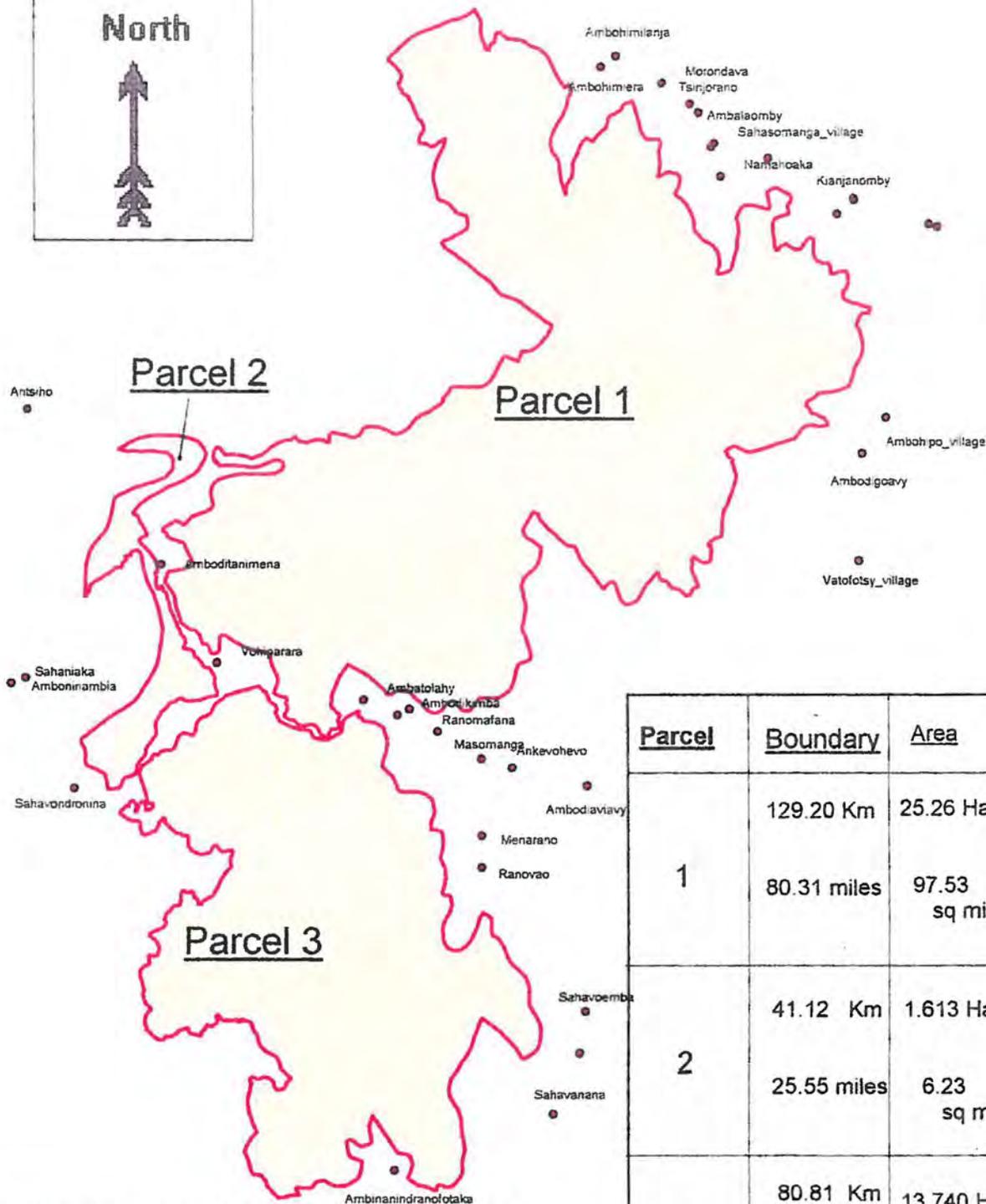
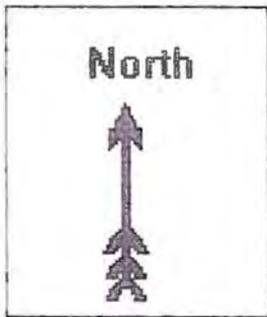
| | |
|--|-------------------|
| | Village |
| | Levés GPS '94-'95 |
| | Limite A.P |
| | Zone Périph. |

