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TECHNICAL REPORT

**Association for the Management of Protected Areas
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**Ecotourism and Protected Area
Planning and Training**

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1. The Growth of Ecotourism

Ecotourism has emerged in just sixteen months from an unknown market segment of Madagascar's fledgling travel industry to a highly desirable economic activity in all regions of the country. The concept of Madagascar having an ecotourism potential in this rapidly expanding travel industry sector first emerged at the 1993 National Ecotourism Symposium in Fianarantsoa. While there was general support for the potential contribution of ecotourism to resource protection, there was also considerable questioning of its validity. There were frequent suggestions that it might cause further environmental destruction and even contribute to "sexo-tourism." Those concerns seem to have been completely dispelled. Ecotourism is now considered a major potential source of foreign exchange and a contributor to protecting the environment in and around protected areas and national parks.

1.1. The 1994 Ecotourism Planning Workshops (Tulear and Nosy-Be)

This new level of support was clearly evident at the Ecotourism Planning and Product Development Workshops in July 1994. The sessions were attended by more than seventy-five participants from throughout the country. Held in Tulear and Nosy-Be, the sessions attracted staff from various integrated conservation and development projects, including national directors and technical assistants, officials from several ministries (including Water and Forests, Industry and Tourism, and Culture and Communication) and representatives from the environmental nongovernmental organization environmental nongovernmental community and ANGAP. The workshops were facilitated by James MacGregor from Tropical Research and Development. Participants spent approximately two and a half to three days developing ecotourism package tours for their respective regions. (Copies of their proposed tour products are available at ANGAP).

A workbook entitled *The Ecotourism Planning Process—Ecoplan:nit** was used to bring the groups through the several steps of each phase of the ecotourism product development process. Participants were asked to evaluate potential resources, markets, and products for the areas within and surrounding the four national parks, including Complex Montagne d'Ambre, Mantadia-Andasibe, Ranamafana, and Massif d'Isalo.

Because several participants were familiar with other protected areas, additional activity groups or commissions were created to focus on Nosy-Be, including RNI Lokebe, Mananara and Masoala, Beza-Mahofaly, and Bemaraha. This resulted in the preparation of several additional itineraries and optional tours.

Enthusiastic participants in the two workshops clearly grasped the ecotourism potential of Madagascar, and data resulting from the workshops have been used to outline ecotourism packages for the northern zone and the southern zone.

2. Tourism and the National Economy

The Central Bank of Madagascar has recently announced that tourism (international arrivals) is now the largest source of foreign exchange. In 1993, total visitor expenditures exceeded the export sales of traditional industries such as coffee, shrimp, and vanilla. Furthermore, the growth rate in tourism (6 percent yearly) suggests that it is unlikely that it will rank lower in the foreseeable future. In fact, the Ministry of Tourism suggests that 1994 arrivals will be approximately 60,000 with a total expenditure of 80-85 billion FMG.

While there are reasons to be hopeful that tourism will continue to be a major economic generator for the fragile Madagascan economy, it is important to remember that these arrival totals equal a mere 13 percent and 15 percent of visitor arrivals to Kenya and South Africa respectively. Growth will continue because certain specialty markets are interested in Madagascar, but it will undoubtedly be restricted by inadequate infrastructure (particularly in lodging and air transportation), low levels of private-sector investment, and relatively little available product (package tours, destination attractions, and resorts).

At least 60 percent of the visitor arrivals are interested in the natural and cultural resources of Madagascar, thus elevating nature-based and culture-based tourism and ecotourism to positions of significance in the Madagascan economy. If ecotourism develops to achieve an annual growth rate of 10 to 15 percent, then it will also become a catalyst in reviving the economy of Madagascar.

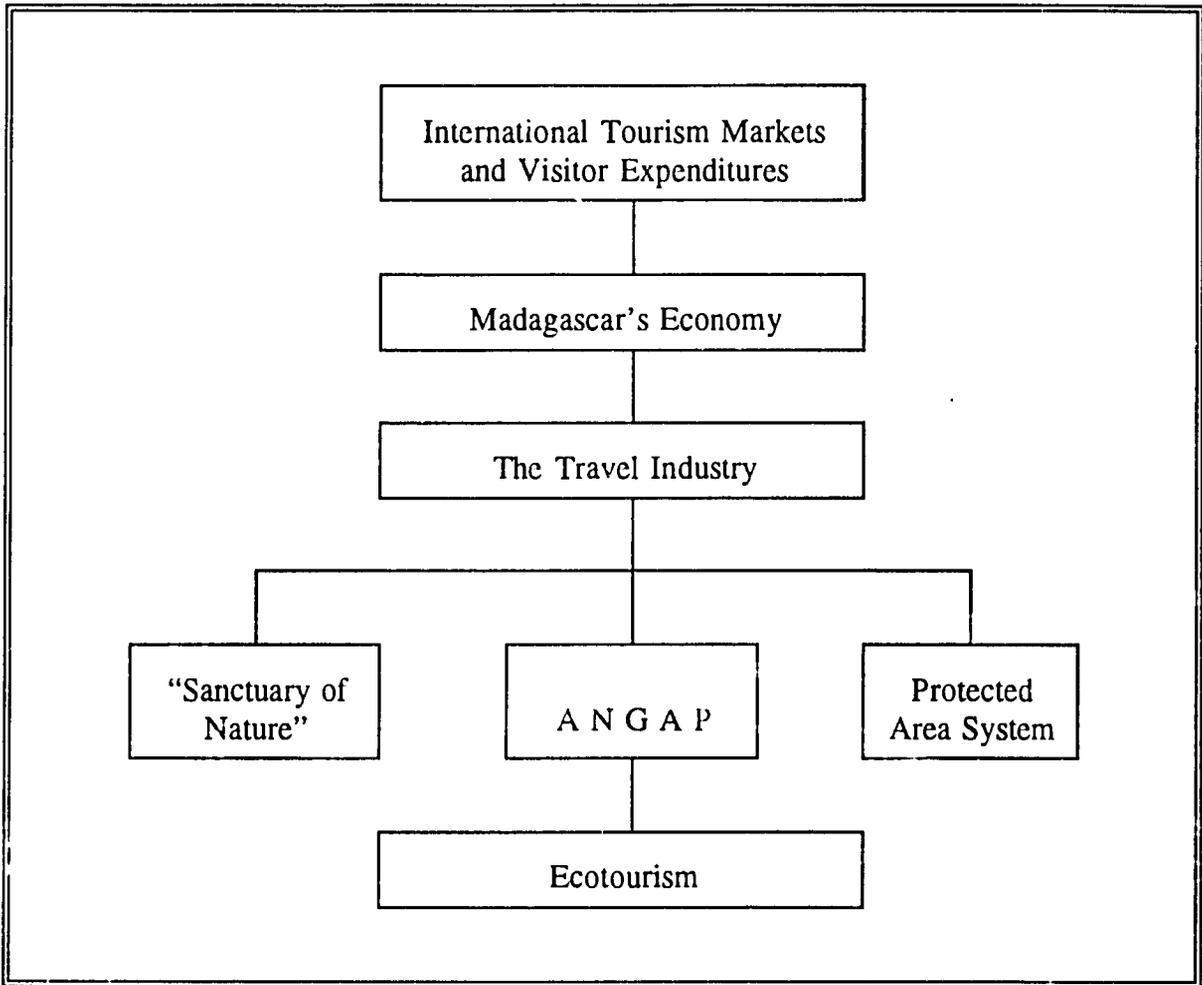
2.1. Potential for Expanding Ecotourism

If the proper infrastructure is put in place to expand ecotourism (e.g., a lodge adjacent to or within each of the four national parks, nature interpretation centers, etc.), then a modest increase of 12,000 visitors (or 3,000 per park) is highly probable. If these new visitors stay and spend in line with international ecotourism averages (i.e., 12 days at \$175/day¹), then additional expenditures of \$25.2 million will be generated (93 billion FMG), which will more than double all existing visitor expenditures and secure tourism's position as an economic leader.

