A

APPENDIX 3A, Attachment 1
Chapter 3, Handbook 3 (TM 3:43)

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE: A (A: Add, C: Change, D: Delete) — Amendment Number: ____ — DOCUMENT CODE: 3

COUNTRY/ENTITY: MADAGASCAR

3. PROJECT NUMBER: 687-0113

4. BUREAU/OFFICE: AFRICA 06

5. PROJECT TITLE (maximum 40 characters): Knowledge and Effective Policies for Environmental Management

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): M M D D Y Y — 0 5 3 1 9 7

7. ESTIMATED DATE OF OBLIGATION (Under "B." below, enter 1, 2, 3 or 4)
A. Initial FY 9 2 B. Quarter 3 C. Final FY ____

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY 92 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total	3,000		3,000	9,000		23,000
(Grant)	(3,000)		(3,000)			
(Loan)						
Other: 1.						
U.S. 2.						
Host Country					14,000	
Other Donor(s)						
TOTALS ↔	3,000		3,000	9,000	14,000	23,000

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) DFA	200				–	3,000	–	9,000	–
(2)									
(3)									
(4)									
TOTALS ↔						3,000		9,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 230 260

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)
A. Code
B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To create a policy and institutional framework of incentives and reserve generation and use to encourage natural resource management.

14. SCHEDULED EVALUATIONS
Interim: M M Y Y — 0 1 9 4 Final: M M Y Y — 0 1 9 6

15. SOURCE/ORIGIN OF GOODS AND SERVICES
X 000 ___ 941 X Local X Other (Specify) 935

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP Amendment)

17. APPROVED BY
Signature: George Carner
Title: Director USAID/Madagascar
Date signed: M M D D Y Y — 0 5 2 7 9 2

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
M M D D Y Y

PROJECT AUTHORIZATION

Name of Country: Madagascar
Name of Project: Knowledge and Effective Policies for Environmental Management
Number of project: 687-0113

1. Pursuant to section 496 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Knowledge and Effective Policies for Environmental Management Project for the Government of Madagascar (Grantee) involving planned obligations of not to exceed Nine Million U.S. Dollars ($9,000,000) in grant funds (Grant), subject to the availability of funds in accordance with the A.I.D. OYB/Allotment process, to help in financing foreign exchange and local currency costs of the project. The planned Project Assistance Completion Date (PACD) shall be May 31, 1997

2. The purpose of the Project is to create a policy and institutional framework of incentives and revenue generation and use to encourage sustainable natural resource management. The Project consists of three components: (i) strengthening the institutional capacity to implement Madagascar's Environmental Action Plan (E.A.P.); (ii) facilitating local natural resource management initiatives; and (iii) improving natural resource revenue generations and use. The Project will provide Technical Assistance and limited short-term training and commodities over five years to support policy and institutional reforms in each of the three component areas.

3. The Project Agreement, which may be negotiated and executed by the Officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate:

(a) **source and origin of commodities, nationality of services:**

Except as A.I.D may otherwise agree in writing,

(a) Commodities financed by A.I.D. under the Project shall have their source and origin in countries included in A.I.D. Geographic Code 935.

(b) The suppliers of commodities or services financed by A.I.D. under the Project shall have countries included in A.I.D. Geographic Code 935 as their place of nationality.

(c) Ocean shipping financed by A.I.D. under the Project shall be financed only on flag vessels of the countries included in A.I.D.. Geographic Code 935 and shall also be subject to the 50/50 shipping requirements under the Cargo Preference Act and the regulations promulgated thereunder.

(d) Air travel and transportation to and from the united States shall be upon certified U.S. flag carriers to the extent such carriers are available within the terms of the U.S. "Fly America" Act.

(e) All reasonable efforts will be used to maximize U.S. procurement whenever practicable.

(b) **Conditions Precedent to First Disbursement**

Except as A.I.D. may otherwise agree in writing, prior to the first disbursement under the Grant, or to the issuance by A.I.D. of documentation pursuant to which such disbursement will be made, the Grantee shall furnish or have furnished to A.I.D., in form and substance satisfactory to A.I.D.:

a) An opinion of counsel that this Agreement has been duly authorized and/or ratified by, and executed on behalf of, the Grantee, and that it constitutes a valid and legally binding obligation of the Grantee in accordance with all of its terms; and

b) A written statement setting forth the names and titles of persons holding or acting in the Office of the Grantee, and of any additional representatives, and representing that the named person or persons have the authority to act as the representative or representatives of the Grantee, together with a specimen signature of each such person certified as to its authenticity.

(c) **Covenants**

The Parties agree to establish an evaluation program as part of the Project. Except as the Parties otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter:

a) evaluation of progress towards attainment of the objectives of the Project;

b) identification and evaluation of problem areas or constraints which may inhibit such attainment;

c) evaluation, to the degree feasible, of the overall development impact of the Project.

(d) **Local currency contribution**

The Grantee agrees that the local currency contribution will be disbursed promptly upon the request of A.I.D. for said disbursement (and in no event later than 60 days thereafter,) for the Project purposes agreed upon.

(e) **Continued Performance under the Program.**

The Parties agree that the disbursement of dollars funds under this Agreement for the purpose of providing technical assistance, commodities or other services in connection with the Project shall be conditioned upon the continued performance of the Grantee under the program and in accordance with the terms of the Program Agreement.

Approved by: George Carner

George Carner
Mission Director
USAID Madagascar

Date: 5-27-92

Clearances:

PROG:	JJohnson	Draft	Date:	5/20/92
ANR :	JThomas	Draft	Date:	5/21/92
DDIR:	DMackenzie	Draft	Date:	5/19/92
RLA:	CBrown	Fax	Date:	5/29/92

Drafted by: JRazafindretsa, \KEPEM\PROJAUTH;05/05/92

Funding is available for this KEPEM Program No. 687-0115 and Project No. 687-0113

OFFICE OF THE CONTROLLER
USAID MADAGASCAR
FUNDS
AVAILABLE
BY: DATE:

Shirley Hunter, Controller

Date: 5/27/92

GLOSSARY

AID	Agency for International Development
AID/W	AID Washington
AID/AR	AID Acquisition Regulations
ANAE	Association Nationale pour les Actions Environnementales (National Association for Environmental Actions)
ANGAP	Association Nationale pour la Gestion des Aires Protégées (National Association for the Management of Protected Areas)
ANR	Agriculture and Natural Resources
BDE	Banque des Données de l'Etat (National Data Bank)
BOD	Board Of Directors
BPS	Biodiversity Planning Service
COMODE	Conseil Malgache des ONGs pour le Développement et l'Environnement
COP	Chief of Party
COS	Comité d'Orientation et Suivi (Steering and Oversight Committee)
CPSP	Country Program Strategy Statement
CRES	Comité de Redressement Economique et Social (Committee for Economic and Social Restructuring)
DEF	Direction des Eaux et Forêts (Department of Water and Forest)
DFA	Development Fund for Africa
DDRA	Direction des Domaines et de la Réforme Agraire (Department of Land and Agrarian Reform)
EAP	Environmental Action Plan
EF	Endowment Fund
EOP	End Of Project
EP-1	Environmental Program 1
ESAF	Enhanced Structural Adjustment Facility
FAO	Food and Agriculture Organization
FMg	Francs Malgaches (Malagasy Francs)
FTM	Foiben-Taosaritanin'i Madagasikara (Madagascar Cartographic Institute)
FSN	Foreign Service National
FY	Fiscal Year
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GNP	Gross National Product
GOM	Government Of Madagascar
GPF	Gestion et Protection des Forêts (Management and Protection of Forests)
HAE	Haute Autorité de l'Etat (High State Authority)