Source : - Direction des Eaux et Forêt
- Projet Parc National de Ranomafana

SIG / ANGAP
SIG / PPNR

MAP 2 DIGITALIZED PARK BOUNDARY

G.I.S Ranomafana National Park

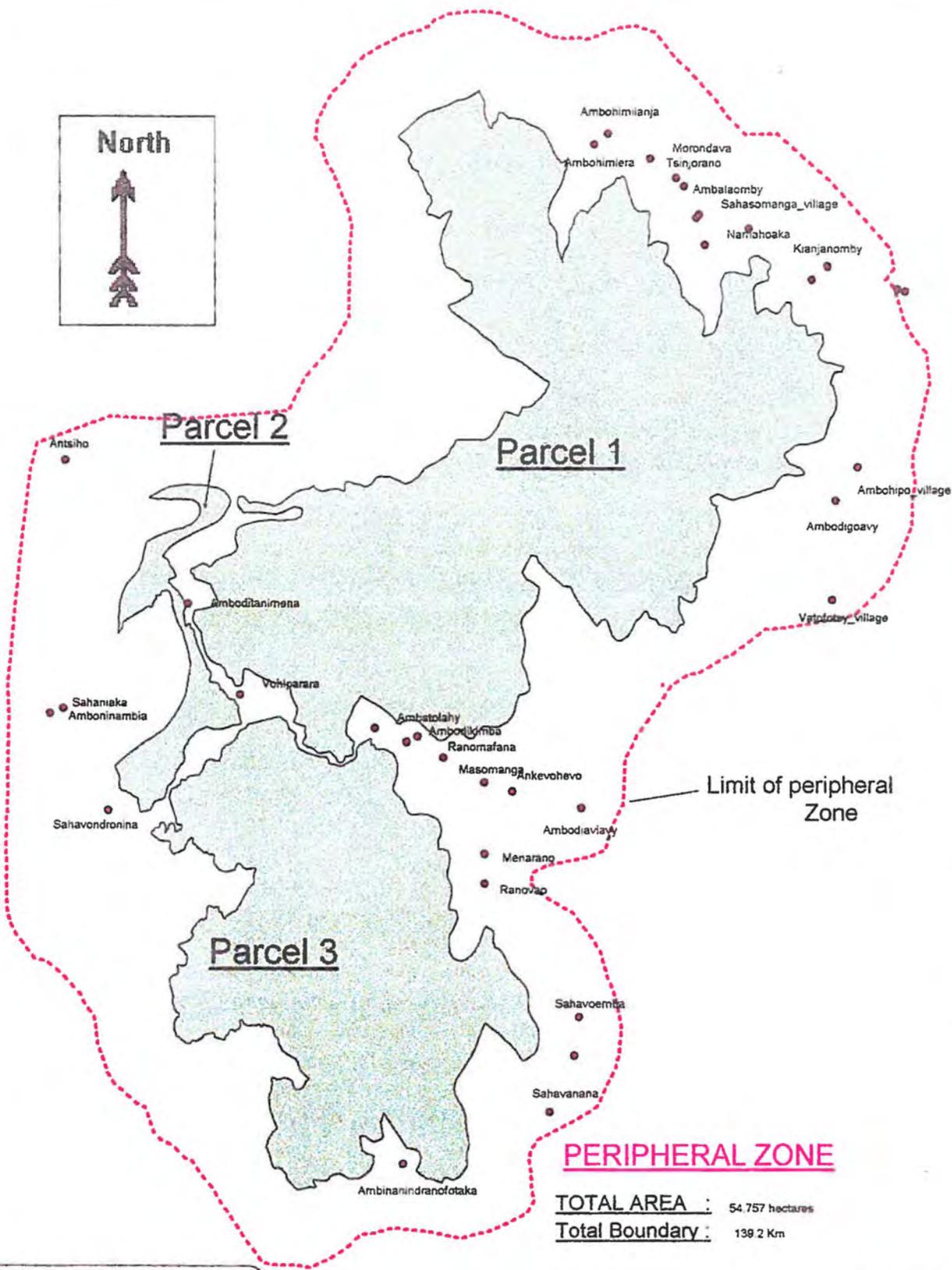
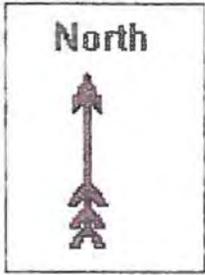


| <u>Parcel</u> | <u>Boundary</u> | <u>Area</u> |
|---------------|--------------------------|--------------------------|
| 1 | 129.20 Km 80.31 miles | 25.26 Ha 97.53 sq mi |
| 2 | 41.12 Km 25.55 miles | 1.613 Ha 6.23 sq mi |
| 3 | 80.81 Km 50.21 miles | 13.740 Ha 53.07 sq mi |