The national parks and reserves are central to the development of the lucrative ecotourism business. Studies of Canadian ecotourists to Costa Rica, for instance, indicate that 95 percent of them visit a national park or protected area. This then moves the role of ANGAP and the protected area system to the forefront of the nation's economy and establishes it as a catalyst for a sustainable economic revival. No other sector would seem to be in a position to have such an impact. Ecotourism is already growing worldwide at 20 percent annually, while beach tourism in Madagascar has probably reached its potential. And although the price of coffee will grow, it will stabilize in 1995.

1. Tourists may not be spending that amount at this time because of the low level of infrastructure, interpretive services and the reliance on the lower end of the adventure travel (i.e., backpackers, low budget) market.

There is, then, a very direct and potentially significant link between ecotourism, ANGAP, and the protected areas on the one hand and real growth in the national economy on the other. This potential would seem to be promoted by the Maison du Tourisme, which reinforces the role of the protected areas with its “Sanctuary of Nature” campaign (protected areas typically being synonymous with sanctuaries). The following chart demonstrates this relationship:



The direct relationship, then, between the protected areas and ecotourism means that these thirty sites are valuable economic resources, like minerals, fish, coffee, forests, etc. In fact, by the year 2000, assuming that the protected area resources are still intact and developed in a professionally with concern for quality, their value may exceed the aggregate revenues from the next four or five resource sectors.

Finally, a portion of these ecotourism revenues, if returned to ANGAP through its program of equity participation in ecolodges or through commissions on ecotourism package tours, will have a significant impact on community development. Ecotourism revenues greatly exceed park entrance fees. If shared with communities in the peripheral areas, such revenues would potentially generate billions of FMG for community development projects.

3. Development of the Protected Area System

The Madagascar Protected Area System is a precious resource, a major national asset of worldwide significance as an international center for biodiversity and studies of evolution in endemic species. It can also become a major destination for ecotourists. To date, there has been only modest activity in any of these areas, and the environmental conservation potential and economic development potential are far from being realized.

3.1. Planning and Developing the Protected Area System

Within most of the protected areas, there has thus far been little or no planning or development. Even strategically located parks such as Mantadia have no official access, and the diversity and beauty of RNI Andohahela is not open to the public. Over the past few years, the major focus has been on operating the integrated conservation and development projects using most of the talents of the responsible nongovernmental organizations in conservation projects and community development in the peripheral areas. These activities have been successful in sensitizing local populations to the value of their resources and the desirability of preserving them for future generations.

While these programs must (and will) continue, there should be a shift in emphasis toward integrating planning for the use and conservation of the resources of the protected areas in an overall development strategy. Initially, efforts should be placed on developing both a system-wide protected area plan and zoning plans for at least the existing and proposed national parks (i.e., Lokebe and Andohahela).

3.2. Professional Planning Process

The planning of all protected areas must be done by professional Madagascan park planners. However, no Madagascan nationals have parks and recreation education or experience. Probably only two people in Madagascar have the qualifications to plan parks, and they are committed to the Ranamafana project.² Efforts must start immediately to begin the training of competent Madagascans in the principles, processes, and criteria for park planning.

Specialists are needed in parks system planning, ecotourism planning, parks planning, park management, site development planning, and landscape architecture.

Once those specialists have been identified and prepared, there should follow training for individuals in such fields as visitor management, interpretative programming and implementation, and project management. Of course, further training is also required to assure the professional development of ecotourism in and around the protected areas (section 4, below, outlines these potential products).

2. The two professionals (Lyn and Scott Robinson) may be available for the planning of other parks and protected areas.

3.2.1. Phase I. Training Module

Parks System Planner. To begin preparing an overall protected area network plan, it is necessary to hire a parks system planner to train a local Madagascan. This activity is in keeping with the steps of PLANEGAP and assures that the entire national park and protected area system is planned in a coherently and comprehensively.

The duties of the parks system planner will be to

- establish the relationship between each of the individual national parks, special reserves, and RNI's within an integrated management system
- establish policy as it relates to a national park service within the government of Madagascar
- identify overall budgeting and cost centers within the protected area system
- establish operational procedures and management guidelines for individual protected areas
- establish reporting mechanisms among all parks and protected areas and ANGAP
- determine, in collaboration with park planners, the priorities for development and operations
- define green management and sustainable criteria for the protected area system on a facility-by-facility basis (i.e., lodges, energy systems, water supply)

Training Format. The parks system planner technical assistance will be charged with both training a Madagascan parks system planner as well as collaborating with that individual on the development of a systemwide park plan. The training approach will be consistent with the development of other planning expertise within Madagascar. Fundamentally, the technical assistance will be responsible for returning to Madagascar on a periodically (three or four times per year) to advance the training of a local park systems planner. Additionally, it is anticipated that the Madagascan trainee will leave the country on a regularly to receive further training.

Systems planners within the Canadian Park Service and the Quebec Provincial Park Service have been approached as potential candidates for this position. Although it would be ideal to have a person from a background in systemwide planning to fill this position, an experienced park planner have the necessary qualifications.

Ecotourism Planner for National Parks. Because the national parks network will become Madagascar's most important attraction in the rapidly expanding ecotourism market, it will be necessary to have a fully trained ecotourism planner in ANGAP. The goal of this position will be to provide professional ecotourism product planning for the national parks and peripheral areas. The person in the position will be expected to work with tour operators at the regional and national level to integrate the parks system into Madagascar's ecotourism packages.

To some extent this process was begun with the ecotourism planning workshops held in Nosy-Be and Tulear. The next step in Phase I of PLANEGAP calls for a train-the-trainer program to be offered to selected individuals within the peripheral areas of each integrated conservation and development project. Intensive ten-day sessions will provide a detailed understanding of ecotourism product development.

The ANGAP ecotourism planner must also have the following qualifications:

- the ability to work with international tour wholesalers and Madagascar's inbound tour operators in order to integrate the national parks network into their tour packages
- the ability to work with park planners and interpretative planners to develop relevant and effective ecotourism tours within the protected areas and peripheral zones
- the ability to assist local suppliers (i.e., charter boat operators, guide services, accommodation facilities, etc.) in preparing feasibility studies and marketing plans
- the ability to prepare a long-range ecotourism marketing strategy to be financed in collaboration with the travel industry and the Maison du Tourisme
- the ability to work with existing local lodge operators and other travel suppliers to assure that they maintain a strict adherence to environmentally friendly operating practices
- knowledge of park planning and management procedures in order to maximize the ecotourism and environmental education potential of the protected areas
- knowledge of individual ecotourism market segments (i.e., birdwatchers, nature photographers, cultural enthusiasts, etc.) in order to develop an adequate selection of ecotourism packages to penetrate numerous segments
- knowledge of park carrying capacity and community impacts in order to maintain environmental and cultural integrity and minimize disruption of village life and non-tourism related park activities (e.g., scientific research)

- skills for and interests in traveling throughout Madagascar to promote the economic benefits that can be derived from environmental protection and ecotourism
- knowledge of the Madagascar governmental system and the ability to work with the various ministries involved in the successful development of ecotourism

Since this function is closely associated with the planning of protected areas, it is suggested that a planning unit be created in ANGAP and called the “Park Planning and Ecotourism Unit.”