IBRD	International Bank for Reconstruction and Development
IMF	International Monetary Fund
KEPEM	Knowledge and Effective policies for Environmental Management
KEPT	KEPEM Evaluation of Policy Team
MPAEF	Ministère de la Production Animale, Eaux et Forêts (former Ministry of Animal Production, Water and Forests)
NFF	National Forestry Fund
NGO	Non-Governmental Organization
NPA	Non-Project Assistance
NRM	Natural Resources Management
ONE	Office National de l'Environnement (National Office for the Environment)
PAAD	Program Assistance Approval Document
PACD	Project Assistance Completion Date
PAIP	Program Assistance Initial Paper
PIC	Project Implementation Committee
PROAG	Project Agreement
RCO	Regional Contracting Office
RCMO	Regional Commodity Management Office
REDSO/ESA	Regional Economic Development Support Office/East and Southern Africa
RNR	Renewable Natural Resources
SAVEM	Sustainable Approaches to Viable Environmental Management
SDR	Special Draeing Rights
TA	Technical Assistance
TFAP	Tropical Forestry Action Plan
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
USAID	United States Agency for International Development
USPSC	United States Personal Services Contractor

I. EXECUTIVE SUMMARY

Madagascar is depleting its natural resources at an alarming rate. Its forests are disappearing, its unique and diverse plants and animals are threatened, its top soils are being washed away. This degradation is upsetting the ecological balance between people and resources and undermining the livelihoods of the majority of Malagasy who depend on these resources for their survival. The economic cost to the nation is also high. It is conservatively estimated that five percent of Madagascar's GDP is lost from decreased agricultural and forest productivity and damage to roads and irrigation systems due to soil loss and soil fertility declines. If these trends continue, the remaining 20% of forests will be gone within two decades. This next decade is critical to setting in place the policies and incentives to reverse these devastating trends and encourage sustainable natural resource use. KEPEM aims to address this daunting challenge.

A. THE PROGRAM

Awareness of these problems led the Government of Madagascar (GOM), with broad donor support, to develop a national Environmental Action Plan (EAP) as a framework for investment to protect natural resources and at the same time foster ecologically and economically sustainable development. The EAP is a complex, fifteen year effort, and USAID has assumed the role of principal donor for the biodiversity component of the plan, and major donor for the institutional strengthening component. The Knowledge and Effective Policies for Environmental Management (KEPEM) program broadly complements the roles of other major donors in the implementation of the EAP.

KEPEM is a performance-based policy and institutional reform program under USAID's Development Fund for Africa (DFA). The purpose of the program is to encourage sustainable natural resources management through the creation of a policy and institutional framework of incentives and revenue generation and use. This is based on the hypothesis that sustainable natural resource management can improve the livelihood of Malagasy people and lead to improved biological diversity conservation. Economic, institutional, social soundness and forestry analyses confirm the feasibility of the proposed program in achieving this purpose. The dire financial situation of the GOM and the potential impact of policy reform dictate a program approach of Non-Project Assistance (NPA), complemented by a project component. KEPEM, especially in an initial phase, can neither attack certain immediate threats to the conservation of natural resources and biodiversity directly, nor intervene on all policy and institutional fronts at once. The program has to be selective, and aim at some reforms that are relatively easy to achieve and yet likely to have far-reaching results. These results are, in turn, designed to serve as the foundation for the next phase of reforms.

B. PROGRAM COMPONENTS

KEPEM involves three targeted intervention areas. These are described below, with summaries of the desired outcomes and impacts at the end of the program. A review of the program themes, performance criteria and project inputs is provided in the Table 1.

1. DEVELOPING THE INSTITUTIONAL CAPACITY TO IMPLEMENT MADAGASCAR'S ENVIRONMENTAL ACTION PLAN.

Under the EAP the GOM created the National Office of the Environment (ONE), responsible for assuring the implementation of the EAP, including environmental policy formulation, monitoring and evaluation and coordination of the various agencies involved in the environment. KEPEM will reinforce the GOM's commitment to the EAP through developing the institutional capacity of ONE, and hence the other environmental actors through ONE's coordinating role. This will have the effect of improving the efficiency of investment and resource allocation in the sector in favor of environmentally sound initiatives at all levels, including the local natural resource users in the fields and forests, and on the lakes and coasts of Madagascar.

2. FACILITATING LOCAL-LEVEL NATURAL RESOURCES MANAGEMENT INITIATIVES.

Local policy and institutional issues are major constraints to improved natural resource management initiatives. Such issues include land and resource tenure, local governance and empowerment, and conflict resolution. Specific problems associated with these issues are very variable depending on local ecological, social and cultural diversity conditions. In view of this complexity, KEPEM will carry out assessments of land and tenure, local governance and conflict resolution issues in selected sites, where USAID is already supporting ongoing project initiatives. These assessments will lead to recommendations for regulatory changes in the selected sites, which could then serve as models for wider legislative changes favoring improved local natural resource management.

While the local regulatory environment has been identified as a major constraint, successful natural resource management initiatives also require that the technological options are available and extended. GOM extension capacity is poor. Analyses during KEPEM design estimated that the cost of an effective decentralization of GOM services would be beyond the scope of the program. Instead KEPEM is supporting the NGO community in attempts to clarify the regulatory environment concerning NGO organization and operation to encourage partnerships with local associations.

3. FOSTERING IMPROVED NATURAL RESOURCE REVENUE GENERATION AND EXPENDITURE.

Forest revenues, notably from valuable hardwood species, do not reflect, by far, the real market value of the resource, nor the replacement costs. This is in part because of the low stumpage fee for harvesting a tree, but also the poor collection of such fees. The dismal collection rate of stumpage fees has been well documented. Although approximately $120 million worth of forest products should be subject to stumpage fees annually, the Department of Water and Forests is estimated to have collected the equivalent of less than $5,000 in 1990. Based on a complete analysis of forestry flows and on detailed recommendations for forest products pricing and taxation strategies, it is estimated that recoverable fiscal revenues of the equivalent of $1.12 million for the

Antananarivo supply zone alone. It is therefore reasonable to conclude that nation-wide fiscal revenues from forest products flows can realistically reach an annual level of $2.5 million. Under KEPEM, the GOM will revise the stumpage fees schedule, improve its collection and accounting system and expend at least half of these forest revenues on improved natural forest management. This will provide a clear signal by the GOM of the value it puts on its forests, and will provide resources for local initiatives in natural forest management.