Total Area : 40.613 Ha - 156.8 sq mi

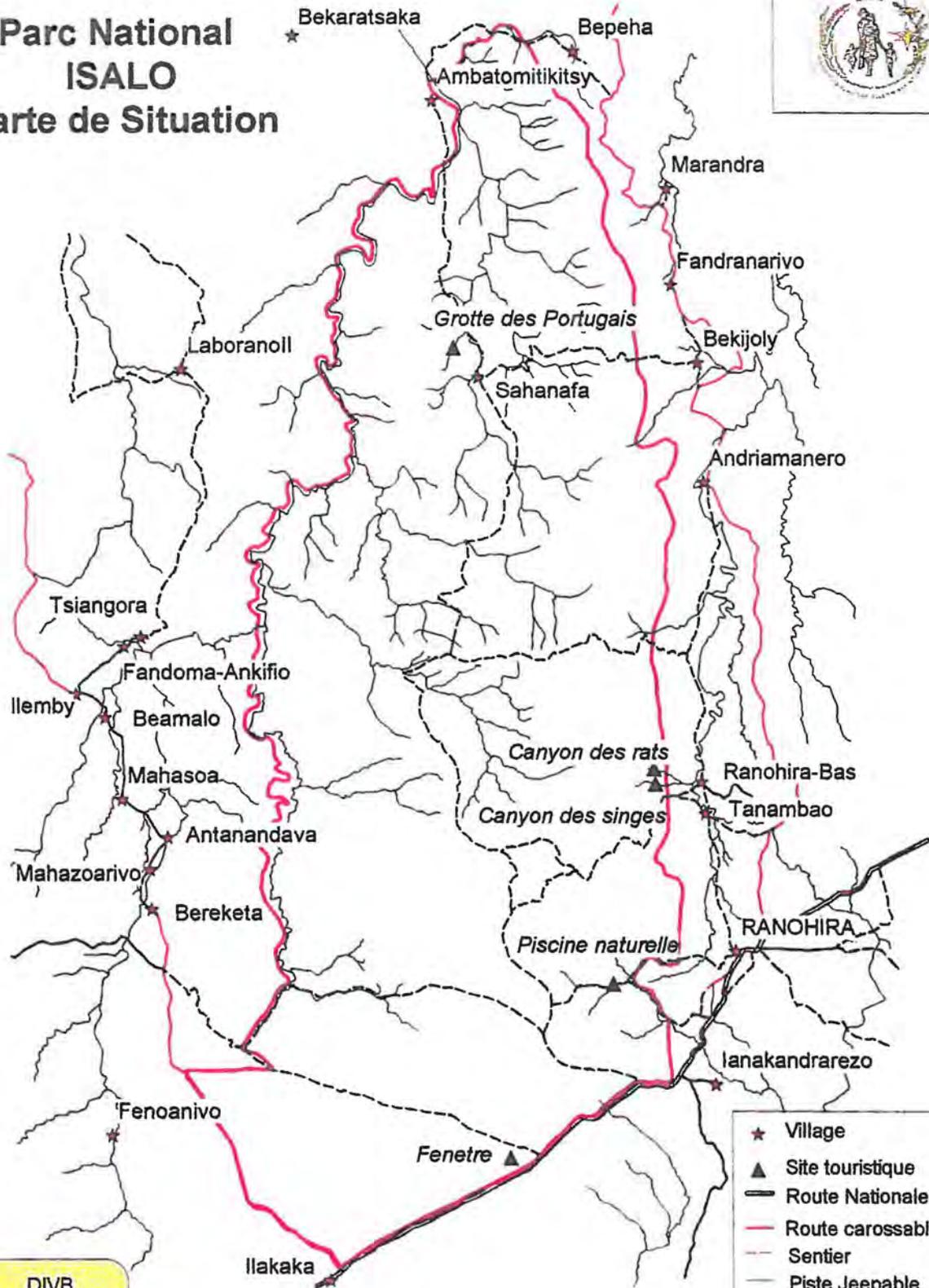
Total boundary : 251.13 Km - 156.07 mi

MAP 5 - PERIPHERAL ZONE



Parc National ISALO

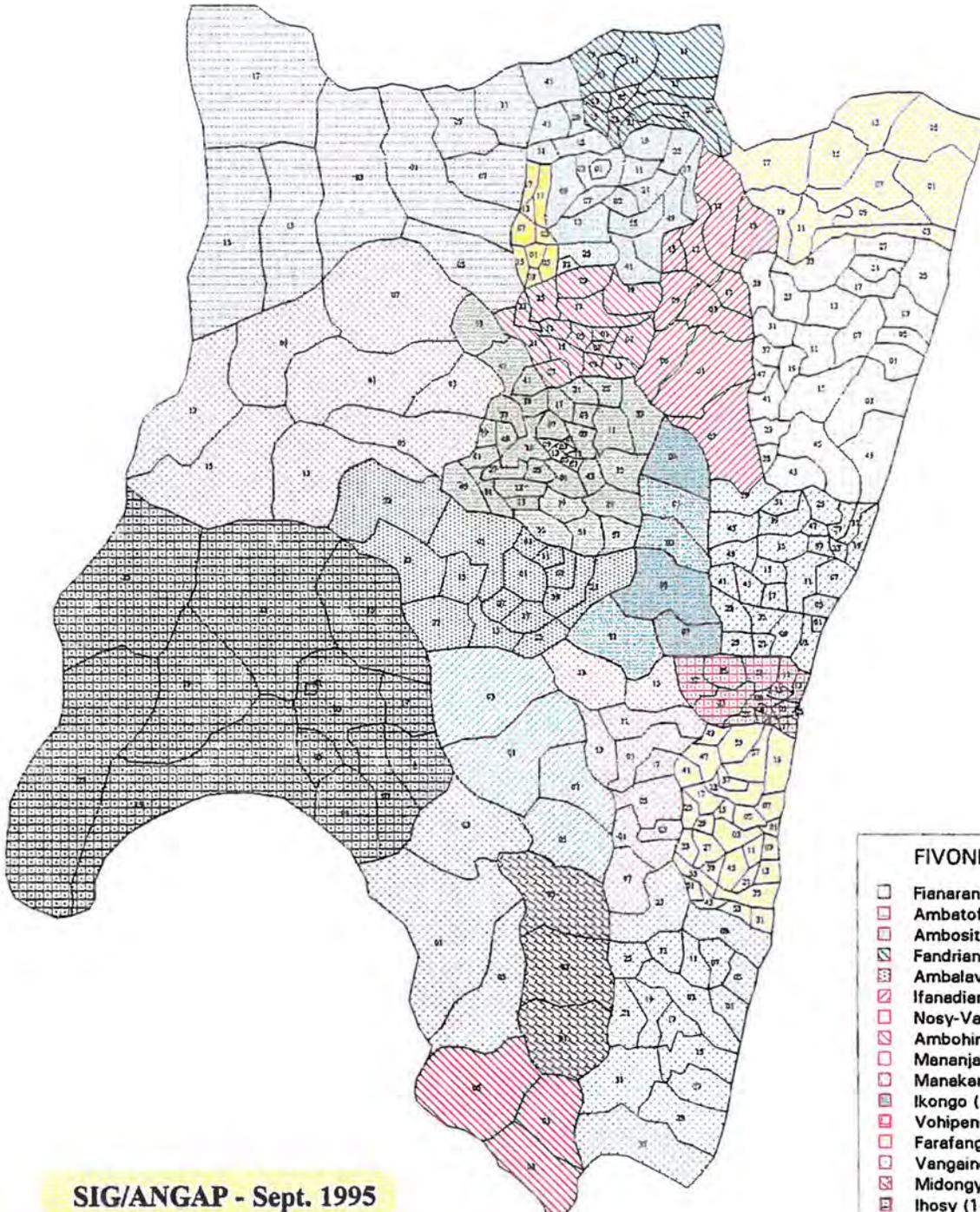
Carte de Situation



- ★ Village
- ▲ Site touristique
- Route Nationale
- Route carrossable
- - - Sentier
- - - Piste Jeepable
- Hydrographie
- Limite Parc

DIVB
SIG/ANGAP
Sept. 1995

PROVINCE DE FIANARANTSOA
 Découpage par Fivondronana et Firaiana



FIVONDRONANA

| | |
|--------------------|-------------------------|
| [White box] | Fianarantsoa I (01) |
| [Red box] | Ambatofinandrahana (02) |
| [Blue box] | Ambositra (03) |
| [Green box] | Fandriana (04) |
| [Yellow box] | Ambalavao (05) |
| [Purple box] | Ifanadiana (06) |
| [Pink box] | Nosy-Varika (07) |
| [Light blue box] | Ambohimahasoa (08) |
| [Light green box] | Mananjary (09) |
| [Light purple box] | Manakara-Atsimo (10) |
| [Light yellow box] | Ikongo (11) |
| [Light pink box] | Vohipeno (12) |
| [Light blue box] | Farafangana (13) |
| [Light green box] | Vangaindrano (14) |
| [Light purple box] | Midongy-Atsimo (15) |
| [Light yellow box] | Ihositry (16) |
| [Light pink box] | Vondrozo (17) |
| [Light blue box] | Ivohibe (18) |
| [Light green box] | Ikalamavony (19) |
| [Light purple box] | Fianarantsoa II (20) |
| [Light yellow box] | Iakora (21) |
| [Light pink box] | Befoteka (22) |
| [Light blue box] | Manandriana (23) |

SIG/ANGAP - Sept. 1995

SOURCE : BDE - Projet Recensement



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& Development, Inc.

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