Park Planner. A Madagascan will be trained to serve as a park planner for at least two of the existing national parks and possibly one additional designated area. There is an immediate need, therefore, to identify two nationals to undertake a comprehensive course of study in parks and recreation planning under the guidance of an experienced park planner.

A training structure similar to that used for the parks system planner is proposed for the training of several park planners. Fortunately, several persons in Madagascar seem to be interested in this position. Training should start as soon as funds are identified. The technical assistance should visit Madagascar regularly and provide a rigorous structure for training the park planners. This person must also be capable of designing a good park planning curriculum and have the instructional skills of a competent and enthusiastic trainer.

At least one and possibly two of the existing national parks could be used as the context for training in park planning. This would result in the development of Madagascan park planners as well as the preparation of comprehensive park management plans. Mantadia and Montagne d’Ambre are two ideal locations, and Ranamafana has already started the process.

The skills required by the park planner include:

- appreciation of the diverse natural resources of the Madagascan ecology
- understanding of market demand and the recreation needs of Madagascan and international visitors
- knowledge of sustainable park development practices
- knowledge of the general engineering requirements of such structures and facilities as roads and bridges, water systems, interpretative facilities, and maintenance buildings
- knowledge of operational cost considerations and maintenance requirements
- familiarity with overall land-use zoning and the identification of design and protection criteria for individual ecosystems

- appreciation of protected area policies and the role of individual park systems within a protected area network
- knowledge of site planning requirements and the physical requirements for site development

Several universities in the United States, Europe, and Canada offer degrees in park and recreation planning. While it is not necessary for the trainees to undertake an extensive training program outside of Madagascar, it may be advantageous for them to take part in a selected semester that deals with certain technical areas such as cost estimating, financing, and interpretation planning.

A review of all parks and recreation programs that could accommodate these needs should be undertaken immediately.

Park Manager. As each national park completes a planning and development process, it will be necessary to engage a park manager or park superintendent for each park. These managers will, of course, work closely with the national director and staff of each integrated conservation and development project. Their role, however, will be more specific to ongoing development, operations, and interpretative programming within the parks.

The role of the park manager will be as follows:

- coordinate all ongoing planning activities
- assure that the highest standards of park protection, conservation and community development are met with regard to each ecotourism product
- have a comprehensive understanding of park operational procedures, financing and budgeting
- preparation of capital development projects
- draft park management policies and procedures
- knowledge of park operations and maintenance
- ability to prepare budgets and cost estimates for a variety of projects including engineering and road building, environmental protection and environmental enhancement procedures, park promotion and sales, visitor management and interpretation services, and others

It is anticipated that only two park managers will be required in the first three years. Each will be responsible for three national parks. As the parks become developed, however, it will be necessary to locate a park manager in or adjacent to each national park. Moreover, it may be assumed that these two individuals will dedicate at least 20 percent of their time to the management of other reserves within the protected area network.

Site Planning and Landscape Architecture. The success of a park systems plan and an individual park plan are only fully realized when there is sensitive and responsive site planning. This function is typically undertaken by a landscape architect with the necessary technical understanding of hydrology, geomorphology, visitor use patterns, topography, drainage, vegetation and wildlife, carrying capacity and environmental impact mitigation measures.

The landscape architect (site planner) must also have a keen appreciation of aesthetics in dealing with land forms, positioning of facilities (lodges, interpretative centers and trails) and a knowledge of sensitive grading and landscape planting procedures.

While there are individuals in Madagascar with landscaping experience, there does not seem to be anyone with the necessary background in landscape design, particularly as it applies to park development. If an individual cannot be found to fill this trainee position, it may be possible to provide additional training to the park planner.

3.2.2. Phase II. Longer-term Training Requirements

Visitor Services Manager. It will eventually be necessary to have a visitor services manager responsible for the six national parks. This position will assure that all visitor needs are recognized and met according to international standards. In particular, this person will be concerned with:

- ensuring quality visitor services, such as trail systems, signage, orientation, and reception facilities
- training local staff in hospitality and guest services
- working with conservation officers to maintain environmental integrity in high-use areas
- working with interpretative programmers to assure a comprehensive and integrated visitor activity schedule

Interpretative Programmer. The interpretative programmer will be responsible for the development and delivery of interpretative programs throughout the six national parks. Two or three years after this position is created, it may be necessary to engage a second person as other protected areas develop interpretative programs.

The responsibility of this individual is as follows:

- assessing the overall interpretative potential of all national parks and related protected areas
- establishing a comprehensive interpretative program throughout the protected area network
- designing individual national park interpretative programs
- training interpretative guides in each national park
- developing all interpretative and environmental education materials for distribution to visitors
- working with tour operators who provide pre-arrival information and appropriate interpretative programs that reflect the particular interests of each tourist group
- preparing and constantly updating all information for nature interpretation centers
- working with tour wholesalers to develop interpretation programs responsive to the ecotourism market
- evaluating interpretative officers' performance and engaging professionals in the natural sciences to augment interpretative programs when necessary

The exact timing for training this person is not determined. Nevertheless, it might be appropriate to identify this individual when the proposed nature centers or interpretative centers are being designed and built in each of the national parks.

Project Manager. If ANGAP is in a position to secure funds and assume a leadership role in the development of infrastructure both within and adjacent to the protected areas, it will be essential to have the services of a project manager on staff. This individual will specifically be responsible for coordinating architects and engineers and for managing the construction of facilities, including lodges, nature interpretation centers, and trails. Considering that it is possible to have at least three or four lodges under construction at any one time, this role becomes important in both the logistics of implementation and in assuring continuity in style and quality of the facilities.

The necessary qualifications of this individual include:

- the ability to manage construction projects in environmentally sensitive areas
- previous experience working with an integrated team of architects, landscape architects, engineers, environmental planners and interpretative programmers
- previous experience in managing consulting teams particularly, in the areas of budgeting, contractual obligations, etc.
- knowledge of donor or other financing source requirements and the ability to communicate with these sources
- the ability to work with local communities to assure their maximum participation in construction projects
- assessing the potential for a local enterprise to establish a business or build upon an existing company with the expenditures resulting from the construction projects.
- knowledge of management of a small construction company
- ability to assist a local entrepreneur in achieving a viable operation during the construction phase.

There is probably a qualified Madagascan for this position. It may nevertheless be necessary, after a search, to provide training in more sophisticated methods of construction management. This would be determined after a number of potential candidates have been evaluated.

3.3. Hiring of Park Planning Professionals and Training Programs

The Phase I, II, and III charts in appendix 1 outline a training schedule for each position proposed within the national parks system. The timing reflects the urgency for embarking on a professional park planning process and for responding to the schedule outlined by PLANEGAP.

While the position of parks system planner may be the first to be established, it is necessary to hire the park planners soon thereafter. It is anticipated, therefore, that the park planning process begin by the end of 1994 and continue over the next three years. The actual training process will be explored in a subsequent document, and it will have the following characteristics:

- A technical assistant/trainer will develop a series of training modules to be delivered on a regular basis to select Madagascan trainees.
- At least four training sessions of approximately three weeks will be held each year with the trainees performing tasks and planning projects between each training session.
- The four existing national parks will be used as a planning context for training. This will result in the preparation of a park master development plan that will be continually refined during the longer term planning process.
- Trainees will leave Madagascar at least once a year for a one- to two-month study tour and training.