The second component to this element is the creation and operation of a National Environmental Endowment Fund, to provide a continuous source of financing for environmental actions. The GOM will capitalize this fund in the sum of $12 million equivalent. The Fund will be run by an independent Malagasy Board of Directors, thus reducing the perception of the environment as a foreign, donor-imposed agenda and providing the impetus for a genuine grass-roots environmental movement in Madagascar.

C. EXPECTED PROGRAM RESULTS

The program will lead to increased biological diversity conservation and improved natural resource management, including increases in environmentally sound investments. Beneficiaries will be local natural resource users, who will benefit from improved local regulatory incentives, better organized local associations and NGOs and increased, sustainable financing through forest revenue generation and the National Environmental Endowment Fund. Special attention will be given to vulnerable groups such as women and the landless.

D. PROGRAM IMPLEMENTATION

1. NON-PROJECT ASSISTANCE

The five-year program consists of a $33 million Non-Project Assistance (NPA) component which will be used for Malagasy debt service repayment. Disbursement will be in four tranches based on the Government of Madagascar (GOM) meeting performance criteria considered essential to achieve program goals. An initial tranche of $8 million will be followed 18 months later by a second tranche of $7 million and 12 months later by a third tranche, also of $8 million. A final tranche of $10 million will follow after a further 18 months. A small USAID/GOM team will review performance criteria progress biannually, and will be supported by a Policy Implementation Committee.

2. PROJECTIZED ASSISTANCE

A $9 million project component will provide technical assistance and limited short-term training and commodities over five years to support policy and institutional reforms. The project will be contracted with a U.S. institution for all components excepting the local initiatives assessments, which will be through a buy-in to a central A.I.D. project. Two evaluations and a non-federal audit will be conducted over the life of the program, and a comprehensive monitoring and evaluation plan has been developed with specific impact indicators.

3. HOST COUNTRY CONTRIBUTION

The bulk of the GOM's 25% contribution to the program will be through the $12 million equivalent capitalization of the National Environmental Endowment Fund by the GOM from its domestic budgetary resources. The GOM will also contribute through budget support to ONE, and in-kind contributions through ONE and DEF operations and studies in support of program objectives.

SUMMARY KEPEM NPA MATRIX
TABLE 1

PROGRAM THEMES & ELEMENTS	PERFORMANCE CRITERIA	INPUTS
THEME I Institutional Performance		1. One long-term advisor (4 yrs) in environmental policy analysis
Element A Plan, monitor and evaluate the implementation of the EAP	GOM authorizes decree establishing parent ministry and Board of Directors of ONE	2. One long-term advisor (4 yrs) to support implementation and evaluation of the EAP 3. One long-term advisor (4 yrs) for development of operational plan for EAP coordination
Element B Strengthen coordination among organizations working to implement the EAP	GOM contributes 20% of ONE's recurrent cost budget	4. Short-term TA (6 months) for development of environmental review process 5. Short-term training in policy analysis, institutional development, information management, environmental review procedures, and impact analysis
Element C Set in place an environmental review process for investment projects	GOM approves legislation establishing environmental review process with Specific environmental review processes for high priority regions (including coastal (areas and forest access roads) legislated	6. Local Admnistrative Assistant and secretary support 7. Vehicles, computers, and other equipment
THEME II New local NRM incentives		1. Short-term TA (12 months) to initiate, monitor, and assess the results of the three assessments.
Element A Strengthen legislative incentives for local NRM	GOM implements and publicizes legislative regulatory, and policy changes based on the results of three assessments	2. Three field researchers and six local field assistants to implement assessments (12 months each). 3. Vehicles, computers, and field research equipment for assessment teams. Support for workshops at end of assessments
Element B Foster NGO growth and participation in NRM	GOM publishes an NGO code that clarifies and simplifies rights of association, procedures of incorporation and legal status of NGOs and permits NGOs to receive gifts and bequests, and charge for services	4. Workshop on NGO code.
THEME III Revenue generation and use	Stumpage fees for pine and palisandra be adjusted to better reflect market value and and replacement cost	Short-term TA (30 months) to help to design and initiate forest inventories and set up improved collection and accounting system and develop revised stumpage fee schedule
Element A Adjust forest resource revenues to better reflect market values and replacement costs	Institute improved collection and accounting system to increase revenue from stumpage fees Publish comprehensive stumpage fee table with appropriate valorization of timber products	Short-term TA (12 months) to develop forest management plans. Workshops (2) on forest revenues, on forest management.
Element B Improved use of revenues for natural forest mgt	Fifty percent of forest revenues will be expended on natural forest management	Long-term advisor (3 yrs) for set up of Endowment Fund Short-term TA (12 months) in endowment financing Computers to support Fund set-up and functioning
Element C Endowment Fund revenue generation and use	GOM revises/clarifies legislation and capitalizes Endowment Funds	GOM capitalizes Endowment Fund in the amount of $ 12 million equivalent

II. BACKGROUND

A. MACROECONOMIC FRAMEWORK

With a population of about 12.2 million growing at 3.2 percent annually, and a per capita income of about $220 in 1989, Madagascar is one of the poorest countries in the world. Furthermore, income distribution is very unequal, and severe poverty is widespread. It is the world's fourth largest island, with wide variations in soils and climates, a diverse mineral endowment, and unique flora and fauna. Rice is the country's main staple, and the major traditional exports are coffee, vanilla and cloves. Its economic record is one of modest growth from independence in 1960 to 1970, stagnation from 1970 to 1980, sharp deterioration between 1980 and 1982, financial stabilization with sluggish economic growth from 1983 through 1987, a beginning of growth in per capita GDP between 1988 and 1990 and economic uncertainty caused by political upheaval in 1991.

The current economic situation does not bode well for the environment. It is the poorest farmers who are obliged to cultivate the most marginal and erosion-prone land. Rural poverty also increases the need to practice slash and burn agriculture, shifting cultivation and uncontrolled forest exploitation. Therefore, the potential for longer term resource sustainability is closely tied to the prospects for success of economic liberalization and growth. Viewed from a macroeconomic, rather than a resource prism, KEPEM's policy agenda is consistent with the larger socioeconomic process underway in Madagascar since 1985: to remove barriers to local initiative, to reduce (unsuccessful) direct public intervention in production and resource management, and to develop the policy incentives through which to positively influence the liberalized and more efficient rural economy.