Each student will receive the appropriate level of training to undertake planning processes in subsequent national parks and protected areas.

4. Ecotourism Development Opportunities

4.1. The Workshops

The workshops held in Tulear and Nosy-Be provided a wealth of information on potential tour options for both the northern zone and the southern zone. Because the participants were familiar with the natural resources and cultural characteristics of their regions, they were able to provide extensive inventories on their respective regions. This information, now compiled in nine workbooks that were completed by the commissions, will serve as a database for the development of ecotourism products in coming years. While the resource data will continue to be relevant, it is unlikely that package tours will be developed in the short term for many of the regions (e.g., Masoala) because they totally lack essential infrastructure. Nevertheless, it is possible to start building toward an integrated and marketable ecotourism package in the northern zone and southern zone.

Two package tours are proposed in this report, each focusing on the national parks and certain reserves that are proposed to be redesignated as national parks. It is expected that these package tours can become successful only with the construction of the necessary lodges within or adjacent to national parks. Moreover, these packages can only be completed if RNI Lokebe and RNI Andohahela are reclassified. RNI Lokebe was highly recommended for reclassification by the participants at the northern zone, and RNI Andohahela is proposed as a national park because of the need for a major attraction in the southern zone.

Both tours are approximately twelve to fifteen days long, which reflects typical market characteristics. Their development proves that it is possible to have a comprehensive and stimulating tour within either of the two zones, as compared to the traditional package that attempts to visit most of the regions in Madagascar. It is possible to sell these more focused regional tours to previous visitors to Madagascar. Additionally, portions of the tours may be developed as three- to five-day packages for visitors to Antananarivo.

4.2. Northern Zone Ecotourism Tour

The focus of the northern tour will be on Complex Montagne d'Ambre with visits to the Mantadia National Park and the proposed Lokebe National Park. Antananarivo is proposed as the staging area; it is understood, however, that within two or three years there will be several charters arriving at Nosy-Be, thus enabling a combination of separate arrival and departure areas. Again, these tours will only be successful with the full development of the national parks, including the construction of trail systems, accommodation facilities, and interpretation centers. It is anticipated that ANGAP will work in collaboration with the private sector to establish a marketable northern zone ecotourism package.

The following itinerary is proposed for the northern zone:

Day 1 Arrival and visit to Antananarivo

Most flights typically arrive in the morning. Following check-in at a typical Madagascar hotel, it is possible to take a city tour followed by dinner and an orientation evening.

Day 2 Depart for Mantadia National Park

Visitors will enjoy a leisurely morning. Departure for the national park will be at 10:00 a.m. Several sites are available along the highway, including a stop at Moramanga for lunch. Visitors will then arrive at RS.21 Analamazaotra (Pernet). There will be a two-hour tour followed by check-in at one of the local hotels.

Day 3 Visit to Mantadia National Park

Following a brief community village visit at Andasibe, visitors will enter the park. After checking in at the national park ecolodge, visitors will be taken on an all-day tour throughout the park. Overnight in the park will also include night walks.

Day 4 Return to Antananarivo and fly to Nosy-Be

This is a traveling day. Following an early departure from the park, visitors will fly to Nosy-Be with check-in at a beach property. The day will include a visit to Andoany (Heli Ville) and the sacred mountain.

Day 5 Boat cruise and Lokebe National Park

Following an early morning beach walk, the guests will depart from Andoany for a tour of several islands, including Nosy Sakatia (the island of orchids). In the late afternoon, they will check in at the proposed ecolodge in Lokebe National Park. The overnight in the park will include a visit to the local community as well as night walks.

Day 6 Lokebe National Park

The day will be spent exploring the park landscape and observing the black lemurs. A second overnight will be spent in the Lokebe ecolodge.

Day 7 Travel to Antsiranana (Diego)

There are two options for traveling from Nosy-Be to Complex Montagne d'Ambre. Guests may fly from Nosy-Be or take a boat between Andoany and Antsahanpano followed by a late evening overland to Complex Montagne d'Ambre. The latter is the proposed option for ecotourists, especially if adequate space can be secured on the ferry boat. This is a relatively safe and pleasant journey between Nosy-Be and the mainland. Furthermore, the highway between Ambanja and Antsiranana is in excellent condition. Because of the late arrival, visitors may stay in Antsiranana, but it would be preferable to proceed directly to the proposed ecolodge at Montagne d'Ambre. A third option would be to stop at the ecolodge in Ankarana.

Day 8 Montagne d'Ambre

Assuming an overnight at the Montagne d'Ambre ecolodge, the day will be spent exploring the park, including its sacred lakes, waterfalls, and reforestation project and visiting Joffreville for evening entertainment and interpretation of life in that community. A second overnight will be in the park.

Day 9 Massif d'Ankarana

Guests will have an early morning departure from Montagne d'Ambre followed by an overland to the RS2 Ankarana. Following check-in at an ecolodge adjacent to the park, the remainder of the day will be spent visiting the Tsingy.

Day 10 Visit to caves and villages

The morning will be spent visiting caves and exploring trails in the park. In the afternoon, there will be visits to local communities to discuss and learn about conservation projects being conducted within the integrated conservation and development projects followed by evening entertainment in a local village (e.g., Antanimisondrotra).

Day 11 Visit to coastal communities

With the completion of three bridges, it will be possible to drive to the coast and visit communities such as Anbatoharanana as well as visit the mangrove swamps and coastal vegetation. The visitors will return to the ecolodge for their last overnight in the north.

Day 12 Flight to Antananarivo

Guests will leave Ankarana for Antsiranana for the flight to the capital.

Day 13 Depart Madagascar

Optional Tours

This proposed itinerary constitutes the basic two-week package of the northern zone. Several optional tours and add-ons are available, including:

- two-day cruise from Nosy-Be to Nosy Mitsio
- flight to either Nosy St. Marie or Mananara, including a two-day visit to Masoala
- three-day overland from Ankarana to Antananarivo with stops at RNI Tsaratanana and RS22 Anbohitantely
- one-day overnight tour from the capital to RS22 Ambohitantela
- before parting Antsiranana, an overnight stay on the beaches of Ramena

It is therefore conceivable to push the fourteen-day package to twenty-one days both with extra stays in the national parks and with optional add-ons.

4.3. Southern Zone Ecotourism Tour

As does the northern tour, the southern tour uses Antananarivo as a staging area. The central interests of this tour are visits to Ranomafana National Park, Isalo National Park, and the proposed park at Andohahela.

Andohahela is proposed as a new national park because of the importance of a strong pole or draw to the southern part of the island. Discussions with ANGAP officials suggest that this park has an exceptional potential with respect to biodiversity and variety in landscape forms and vegetation. Because there are few economic opportunities for the people living in this area, a constant volume of tourism would contribute greatly to community development and conservation.

There is also a serious need to establish an alternative destination to the private reserve at Berenty. While this private-sector facility has been a major influence in developing tourism in the southern tip of the country, it is nonetheless limited in its ability to demonstrate true ecotourism values and ethics. It is crucial that in the development of ecotourism packages and an ecotourism-oriented marketing strategy that ecotourism principles and criteria as outlined in the workshops are respected.

The southern package tour will, therefore, consist of the following itinerary:

Day 1 Arrive Antananarivo

The first day will consist of a city tour, orientation, and an overnight stay in a typical Madagascan hotel.

Day 2 Depart for Fianarantsoa

The guests will leave Tana by 4-by-4 and take the entire day to drive to Fianarantsoa along the national highway. Stops will be made at Antsirabe and Ambositra. Side trips to several villages off of the national highway will be made to introduce tourists to high-plateau peasant culture and village life. Overnight will be at Fianarantsoa.

Day 3 Ranamafana National Park

The morning will be spent driving to Ranamafana with several rest stops along the way. After checking into the ecolodge adjacent to the national park, guests will be taken to the park entrance for an orientation. The rest of the day will be spent hiking the trails of the park, and the evening will be spent at the hot springs.

Day 4 Ranamafana National Park

Villages adjacent to Ranamafana National Park will be visited to study the various microprojects and conservation efforts undertaken by the local integrated conservation and development project. A second overnight will be spent in the local ecolodge.

Day 5 Overland to Isalo National Park

The guests will return to Fianarantsoa, then continue to Isalo National Park. Arriving late in the afternoon, they will take up accommodations in the existing private-sector lodge or a new lodge that would be proposed for construction within the park.

Day 6 Visit Isalo National Park

There will be trips to Canyon des Singes and Canyon des Rats and observation of the more than fifty bird species.

Day 7 Drive to Toliara (Tulear)

The drive to the coast will be interspersed with visits to communities along the way, including an excellent demonstration of the spiny forests at a private botanical

garden. Guests will continue beyond Toliara and will stay at the beach at Ifaty.

Day 8 Coastal Region

From a base at one of the local beach resorts, the visitors will tour the coastal features and visit coastal villages such as Salary and inland villages such as Andoharano. There will be interpretation of the mangrove swamps as well as desert vegetation.

Day 9 Trip to Tolanaro

The travel between Toliara and Tolanaro would be by air leaving a half day for travel in the Tolanaro region. There are a number of optional regional tours that could be considered, including visits to Lukaro Bay or Lac Anony.

Day 10 Travel to Andohahala

The first day in the park would be spent exploring the trails in proximity to the ec lodge. Special emphasis would be placed on interpreting the variety of vegetation and the transition between the coastal rainforest and the spiny desert.

Day 11 Hiking and

Day 12 Two days would be spent hiking throughout the park with an overnight stay in a hut at the transitional area.

Day 13 Return to Tolanaro

The guests would leave the park and return to Tolanaro for the flight back to Tana.

Day 14 Return to Country of Origin

Optional Trips

There are a number of optional trips or add-ons that can be included in this itinerary. The most obvious is a trip to Mantadia National Park for an extra two to four days. The park master plan for Mantadia also includes a four- to five-day hike, which would add interest to the southern package at either the beginning or the end of the fourteen-day tour.

An additional option is available by traveling north from Toliara to Morondava. It is also possible to fly back from Morondava to Toliara and then continue on to Tolanaro. The Toliara-to-Morondava portion would add another four days to the trip with the possibility of visiting RS19 Andranomena and the Tsingy of Bemoraha.

5. Development of Ecotourism in Protected Areas

The protected area system—in particular the four existing and two proposed national parks—can potentially form the foundation for a competitive ecotourism industry in Madagascar. Several of the parks are already day trips within many of the tour packages to Madagascar. Relatively little time is spent in the national parks and peripheral areas, however, and the economic benefits and value to local communities are minimal. Yet it is possible for the national parks to play a much greater role in national ecotourism, particularly by providing interpretative services and selling lodging and food.

The national parks play a relatively minor role within each tour package because there are virtually no adequate accommodations within or adjacent to the national parks (except at Isalo National Park). For instance, at Montagne d'Ambre it is necessary for visitors to return to Diego each night. At Ranamafana, accommodation is totally inadequate and will attract only a small segment of the overall ecotourism market. While there is a new hotel at Isalo, it is limited in size and is one of the most expensive properties in Madagascar. Only Mantadia is adequately equipped to meet future ecotourism demands.

In the short term, it is possible to serve Lokebe from the many hotels in Nosy-Be. But it will eventually be preferable to have accommodations on the island. Andohahaela and Ankarana have no accommodations, and overnight visitors to the latter must now camp in extremely primitive camping areas.

5.1. Accommodations within a National Park

The concept of accommodation within a national park was initially discussed at the national ecotourism symposium in 1993. Nevertheless, there has been no policy established on the potential to construct lodges within some or all of the national parks. There are, of course, pros and cons to the location of fixed-roof accommodations within a park, and a policy should be established immediately in order to proceed with development.

There are three options to provide adequate accommodations for national park visitors. They include:

- a. construction of a ten- to fifteen-unit ecolodge within the national park
- b. construction of a fifteen- to twenty-five-unit ecolodge immediately adjacent to the protected area
- c. use of existing lodges and small hotels in the peripheral area and adjacent communities

5.1.1. Ecolodge within the National Park

From an ecotourism and economic development perspective, a strong argument can be made for the location of an ecolodge within a national park. Not only does this provide immediate access to the resources of the park, but it also provides an experience and contact with the park resources that is not now available but is very much desired by ecotourists. The experience of spending two or three days and nights within the park is available only to campers. This is unfortunate because it eliminates a large portion of the ecotourism market.

Offering the opportunity to stay over night or several days in a national park would have significant economic impacts on peripheral areas. For instance, there will unquestionably be an extended length of stay and subsequently higher levels of expenditure. If one analyses the economic value of tourists to Complexe Montagne d'Ambre, the only financial spin-offs are a result of park entrance fees and the hiring of guide services. This is a relatively small proportion of a visitor's daily expenditure (between \$150 and \$200 a day); most revenue, therefore, goes to the hotels, restaurants, and tour operators in adjacent cities. If accommodation was provided within the parks, local revenues would increase by a factor of ten to fifteen.

It has been argued that the location of a lodge within a national park contributes to environmental destruction and loss of environmental integrity. While it is true that a lodge and its associated services (including restaurant, access roads, and storage facilities) do alter a small portion of the park environment, this impact is minimal compared to the pressures on the national park from outside influences. For instance, in Mantadia, the road construction and subsequent habitation within the park buffer zone has a significantly larger impact than the location of an ecolodge.

Any ecolodge proposed for the national park would be sensitively designed and operated within the highest environmental standards. The facility would usually not exceed fifteen units (twenty to twenty-five beds), and the only additional facilities would be a small classroom and a kitchen and dining facility. Waste water would be treated, and all refuse would be removed from the park. There are, of course, many examples of lodging facilities in national parks throughout the world, and they are consistently very popular with guests because they assure greater contact with the natural resources. They also eliminate daily transportation between accommodation facilities outside the national park and the particular resources and interpretative programs of the park. The lodges may also be designed in such a way that, once adequate accommodation is established beyond the park boundary or if, over time, the environmental impact becomes too significant, the facilities can be removed and reconstructed elsewhere in the peripheral areas.

Before building lodges either within or adjacent to the national parks, it will be necessary for ANGAP to establish architectural standards that reflect the integrity of the particular region as well as the sensitivity and high quality of the resource base within the national park.

5.1.2. Ecolodge Adjacent to the Protected Area

It may be possible to locate lodges adjacent to the a national park and still provide the intimacy and interpretative experiences available within the park. In many cases, however, the boundary of the park is within a buffer zone that has usually experienced severe environmental alterations. Therefore, a large component of the interpretative experience of living within the park environment is lost if the vegetation and wildlife of the park are not immediately accessible. On the other hand, if it is decided that accommodation within the park is not advisable, the next best way to provide accommodations is to locate them just outside the park boundary. In this case, it is also important to find a location that is acceptable from an aesthetic and interpretative perspective.