1. The Macroeconomy

Gross Domestic Product (GDP) grew in real terms by four percent in 1989 and by 3.8 percent in 1990. Adverse weather conditions held agricultural growth to 2.4 percent, compared to an unusually high growth rate of 5.5 percent in 1989. Industrial sector growth was a respectable five percent, led by strong performances in textiles and agro-industries. Value added in the services sector rose by nearly five percent, largely due to the sharp increase in the number of tourists to 50,000 from 38,500 in 1989. Private consumption increased by eight percent in real terms.

The government and the IMF agreed to a three year program under the enhanced structural adjustment facility (ESAF) on May 15, 1989, in the amount off SDR 76.9 million. The loans under the first two annual arrangements were drawn as scheduled. Progress on the third annual arrangement was disrupted by political events in Madagascar as the IMF staff was submitting the arrangement to its executive board. The program is now on hold. The third arrangement must have board approval before Madagascar can request another Paris Club rescheduling. An IMF team is arrived in March to prepare, with the government, a new Policy Framework Paper.

2. Balance of Payments

Madagascar's external position deteriorated significantly in 1990, as the terms of trade worsened for the fourth consecutive year, with coffee, pepper and cloves registering sharp price declines, and imported oil prices rising substantially in world markets. Three other developments led to the sharp reversal in Madagascar's balance of payments position: a substantial decline in the volume of exports of coffee, pepper, meat and chromite; a massive increase in imports of all categories of goods, with the exception of foodstuffs, with oil imports rising by 79 percent in value; and a significant shortfall in disbursements of official transfers and long-term public sector borrowing. Export earnings declined by 15 percent while import payments rose by 31 percent; leading to a trade balance of SDR-108.1 million compared to SDR 3.8 million in 1989. The current account deficit, excluding official transfers, was equal to 14.6 percent of GDP compared to 11.1 percent in 1989.

From early 1989 to August 1990, the nominal effective exchange rate of the FMg remained virtually unchanged. Given the inflation differential between Madagascar and its major trading partners, the real effective exchange rate appreciated by nine percent over the same period. In turn, this appreciation fueled devaluation expectations and triggered further import demand. In September-November the central bank adjusted the exchange rate by 3.4 percent. The adjustment proved insufficient, forcing the central bank to severely curtail credit to the economy. It was not until January 1991 that major corrective action was taken, in the form of a 13 percent devaluation which more than reversed the appreciation registered since 1989. The central bank has continued to adjust the nominal exchange rate to prevent overvaluation of the FMg. The FMg was devalued by 3.5 percent during the second half of 1991.

This deterioration in the balance of payments had serious repercussions on Madagascar's foreign exchange reserves. The country started 1990 with foreign exchange reserves equivalent to nine months of imports. By the end of July 1990 reserves had fallen to just over four months of imports. By December, the central bank was forced to suspend all commercial bank lending in order to conserve the small amount of usable foreign exchange reserves. The central bank is currently financing imports on a first-in, first-out basis. Private banks are authorized to keep 60 percent of the foreign exchange they receive from clients.

The remaining 40 percent must be turned over to the central bank for the financing of essential imports (mainly oil) and debt services. The central bank has overdue letters of credit in the amount of $12-14 million. Debt owed to London and Paris Club creditors is not being serviced. The central bank is current in its payments to the IMF.

3. Government Financial Operations

The GOM policy is to contain the overall deficit to a level that permits the GOM to make substantial repayments on its debts to the domestic banking system, thereby releasing adequate resources for the needs of an expanding private sector. In practice, the GOM

fiscal deficit is financed by foreign borrowings from official creditors in excess of the GOM financing requirements with the excess used to reduce GOM indebtedness to domestic banks.

Central government revenue, including grants, increased by 13.7 percent in 1990 over 1989. For the same period total expenditures fell by 5.7 percent - due to slow implementation of the public investment program. As a result the overall fiscal deficit, as a percentage of GDP, fell from 5.3 percent in 1989 to 1.6 percent in 1990. Revenue growth was consistent with the ESAF program target. The expenditure growth target was 11.8 percent and the overall deficit target was five percent of GDP. Since the reduction in the overall deficit came about from delays in public investments there will be a negative impact on economic growth. Growth is enhanced by a higher deficit provided donor financing is available and the investments are socially profitable.

4. Economic Impact of 1991 Political Chaos

The political disruptions of 1991, including seven months of government paralysis, broke the fragile growth trend that had emerged since 1988. Real GDP fell by 3.8 percent, with high reductions of 38 percent in both public and private investment. Agricultural production declined five percent, while the sector's marketed surplus declined fifteen percent - a serious blow to the already low rural cash incomes. Industrial output fell one percent with wide inter-industry variation. Service sector output fell almost seven percent. The Consumer Price Index rose ten percent.

The government's fiscal position suffered a serious deterioration. Receipts from tax sources fell 32 percent; grant revenues fell 48 percent. The budget deficit went from 39.8 billion FMG in 1990 (with government repayments to the domestic banking system of 58.4 billion FMG) to 261.5 billion FMG in 1991 (with new borrowings from the domestic banking system of 89.8 billion FMG). The tax revenue/GDP ratio fell from 9.4 percent to 6.5 percent.

The country's balance of payments position was affected by the political upheaval as well. Exports fell by 15 percent (and by 24 percent since 1989). Imports fell by 24 percent. The merchandise trade balance was a negative SDR 67.34 million. The 1990 picture was distorted by a state-owned bank financed import binge which produced a merchandise trade balance of SDR 115.9 million, compared to a surplus in 1989 of SDR 3.8 million. The 1991 balance of payments deficit was financed by debt rescheduling and the accumulation of payment arrears.

The major economic repercussions of the 1991 crisis are the lack of foreign exchange and the weak fiscal position. Donor-funded Balance of Payment (BOP) support in 1992 could be a high as SDR 262 million. Even with this inflow, a 1992 BOP gap of SDR 210 million remains, of which SDR 73 million is reschedulable debt service.

A foreign exchange shortage will have a negative impact on fiscal receipts due to the heavy reliance on trade taxes. Despite this, a massive increase in tax receipts will be necessary if the Treasury is to restore its program of reducing its indebtedness to the banking system.

B. SECTORAL FRAMEWORK

1. The Natural Resource Sector: Importance to the Economy and Problem Statement

Madagascar's natural resource base, upon which the vast majority of Malagasy depend directly, is seriously threatened. The scale and intensity of deforestation, loss of biological diversity, soil erosion and associated declines in overall land productivity are unparalleled. For example:

Deforestation: Eighty percent of Madagascar's forest cover has been destroyed, half of it over the last forty years. If current trends continue almost all of the country's remaining forests will be degraded or destroyed within the next 20-40 years, with consequent loss of biodiversity, watershed protection, soil stability, climate buffering and forest products (with, even today, an estimated annual net worth of $250 million). The principal cause of deforestation in Madagascar is slash-and-burn (tavy) agriculture.

Biodiversity Loss: Because of its high levels of biodiversity and endemism, Madagascar has been termed "the single highest major conservation priority in the world", with an estimated 75% of its 200,000 identified species being found nowhere else. Unfortunately, this biodiversity is becoming increasingly diminished and fragmented as habitats degrade and disappear, with unknown economic costs, but including, in the short term, losses from potential tourism revenues.

Soil Erosion: Average soil loss for the whole of Madagascar (which has generally poor soils) has been estimated at 25 tons/ha/yr. In contrast, maximum sustainable soil loss on good soils is 11 tons/ha/yr. On the High Plateau, rates of loss may be up to 400 tons/ha/yr. The resulting economic losses due to destruction of irrigation, road and other infrastructure and siltation of hydroelectric dams and port facilities are enormous.

Brush Fires; Deliberate burning is the proximate cause of many of the problems cited above, as well as leading to decreased soil fertility and potential permanent land loss for agricultural or forestry uses. Up to 3-5 million hectares are estimated to be burned each year.

This alarming advance of environmental degradation is being pushed by economic and population growth that are increasing demands on the natural resource base. Over 80 percent of Malagasy depend on agriculture for their primary means of livelihood. Farmers and pastoralists continue to rely on land extensive production practices which destroy vegetative cover and exacerbate soil erosion. Government administrators have applied policies and regulations which distort incentives towards over-exploitation rather than in favor of conservation of valuable resources. Development projects are often approved without due attention to their potential negative impacts on the environment. Even when appropriate policies and procedures exist, the government frequently lacks the resources and institutional capacity to apply them. Private sector and NGO service capacity in the natural resources sector is poorly developed.

The negative impact of environmental degradation on the economy is very high. The economic cost of decreased agricultural productivity due to soil loss and fertility decline, loss of productive forests, damage to infrastructure because of soil erosion, and the costs of infrastructure maintenance and redesign is estimated to equal between 5 and 15 percent of Madagascar's GNP annually. Some attempts to institute sustainable management of the renewable resource base have been made, but not on a significant scale. A more broadly based effort is needed to protect natural resources and at the same time foster ecologically and economically sustainable development.

2. GOM and USAID Strategies

a. The GOM Strategy

In recognition of the rapid deterioration of Madagascar's natural resource base, the GOM first enunciated a strategy for the conservation of natural resources in December 1984 with the adoption of a "Malagasy Strategy for Conservation and Sustainable Development". The GOM took the first steps in making this strategy operational in 1988/89 with the preparation of an "Environmental Action Plan" (EAP), which was formalized in December 1990 with the official adoption of the Malagasy Environmental Charter (Law 90-033), creating the National Office of the Environment (ONE) responsible for EAP implementation.

The overall objective of the EAP over the next fifteen years is to assist the Malagasy population in protecting and improving its environment while working for sustainable development. To achieve this objective, the EAP will undertake six long-term programs:

- Protecting and managing the national heritage of biodiversity, with special emphasis on parks, reserves, and gazetted forests. This effort will include the sustainable development of surrounding areas.

- Improving the living conditions of the population. This will be done in rural areas, in part by improving the protection and management of natural resources. The EAP will pay particular attention to watershed protection, reforestation, and agroforestry. In urban areas, this will involve improving water supply and sanitation, waste management and pollution control in general.

- Promoting environmental education, training, and communication.

- Developing mapping and remote sensing tools to meet the demand for natural resources and land management.

- Developing environmental research on terrestrial, coastal, and marine ecosystems.

- Establishing appropriate mechanisms for managing and monitoring the environment.

The Environment Program 1 (EP-1), designed by a multi-donor and Malagasy team of environmental specialists led by the World Bank, is the first five year segment of the Environmental Action Plan. EP-1 will begin or expand implementation of the six priority programs. As this is the first phase of a complex, long term process, the program will be implemented incrementally to allow for the development of local experience and capacity.

Activities to be implemented during EP-1 include:

- Protection and management of biological diversity in fifty targeted threatened areas, together with the development of the surrounding areas.
- Soil conservation, agroforestry, reforestation and other rural development activities in priority areas.
- Mapping and progressive establishment of a geographic information system (GIS).
- Establishing clear boundaries for protected areas and improving land security through titling.
- Environmental training, education, and awareness.
- Environmental research on land, coastal and marine systems.
- Institutional strengthening, i.e., coordination, establishment of environmental assessment procedures, strengthening the environmental data base, monitoring and evaluation, and studies.

The biodiversity and institutional strengthening components are areas of USAID focus.

b. AID's Environmental Strategy

A.I.D.'s environmental and natural resource strategy is based on the premise that environmental protection and conservation of natural resources are essential to sustained economic and social development. The central objective of this strategy is to help developing countries conserve and protect their environment and natural resources, and to promote long-term economic growth by managing exploited resources for sustainable yields.

This strategy also reflects a priority concern of the United States Congress as expressed in the revised Foreign Assistance Act of 1989 and 1990, concerning tropical forests and biodiversity.

USAID has been a major donor in activities related to biodiversity in Madagascar since the mid-1980s, actively supported the design of the EAP, and agreed to undertake programs related to biodiversity and institutional development as outlined in EP-1. SAVEM and KEPEM represent the two primary responses to this commitment.

USAID in developing a Country Program Strategy Statement (CPSP) in FY 92, and expects to have biodiversity conservation and sustainable natural resource management as a major element of that Strategy.

c. USAID and the Environmental Action Plan

Given the complementarity between Agency environmental objectives and strategies and the EAP, USAID has taken the lead as a major donor for the biodiversity component of the EAP.

d. SAVEM Project

A.I.D.'s Sustainable Approaches to Viable Environmental Management Project (SAVEM, 687-0110), authorized in September, 1990, will help conserve Madagascar's biological diversity by concentrating on protected areas and surrounding areas, recognizing that such conservation depends upon the generation of economic benefits, notably for local populations living in these areas to meet their development needs through sustainable use of available resources.

KEPEM and SAVEM share the same goal, that is, to establish sustainable human and natural ecosystems in areas of Madagascar where biodiversity is threatened. To move toward this goal, the purpose of SAVEM is to identify and initiate systems (including institutions, methods, and behaviors) for the management of protected areas of Madagascar and the peripheral zones adjoining those areas on a sustainable basis. This purpose will have been achieved if, by the Project Assistance Completion Date (PACD) of March 31, 1996:

- SAVEM, its grantees, and the GOM agencies with which they will collaborate have identified and begun to test various hypotheses concerning the management of sustainable, interactive development and conservation efforts in up to six protected areas. In this context, the phrase "protected areas" refers not only to the parks and reserves but also to the human communities living in the peripheral zones adjacent to those parks and reserves.

- The populations of these peripheral zones are using improved production systems that decrease their need to rely on continued, non-sustainable use of resources located in those protected areas.

- The same local communities, including both governmental and non-governmental representatives, are involved in the interactive management of the resources of the protected areas adjacent to their homes.