5.1.3. Accommodation in Peripheral Areas and Adjacent Communities

The accommodation in the community of Andasibe is a reasonable alternative for accommodation when none is available within the national park. It provides an excellent introduction to village life and provides a link between the national park resources and community economic development. This is an essential component to the ecotourism product offering. It is Mantadia National Park, however, that is the attraction. In order to stimulate ecotourism development over the next decade, it is preferable to optimize the visitor experience. Of course, it is always possible to provide backup accommodation in the villages where a two- or three-night stay may precede a stay within a national park.

5.2. The Development of Ecolodges in the National Park System

Ecotourism will only develop if there are adequate accommodation facilities within or adjacent to the national parks. In order to reflect the principles of ecotourism, both the local communities and ANGAP must play a role in their development and operations and share in their revenues. The facilities must be operated by the private sector, using its professional hospitality and accommodation services. Lodge employees should come from the local communities, and programs should be put in place to train locals for management positions.

While facilities should not be deluxe, they should meet the basic international standards of travelers and ecotourists. In other words, there should be:

- comfortable beds and bedding
- hot water showers
- electricity in each room
- food services with an emphasis on local and traditional dishes

- clean kitchens and adequate food storage areas
- an area for interpretation programming and possibly an interpretation center
- a network of well-designed trails for daytime and nighttime hikes

Lodges should be made of local materials and reflect the architectural motif of the region. Bungalows with two beds and a washroom are the preferred option. There could also be a communal washroom. All food and beverage services would be in a larger common structure. The use of bungalows enables a maximum flexibility in terms of protecting the environment, maximizing views, and providing privacy and a more intimate contact with the natural surroundings. The architectural and site planning guidelines that must eventually be prepared by ANGAP should consider the various layout options as well as investigate the differences between bungalows and a larger lodge facility.

5.3. Financing the Ecolodge

The financing, development, and operations of the ecolodge should be a joint venture between the private sector, the local community, and ANGAP. The exact formula may vary with each location; however, ANGAP should proceed shortly to establish the optimal financial arrangement. In order to attract investors, ANGAP should prepare a business plan and investment prospectus outlining the financial contribution of each partner.

Research carried out by Ecoplan:net Ltd. on the potential financial arrangements of ecolodges indicated that there was substantial interest on behalf of donors and regional development banks to participate in the development of these facilities. It can therefore be assumed that an adequately developed project presented to the African Development Bank, World Bank, or even USAID or CIDA could stimulate equity funds for ANGAP and communities to invest in a lodge. These funds would then be used to leverage private-sector participation, which may be as much as 60 percent of the project. An ideal breakdown may be

- private-sector investor—60 percent
- local nongovernmental organizations and community association—20 percent
- ANGAP—20 percent

Of course, profits shared with ANGAP and the community would be directly reinvested into conservation projects and maintenance of the national park. (See appendix 1 for a chart outlining the time frame for these activities.)

6. ANGAP and the Planning of Protected and Peripheral Areas

6.1. ANGAP's Role

ANGAP must play a more important role in the planning and development of protected areas. It should also take a stronger position in the planning of peripheral areas, particularly as they relate to activities within the protected areas. ANGAP will, of course, continue to work closely with the integrated conservation and development projects, but ANGAP is clearly responsible for the following:

6.1.1. Development of Ecotourism

Ecotourism can become a major revenue source for ANGAP. The protected areas can be the most important ecotourism attractions for Madagascar, and ANGAP must eventually generate a large portion of its operating budget (i.e., administration, park development, park maintenance) from ecotourism revenues. It must, therefore, play a leadership role in both the development of ecotourism packages as well as the construction of ecotourism services (i.e., lodging) in or adjacent to protected areas.

6.1.2. Biodiversity Protection

The protected area system is Madagascar's most important biodiversity resource, and ANGAP must assume responsibility for its data collection, monitoring, and protection. Only Ranamafana has been studied in any detail, but even those research studies are very sectoral and, in many cases, not relevant to developing a biophysical and biodiversity resource base. ANGAP should move immediately to secure the necessary funds for the training of Madagascans in data collection and resource protection. These data are also important to the long-term planning of the national parks.

6.1.3. Park Planning and Development

As lead agency in the management of protected areas, ANGAP must eventually assume all responsibility for the planning of the overall protected area network as well as the planning and development of each national park. It is, therefore, essential that it develop a trained staff of park planners and managers, site development planners, interpretative programmers, and visitor management specialists.

6.1.4. Facility and Services Development

For the national parks and protected areas to be major attractions in the ecotourism sector, it is necessary that the proper facilities are established. It is these facilities that specifically

have the potential to generate revenue to be used for the overall management and operations of the protected area system. ANGAP must work, therefore, in close collaboration with the private sector to establish ecolodges and camping areas within or adjacent to the national parks and support services such as interpretative trails, nature interpretation centers, signage, and road access. Scientific research stations should be set up, to respond both to the scientific requirements of biodiversity conservation and to visitor interest in observing and participating in scientific studies. The development of these facilities will necessitate a full-time in-house project manager.

6.1.5. Visitor Services

Within the next three or four years, ANGAP should anticipate approximately 20,000 visitors to the national parks. This number will require trained professionals in the areas of visitor management and interpretative services.

Visitor managers will be responsible for assuring that the needs of the tourists are adequately met and that areas of interest and high visitor impact are protected to assure their long-term sustainability.

The interpretative programmers will develop environmental education experiences and assure that all visitors receive the highest level of interpretative experience during their stay in and around the national park. They will also be responsible for developing educational materials and establishing operating procedures for the nature interpretation center.

6.1.6. Project Development Manager

If ANGAP is going to assume responsibility for infrastructure development within the national parks, it must eventually consider the hiring of a project development manager. There would seem to be adequate Madagascan experience in this area; however, the selected individual would require additional training in the areas of:

- sensitive architectural and site planning design
- green management
- park development principles

All of the positions just listed must be filled by Madagascans. Each position, however, will require extensive training by a foreign professional with extensive experience in each of the required disciplines. Most of the training will take place in 1995 through 1997 with the trainers providing intensive training modules of four to six weeks, three to four times a year. (See appendix 1 for a summary of these activities within a time frame.)

6.2. ANGAP's Next Stage of Development

ANGAP is poised to become a significantly different organization from its present structure and mandate. Over the next two to three, it must assume complete control over the planning and management of all protected areas, including working with the private sector as a partner in ecotourism development and lodge construction in or adjacent to protected areas. It must eventually become totally responsible for all development within protected areas and evolve as a national park service.

It is also important that ANGAP develop as a new contemporary protected area and national park service with its own source of financing and revenues. While most park systems in North America and Europe are severely underfunded and in crisis with respect to coping with demand, ANGAP must develop a system in which its long-term revenue sources are secure and provide the opportunity for the protected area system to achieve its full potential as an international center for biodiversity protection.

The revenue sources for ANGAP include:

- trust fund
- visitors services revenues (i.e., lodging)
- ecotourism packages

In order to achieve this revenue potential, ANGAP must embark on a program of planning, solicitation of capital funds, and development and construction. Appendix 2 presents a summary in chart form of the major stages in the evolution of ANGAP toward these goals.