- Public awareness of the prospects for interactive management of protected areas has increased.

e. The Link Between SAVEM and KEPEM

Together, SAVEM and KEPEM are designed to promote the sustainable conservation of the biodiversity of Madagascar, based on the assumption that this cannot be done in isolation of the developmental needs of the Malagasy people.

The focus of SAVEM is in and around protected areas, where it will test the hypothesis that local populations will alter their behavior in favor of an increased conservation of natural resources if they see a relationship between their economic and social well-being and conservation of protected areas. This hypothesis is also central to KEPEM. However, KEPEM has a broader focus than just protected areas and thus deals with more generalized incentive systems affecting decision-making relative to environmental conservation. It will address the policy and institutional changes necessary to make conservation sustainable in the long term and thus will reinforce the hypothesis being tested through SAVEM.

Experience gained from SAVEM will be of direct interest to KEPEM, since part of the KEPEM program will involve defining the regulatory changes necessary to provide incentives to local populations to better manage natural resources. In this sense the two initiatives are directly complementary. In a wider sense, KEPEM will provide, through its policy and institutional reforms, the broader framework within which SAVEM will better be able to operate, and ultimately be more sustainable.

Specific contributions of SAVEM to KEPEM include the provision of improved technical options for improved natural resource management around protected areas, thus complementing KEPEM's proposed regulatory changes in the same areas, and development of a Biodiversity Planning Service for the monitoring of impacts on biodiversity and local populations.

C. OTHER DONOR PROGRAMS

The KEPEM program forms part of the Madagascar Environmental Action Plan. With SAVEM, KEPEM reflects USAID's commitment under the EAP (specifically its first phase, EP-1) to address the protection and management of biodiversity as well as institutional strengthening in the environmental field. Other donors are supporting the EAP and a complete list, indicating direct areas of support, can be found in Annex VIII.

In light of KEPEM's involvement with forestry issues and the potential for both positive and negative overlaps with existing forestry projects and programs, special care has been taken to achieve coordination and complementarity with other donors in this sector. As some of KEPEM's proposed activities support or complement the activities of the national Forest Management and Protection Project (GPF; 1988-94), these components have been

discussed with GPF's donors (IBRD, Switzerland and Norway). Complementarity has also been discussed with FAO and GTZ which finance projects (including watershed protection, rural afforestation and land-tenure reform) of relevance to KEPEM. KEPEM does not incorporate plans for Madagascar's Tropical Forestry Action Plan (TFAP), which GOM received in April 1991 and is not yet public. Some modification in the implementation of KEPEM's projectized components may be desirable in light of TFAP's specific recommendations, or vice versa.

III. PROGRAM DESCRIPTION

A. INTRODUCTION

KEPEM will address a number of interlinked issues that impede efforts to conserve biodiversity. The focus emphasizes the development of sustainable local natural resource initiatives in areas where existing resource and land use patterns contribute to environmental degradation. KEPEM focuses on changing the policy environment within which land and natural resource use patterns develop, both around protected areas where SAVEM will operate, and in threatened environments elsewhere in the island. Analyses conducted by USAID and other donors, as well as by GOM officials, indicate that conserving biodiversity (or, in a more realistic formulation, slowing the biodiversity loss rate) depends heavily upon local natural resource users having the incentives and means to improve the efficiency and sustainability of their management of these resources. Unless improved natural resource management options become feasible and attractive for resource users, continued resource degradation will reinforce the destructive pressure by increasingly impoverished rural populations on remaining areas of high biodiversity, including natural forests, freshwater and coastal ecosystems.

The core logic of KEPEM is to improve incentives for first-line users of natural resources to manage those resources sustainably. Creating a set of mutually reinforcing incentives through policy reform is a complex process. Which policies are appropriate is not always clear. At least some proposed rule changes - the working hypotheses of policy change - must be tested in practice before informed decisions can be made about their worth in promoting biodiversity conservation and improving existing production systems in threatened areas. Each proposed policy change must be tested against the perspective of local natural resource users and managers. How proposed changes will affect their incentives is the fundamental issue. This is an empirical question requiring continuing assessment of policy impacts. The EAP provides the framework for such policy changes and assessment of their impacts, specifically through the National Office for the Environment (ONE), which is also responsible for coordinating interventions by the various executing agencies in the environmental arena. KEPEM support will help ONE achieve these objectives.

In addition to incentives, natural resource users require technical and financial assistance in order to improve management of these resources. KEPEM proposes to create a more favorable regulatory environment for NGOs to become more effective partners with local associations and individuals in improved natural resource management. In addition it will encourage increased revenue generation from natural resources and from a national endowment fund, for increased investment in local natural resource management. An example of the close linkages between the three components of KEPEM is the potential for local management of natural forests, which implies regulatory changes allowing local groups to exploit such forests, increased revenues from the forests which can then be reinvested in productive potential and technical knowledge for sustainable management. The latter will require external resources at first, but NGOs and decentralized forestry agents must ultimately be involved as technical advisors. Finally, for such an operation to succeed needs a coherent and transparent policy framework and coordination among the various actors involved. This is the role of ONE under the EAP.

Dollar transfers to the GOM for debt servicing repayment will be conditioned on changes in policies to make sustainable resource management more feasible and attractive for local natural resource users. These interlinked issues can be summarized as follows:

- inadequate coordination and development of policies and interventions in the environmental sector, including weak environmental review processes for evaluating the impact of investment projects on the environment;
- a regulatory framework that currently impedes rather than promotes local initiatives in natural resource governance and management;
- a policy framework that constrains non-governmental organizations (NGOs) from forming and actively collaborating with local associations, jurisdictions and individuals in efforts to improve natural resource management systems and make them sustainable;
- pricing systems that seriously undervalue forest (and other ecosystem) resources, inadequate recovery of actual and potential revenues from management of these resources and lack of reinvestment of these revenues in improved resource management;
- lack of sustainable financing mechanisms for environmental management and protection.

B. GOAL, SUBGOAL AND PURPOSE STATEMENTS

The goal of KEPEM is to establish sustainable human and natural ecosystems in areas of Madagascar where biodiversity is threatened.

The subgoal is to encourage sustainable natural resource management. The purpose is to create a policy and institutional framework of incentives and revenue generation to achieve the subgoal.

C. PRINCIPAL PROGRAM ELEMENTS

KEPEM has three major components: (1) Developing the Institutional Capacity to implement the Environmental Action Plan; (2) Facilitating Local Natural Resource Management Initiatives; and (3) Natural Resource Revenue Generation and Expenditure.

In this part of the program description, each of the three components will be treated in turn, according to the following format. After a description of the rationale for KEPEM involvement and major problem areas follows a statement of the desired changes at the end of the program for each component or sub-component. There then follows a description of the NPA performance criteria, which represent the reforms in legislation or policies, upon which dollar tranche disbursement will be based. The project support side

of KEPEM will provide inputs in terms of technical assistance and a limited amount of training and commodities to support the research , analysis, institutional development and capacity building necessary to achieve the desired changes at the end of the program. A series of outputs during the life of the project will act as benchmarks against which progress can be measured. Projectized outputs and inputs represent the two final sections of each component description.