6.2.1. Stage I — Foundation

From its inception to the present, ANGAP has emerged as a strong and qualified organization. It has developed the highest standards of excellence among its personnel through ongoing training and the development of a sense of commitment by all employees to protecting Madagascar's rich environmental resources.

It has also created an efficient administrative system that will serve as a foundation for future planning and development efforts

It has embarked on several initiatives such as ecotourism and biodiversity protection, which will secure its long-term importance to the development of Madagascar. Ecotourism itself will eventually provide ANGAP with high visibility and will be an important catalyst in the Madagascan economy as it potentially becomes the highest earner of foreign exchange.

6.2.2. Stage II — Planning (1995–96)

The stage has been set for ANGAP to embark on a two-year commitment to planning and the required training. Areas of immediate importance are:

- park and protected area planning
- development of ecotourism packages
- preparation of guidelines for architecture and site planning
- development of national park planning standards
- infrastructure feasibility analysis and planning for lodging, food services, and nature interpretation centers

Extensive training of Madagascans to fill these position is essential. It can also be assumed that much of the planning for protected areas and ecotourism could be done within the context of the planning program.

6.2.3. Stage III — Development (1997–98)

The year 1997 marks the beginning of the SAVEM II project. ANGAP's role will be to embark on a program of intensive infrastructure and development that provides the necessary services to generate revenues for operations, the continued development of visitor services, and environmental protection.

By 1997, it should be possible to begin the construction of at least four lodges: one each in Lokebe, Ankarana, Mantadia, and Andohahaela. This will assume revenue flow for 1998. During this phase, ANGAP can concentrate on the development of interpretative programs centered on comprehensive trail networks, an interpretative center, and biodiversity protection policy and guidelines.

6.3. Revenue Centers for ANGAP

The protected area system of Madagascar is an important revenue-generating resource not unlike agriculture, fishing, or manufacturing. It is also a potential major earner of foreign exchange by importing hard currency into the country for the purchase of services and the right to enter and possibly to stay overnight in a protected area.

There are four identified sources of revenue for ANGAP. They include:

- percentage of ecotourism packages that focus on the national parks
- a portion of the revenues generated by ecolodges and food services associated with the national parks
- merchandising of materials and goods associated with visitor services and park development
- trust fund that provides annual revenues

The trust fund concept has been adequately outlined in the Peter Robinson report and will not be elaborated on here; however, it should be considered as a substantial funding source for community development, infrastructure, and biodiversity protection measures.

Without entering into a full-scale market analysis, it is possible to assume that if a comprehensive network of lodging and food services were developed in association with the six national parks outlined in the northern zone and southern zone itinerary, it is reasonable to assume that ten to fifteen thousand new tourists would be attracted to Madagascar and the protected areas. Assuming the more conservative number (i.e., 10,000)—which is only slightly more than 1 percent of the anticipated volume of tourists to Kenya and South Africa by 1996—we could still assume a potential revenue of \$21 million for Madagascar (i.e., \$175 per day × 12 days). Of course, many of the stays are longer than 12 days, and \$175 per day will be a minimum for a quality ecotourism package in Madagascar by the time the lodges are complete.

If these ecotourism packages were developed by ANGAP and subsequently provided in collaboration with the private sector, then ANGAP could assume a certain percentage of the overall revenues. This formula has not been researched; however, commissions or markups on packages that have been developed can typically be in the range of 10 to 25 percent. Assuming even the most modest return on these packages, it is possible to generate revenues in excess of \$2 million.

6.3.1. Lodging and Food Services

If ANGAP had an equity position with the private sector in these lodges, then it would expect to generate a certain amount of annual revenue from its position in the business. While it is not the intention of ANGAP either to operate these lodges or perhaps even to be a principal shareholder, it is important for them to generate revenue because of the lodges' relationship to the protected areas. Not only would this situation satisfy ANGAP's financial requirements. It would also be important for the ecotourist. Such tourists are particularly interested in knowing that their vacation dollars are being reinvested in environmental protection. For example, if ANGAP were to generate an average of \$25 per day from a visitor's stay in one of these lodges, then another \$2 million to \$3 million would be designated for ANGAP and the operation and maintenance of the protected area.

Moreover, it would be possible to designate a significant portion of these funds to communities to be used in conservation projects and other microprojects of interest to community members. This level of revenue generation far exceeds that projected for park entry fees. While ANGAP has certainly taken a lead in sharing entrance fees with communities, it can launch a whole new level of protected area management and involvement with communities in the peripheral areas by sharing a portion of these considerable revenues with local community associations.

6.3.2. Merchandising

North American and European parks are not typically in the business of selling souvenirs and T-shirts. There is nevertheless a business opportunity for ANGAP that would further contribute to its revenue sources. Again, ANGAP has no intention of becoming a retailer or a manufacturer of merchandise. But it can lend its name and contribute to product development for items that would be of interest to ecotourists and international environmental associations—and at the same time generate perhaps several hundred thousand dollars of revenue annually.

As mentioned previously, there is an opportunity here for ANGAP to develop a completely new type of national park service, one that is self-sufficient and can use the natural resource base of the protected areas to provide direct funding to community development and conservation projects. This approach is in the best interest of ANGAP, the Madagascar environment, and the ecotourist.

7. Implementation and Development Schedule

Regional development plans have been prepared for both the northern and southern zones. Because the central zone, including Andasibe and Mantadia, are an integral part of both the northern and southern ecotourism packages, a separate development plan and schedule has been prepared for that region.

The time frame covers the period from 1995 to 1998. While this may vary slightly depending on funding sources, we should expect a complete, integrated ecotourism plan for these two zones within three to five years. It is important to remember that many of these development recommendations are a result of the ecotourism workshops and the types of ecotourism products and physical development recommended by the delegates. These recommendations have been placed within a time frame in this report to enable ANGAP and its funding partners to project capital and training expenditures.

7.1. Northern Zone Regional Plan

The focus of ecotourism development in the north will be to reinforce the Nosy-Be area as an ecotourism destination with the designation of Lokebe as a national park. Montagne d'Ambre and Ankarana National Parks will be established as destinations through an increased level of visitor services (i.e., lodges, interpretation centers, and the like).

7.1.1. 1995 — Park Development Plan for Montagne d'Ambre and Ankarana

Within the context of the training program for a park planner, an overall park management plan will be prepared for the Montagne d'Ambre Complex. This will be done in close collaboration with the integrated conservation and development project partners (WWF, CARE). The purpose of this plan will be to identify the general zoning requirements of the two parks and to locate a lodge in each and identify all interpretive facilities and trails. Assuming that basic decisions are made by mid-1995, it will then be possible to move forward with the architectural design for an ecolodge based on the appropriate locations outlined in the physical development plan for Montagne d'Ambre and Ankarana. It is anticipated that the ecolodge can be located within the Montagne d'Ambre Park, while in Ankarana a favorable location may be the American campground at the foot of the escarpment. In both cases, sites may be located on the basis of a rigorous site selection process.

Designation of Lokebe as a national park will also begin in 1995.

The ecotourism circuit and options for the north will be fully developed in 1995.

It is also necessary to start a more intensive guide training program. While ANGAP already delivers a preliminary program to those already involved in guiding, it is important to begin bringing those services up to international standards. Those professional standards will be developed in 1995 and implemented in an intensive guide training program in 1996.

7.1.2. 1996 — Construction of Lodges and Interpretation Center

A twenty-four-unit ecolodge will be built inside the park boundaries of Montagne d'Ambre, and a sixteen-unit ecolodge will be built immediately adjacent to the park entrance at Ankarana. If Lokebe becomes a national park in 1996, a twelve-unit ecolodge will be constructed.

Nature interpretation centers and trail systems, including signage and appropriate observation towers, will be built in all three parks.

An intensive marketing campaign of the northern ecotourism circuit will begin in mid-1996 in order to prepare for the first arrivals in 1997.

One or two villages will be selected for establishing an arts and crafts center. Joffreville has a high potential to become one of these villages as do several of the smaller villages located adjacent to Ankarana.

Assuming that Lokebe receives national park status, a master plan process will start in 1996 and be completed in 1997. The initial focus of the plan will be to identify an appropriate location in proximity to the village to construct a twelve-unit lodge.

7.1.3. 1997 — Launch of Ecotourism Packages

By 1997, the infrastructure will be in place enabling the full launch of the ecotourism packages. Because of developments in some of the adjacent regions, it may be possible to include optional tours to other parts of the north.

The year 1997 will be important in integrating community development and ecotourism. The quality of arts and crafts produced by the villages will be tested by the marketplace; so will the services of guides and lodge personnel.

7.1.4. 1998 — Expansion of Ecotourism Package Tours

In the second year of the ecotourism packages, it will be possible to expand into other areas and extend the overland portion of the tour to the Mozambique Channel from north of the Massif Ankarana. This will require the design and construction of three bridges, a project that has the support of the king.

7.2. Southern Zone Regional Plan

The focus of the southern zone regional plan is to create a new national park at Andohahela as well as establish lodge and interpretative facilities in Isalo and Andohahela National Park.

7.2.1. 1995 — Development of Ranamafana National Park

Ranamafana National Park and the surrounding areas are possible the best planned ecotourism destination in Madagascar. There is already a proposal to construct an ecolodge outside the boundary of the park. The integrated conservation and development project is fortunate to have two professional park planners, who are proceeding with the development of an urban master plan for the community. With the completion of this master plan, it will be necessary to construct a major interpretation center to be located within the park.

Ranamafana has already had extensive surveys and scientific research conducted on its natural resources. This information base should be synthesized in order for the integrated conservation and development project planner to proceed with the preparation of the master plan.

The completion of the southern ecotourism package tour in 1995 will enable ANGAP and its partners from the travel trade to begin promotion in 1996.

This year will also be used to advance the creation of Andohahela as a national park. This process should include the full participation of villages within the peripheral area.

The development of national park plans for Andohahela and Isalo will necessitate a more detailed inventory of the biophysical resources of the two parks. Assuming funding is available, the natural resource inventory should begin in this year in order to prepare for the park planning process in 1996.

7.2.2. 1996 — Preparation of a Master Plan for Isalo National Park

The training of a second park planner will be based on the preparation of a master plan for Isalo National Park. While this may be accomplished in 1995, if funding is available, the park plan must be completed by 1996 in order to begin construction of an ecolodge and interpretation center. Under any condition, the park plan should be developed to enable the construction of a trail system.

The marketing of the southern zone by ANGAP and partners (Ministry of Tourism, tour wholesalers, operators, etc.) will take place in key target markets.

As soon as the creation of a national park at Andohahela is official, site selection for a lodge followed by architectural design and construction should begin immediately. While this suggests the lodge is located before the completion of the master plan, an exception should be made in this case because of the need to have visitor services in this southern part of the circuit. In this case, the lodge may be of comfortable tent frames with a modest level of trail development and infrastructure. As the master planning process proceeds, the lodge may become a base camp with the eventual construction of a complete ecolodge.

7.2.3. 1997 — Launch of Southern Zone Ecotourism Circuit

The southern zone ecotourism circuit will be launched one year after the northern zone, thus providing increased exposure of Madagascar in the marketplace. It will also take the previous two years to establish lodging in all three national parks.

This year will also involve the construction of an interpretation center at Isalo National Park and the preparation of a master plan for Andohahela.

7.2.4. 1998 — Lodging and Interpretative Facility Construction

The year 1998 will see the construction of a twenty-unit lodge at Isalo and a more modest fourteen-unit facility at Andohahela. In both cases, emphasis will be placed on bungalow construction in order to assess how each of these parks will respond to the market conditions. For instance at Isalo, because there is an existing private sector lodge, it may be more prudent to start with ten or twelve units and then move to a larger facility once both operations achieve high occupancies. Likewise at Andohahela, a smaller lodge will be built in order to assess its impact on Berenty.

Trails systems and nature interpretation centers will be built at Isalo and Andohahela.

This year will also enable the newly trained park planners to begin planning the park at Beza Mahafaly.

7.3. Central Zone (Andasibe Mantadia Regional Plan)

The results of planning the central region will have a positive impact on both the northern and southern zone ecotourism circuits. Since visits to Andasibe and Mantadia National Park are an integral part of the two proposed circuits, the development in this area must coincide with that taking place in other national parks.

7.3.1. 1995 — Mantadia National Park Master Plan

Mantadia is ideally posed for a rigorous master planning exercise. Already a significant study of the resources has taken place, and assuming that access can be secured in 1995, the park should be open within one or two years. The planning of Mantadia National Park will also be done as a training exercise in collaboration with a professional park planner and trainer. This will be carried out in cooperation with the local integrated conservation and development project and with local, private-sector hotel operators and the citizens of Andasibe.

It is also preferable to complete the planning and construction of the orchid garden. This constitutes an important attraction for the region and would also encourage more visitors from Antananarivo.

7.3.2. 1996 — Mantadia National Park Visitor Facilities

With the completion of the master plan, it will be possible to begin planning and construction of the ecolodge as well as all access routes and trail systems.

The existing interpretation center at the reserve should be fully developed, including an animation program for the region.

Initial lodge construction within the park will be modest in order to minimize impact on existing local facilities. Initially twelve units will be constructed and an additional twelve constructed in 1997.

In 1996, a master plan will also be prepared for Benaraha.

7.3.3. 1997 — Ecotourism Package Tour Launch

In this final year of development of the central region, the local tourism products will be integrated into the northern and southern ecotourism circuits.

The construction of huts within the national park will also enable the promotion of trekking from the park's activity center to the communities of Volve and Bohibazaha. The details of this package are outlined in the *Andasibe Regional Ecotourism Product Development Strategy* prepared for VITA by James MacGregor.

7.4. Additional Planning and Training Requirements

7.4.1. Architectural Guidelines

Before embarking on a construction program of ecolodges and interpretation centers, it is necessary to establish architectural and site planning guidelines. These guidelines would become the framework for ANGAP to evaluate future proposals from the private sector on lodge and tourism facility development in or adjacent to national parks. Considerations in these guidelines should include, but not be limited to, the following:

- qualifications of the architect/landscape architect in developing ecolodges and interpretation facilities
- appropriate motifs and architectural materials for the northern, central and southern zones
- green management guidelines and purchasing practices
- siting requirements and protection of natural features
- landscape mitigation measures

7.4.2. Guide Training

A comprehensive, long-term guide training curriculum is necessary to meet the requirements of an expanded ecotourism sector. If this does not happen, the foreign tour wholesaler will bring their own guides.

New modules are required in

- Leadership Development
- Environmental Ethics and Education
- Equipment Maintenance and Procurement
- Travel and Expedition Techniques
- Interpretation: Natural History and Cultural History
- Health and Sanitation
- Legal Obligations
- Trip Planning and Group Management

This will require both field and seminar sessions.