1. Developing the Institutional Capacity to Implement the EAP

Rationale

The major rationale behind this component is to reinforce the government's commitment to efficient and effective implementation of the EAP. This will require concerted effort to develop the capacity to formulate and translate rational policy into effective action. Madagascar's Environmental Action Plan, the product of a half-decade of analysis and dialogue, is a complex and far-reaching undertaking. The plan requires the orchestration of a host of institutional actors at various levels of the Malagasy government, donor agencies, national and international NGOs, and the private sector. It is at the local level that first-line natural resource users - communities, farmers, herders, wood-cutters, forest squatters, and individual firms and enterprises - must be given new incentives to adopt sustainable regimes for managing the natural resource base while conserving the unique biodiversity of the "island continent."

Persuaded of this, the GOM has launched a reordering of national priorities to implement an environmentally sound national development strategy. Working with donors, the government is setting in place a cooperative institutional framework for action. The rules of the game are still being defined and the institutions to shape those rules and guide the play are either newly created or undergoing major redirection.

Under the Environmental Charter adopted by the National Popular Assembly and signed into law by the President in December 1990, the Office National de l'Environnement (ONE) was created. The Charter and its detailed narrative annex (a summary of the Environmental Action Plan) charged ONE with the following key responsibilities:

- environmental policy analysis, formulation, and coordination;
- coordinating executing agencies and operating ministry activities in biodiversity, natural resource management and conservation;
- coordinating the development, negotiation and execution of donor projects and programs in support of Madagascar's Environmental Action Plan (EAP);
- monitoring and evaluating the execution of the EAP, including the adoption of environmental review procedures for investment projects (e.g. for the tourism industry), so as to correct, improve and update the EAP as an evolving statement of policy and program;

- overseeing the information management system that guides the expanding environmental data bank components; and

- preparing and maintaining the strategy for human resources development in environmental fields, as well as a broad citizen education and information program to build national commitment to sustainable natural resource use and conservation.

While ONE is still in the initial stage of staffing up and preparing a clear statement of its mission, internal procedures and working relationships with the other institutional actors in the EAP, the Director General reaffirmed his determination to keep the ONE staff very small, highly competent and motivated, and sharply focused on program coordination and policy analysis while eschewing the temptation to take on the role of an executing or command agency in the environmental sector.

Major Problem Areas

The complexity of the institutional landscape is in and of itself the central problem for the EAP. There are five principal Executing Agencies associated with ONE in the first phase of the EAP - Environmental Project I (EP I). The first two, like ONE, are new institutions, created in 1990 to take on key functions as operating and coordinating bodies in key areas.

- ANGAP, the Association for the Management of Protected Areas, is a mixed public/private body charged with overseeing the special system of management contracts with the Non-Governmental Organizations (NGOs) which are undertaking the administration of Madagascar's major national parks as well the general protection and documentation of Madagascar's unique biodiversity. ANGAP is the institutional centerpiece in AID's SAVEM project.

- ANAE, the National Association for Environmental Action, is also a public-private body charged to promote, fund and guide small projects in rural communities aimed at watershed improvement, reforestation and other environmentally oriented development efforts - mostly in cooperation with national and international NGOs.

- DEF, the Department of Water and Forests is a subagency of the Ministry of Water and Forests.

- DDRA, the Department of Land and Agrarian Reform is a subagency of the Ministry of Agriculture.

- FTM, the National Cartographic Institute, is a subsection of the Ministry of Public Works.

However, the institutional actors in the overall EAP include all of the major operating ministries such as Transportation and Meteorology, Urban Development and Tourism, Mines and Energy, Scientific Research, Public Instruction and Universities. For the duration of the transitional government (currently planned to the end of 1992) ONE will be directly attached to the Ministry of State of Agriculture and Rural Development, which oversees the Ministries of Agriculture, Water and Forests, and Livestock. The GOM currently provides approximately 20% of ONE's recurrent cost budget, the remainder being supported under a World Bank loan. The membership of ONE's council includes several GOM representatives as well as representation from the private sector (including banking and NGO communities). The Ministry of Water and Forests chairs ANGAP's mixed public agency/NGO council. The formal Steering and Oversight Committee (COS) for the Environmental Action Plan, which meets each December to discuss policy, program progress, problems and future action including funding, is made up of all the major donors and the key executing agencies and ministries.

This survey of the institutional topography of the EAP is still not complete. Other key players include provincial and local governments, international conservation NGOs, and, of course, the private sector.

The problem lies in how to set the rules of the game early on with clear role definitions among all of the principal institutional actors, to develop clear and responsive processes for monitoring and evaluating the program so that experience can inform a transparent and dynamic policy formulation process, and through it, to form better laws and to change behavior. In tourism, for example, environmental quality is central to the sustainable growth of the industry. How will various ministries coordinate the legal standards governing traffic, pollution, foreign direct investment, small business support, tourism promotion etc. in order to promote growth without stifling the very resources on which the industry is based? The ultimate challenge is to orchestrate an ensemble of incentives, rules, and actions that will result in a people-based system of sustainable natural resource use for national development that nurtures and conserves the dramatic and unique biodiversity of Madagascar.

ONE's primary tool for accomplishing these formidable tasks will be its system of program monitoring and evaluation which will be linked to its policy analysis role and to its task of revising the EAP through coordinated adjustments in program planning, financing, and environmental law.

ONE's mandate is broad and sensitive enough that it will require sound direction and appropriate technical guidance to exercise the leadership needed to carry forward the Environmental Action Plan. However, to succeed, it must limit its role to that of a coordinating agency for programs, financing, policy and evaluation. It must reject the temptation to play the roles of either implementor (either taking over from weak executing agencies or trying to fill identified breaches in the program) or that of a command center to direct the overall program. Although ONE will have to enforce the rules of play among the executing agencies and see that the rules are put in place through its own Board of Directors or through legislation, its success on a daily working level with these agencies will depend largely upon learning and using the power of influence and persuasion rather than the customary power of directive. During the political

upheavals in 1991, ONE suffered more disruptions than other environmental agencies as its parent ministry and Board of Directors changed, necessitating a holdup the formal recognition of ONE, and thus hindering its operational functions such as staffing patterns, financial operations and implementation of 1992 annual workplans. Rectification of this situation, and continuation of the GOM's direct financial contribution of ONE are included in KEPEM performance criteria to reinforce the GOM's commitment to the EAP.

To maintain firm policy oversight, an agency must have the information gathering tools and the analytical processes in place that convince the other players - rather than coerce them -that the resulting policy changes and adjustments are reasonable, fair and appropriate. The processes need to be transparent and participatory without becoming unwieldy and anarchic. The key tool for ONE in achieving its objectives will be the program monitoring and evaluation system. Through it, it will exercise its legitimate right to review annual work plans, to coordinate activities, to assist in negotiating donor agreements for funding and technical support, to match program learnings to adjustments in tactics and broad strategy, and to guide operating agencies in legal reforms, all without becoming an operational entity in itself. Developing environmental review procedures is a critical and legitimate role for ONE. Current and proposed investments having potentially negative environmental repercussions are implemented and reviewed haphazardly and could threaten the resource base upon which they and others ultimately depend. Environmental review processes send a signal that economic development depends on a healthy environment and should provide incentives for environmentally sound investments.

Desired Changes at the End of Program.

1a. A POLICY FORMULATION, MONITORING AND EVALUATION SYSTEM IN PLACE FOR IMPLEMENTATION OF THE EAP.

NPA Performance Criteria.

Before the first tranche, the GOM will have ratified and published the decree authorizing ONE's Board of Directors and its parent ministry.

By Tranche III, the GOM will be contributing 20% towards ONE's recurrent budget.

Projectized Outputs.

By the end of Tranche II, GOM will have approved a paper defining ONE's own role, as well as the roles of other GOM actors, including the executing agencies, the operating ministries, the donors and the local/regional actors in the formation of environmental policy (including but not limited to policy relevant to protection of biodiversity). The paper will show how policy shapes norms, rules and regulations, program guidance and formal legislation. This paper will be submitted to the Comite d'Orientation et Suivi (COS), the donor/host country coordinating body for EAP implementation, in December 1993, for incorporation in 1994 workplans.

By the end of Tranche III, GOM will have mapped out and approved an annual workplan for the systematic evaluation of all elements of the EAP using the policy framework and role/task definitions adopted at the previous COS meeting. This workplan, together with a proposed budget and proof of resources allocated to finance it, will be submitted to the December 1994 COS meeting.

By the end of Tranche IV, GOM will have prepared its first report on the environmental impacts of the EAP, incorporating the data gathered through the Biodiversity Planning Service, National Data Bank (Banque de Données de l'Etat) and other data gathering agencies, as well as the policy and program revisions which have been accomplished to date as a result of evaluations of EAP program elements. This report will become an annual document published on the progress of the EAP, the evolution of government policy and the gathering of new data available on the environment in Madagascar.

Projectized Inputs.

Two long-term advisors, each serving for 48 months, will be provided under an institutional contract to work with ONE and other executing agencies involved in the EAP. One person, an environmental policy analyst will assist ONE in policy formulation and the translation of policy into action. The second advisor, a monitoring and evaluation specialist will support the implementation and evaluation of the EAP. The roles of these two long-term advisors are closely interlinked with that of the coordination advisor (see 1b). Short-term training in environmental policy analysis and monitoring and evaluation procedures is planned. Vehicles, computers and other equipment to support work of the advisors will also be provided.

1b. A FRAMEWORK FOR EFFECTIVE COORDINATION AMONG ACTORS WORKING TO IMPLEMENT THE EAP IN PLACE.

NPA Performance Criteria.

Before the first tranche, the GOM will have ratified and published the decree authorizing ONE's Board of Directors and its parent ministry.

By Tranche III, the GOM will be contributing 20% towards ONE's recurrent budget.

Projectized Outputs.

By the end of Tranche II, GOM will have articulated a plan and approved a process of interaction among GOM ministries, national and international agencies and donors, defining the coordinating, operating, information management and implementation/evaluation roles and clearly stating the objectives of coordination. This plan will be submitted to the December 1993 COS meeting.

By the end of Tranche III, GOM will have incorporated the coordination plan into the annual workplan.

Projectized Inputs.

An institutional development specialist, who will also serve as Chief of Party (COP), will be responsible for assisting ONE with EAP coordination, role definition and communication and working relationships between various actors involved in the EAP. The advisor will serve for 48 months.

1c. AN ENVIRONMENTAL REVIEW PROCESS IN PLACE FOR INVESTMENT PROJECTS.

NPA Performance Criteria.

By the end of Tranche II, the GOM will pass legislation defining the general procedures for an environmental review process.

By the end of Tranche III, the GOM will specify procedures for detailed environmental review, and institute appropriate legislation and implementing regulations, with priority on environmentally sensitive areas, such as coastal zones (including offshore reefs), critical freshwater wetlands and natural forests (particularly for logging plans, forest access roads, etc.).

Projectized Outputs.

By the end of Tranche II, the GOM will have established environmental review guidelines with priority on environmentally sensitive areas (see above).

By the end of Tranche IV, an environmental review process will be in place and adhered to.

Projectized Inputs.

Short-term technical assistance (6 months) in environmental review process development to assist ONE set up an environmental review procedures. Short-term training in environmental review procedures and impact analysis is planned for staff of ONE and other concerned operating agencies. The U.S. Environmental Protection Agency and UNEP, based in Nairobi, represent possibilities for training courses.

2. Facilitating Local-Level Natural Resources Management Initiatives

There is a long tradition of local associations working to support the community and one another. This spirit lives on in the cultural mores of the Malagasy rural population and provides an excellent base on which to build more effective institutions to combat natural resource degradation and to improve the quality of life of the Malagasy people.

Local users face three major problems in better managing natural resources: lack of incentives to govern and manage natural resources, lack of appropriate technical information and assistance provided either by government or nongovernment sources, and a legal climate which discourages NGOs from participation in local natural resource management.

Technical assistance needs in and around protected areas will be provided through SAVEM to benefit local users. Potential technologies vary from alternatives to tavy (see Annex XII), development of aquaculture, development of sustainable uses of local biodiversity, small-scale, local selective logging concessions and development of ecotourism (see SAVEM Annex X). The key requirements addressed by KEPEM for improving the capacity of local natural resource users to manage and govern their resources are:

2a. Strengthening Legislative Incentives For Local-Level Natural Resources Management.

Rationale

The rationale behind KEPEM's emphasis on facilitating local natural resource management initiatives lies in the relationship between resource and resource user. With a few exceptions, Madagascar's natural resources are legally and functionally free public goods. Whether by formal "droit d'usage" in the forests or customary law governing fisheries and watersheds, the use of Madagascar's natural assets is considered a birthright of the citizenry. This legal regime has resulted in overexploitation and degradation of resources, since users benefit from the resource in direct proportion to their ability to exploit it sooner and faster than competitors, while the associated costs are distributed over the entire society. A key assumption underlying the KEPEM hypothesis is that providing local natural resource users with more control, responsibility and assistance in the maintenance and production of resources will result in more sustainable management, since the long-term social costs and benefits of investment, protection and conservation will be incurred directly by those in control.

Major Problem Areas.

The issues involved in improving the framework for management and governance of local natural resource users are multiple and complex. They include resource property rights, boundary-setting, use authorization, investment, financing and dispute resolution. The KEPEM program recognizes that this complex set of issues has no single solution in Madagascar, given the country's physical, political and legal diversity. Research to clarify these issues is necessary.

Local natural resource users face strong policy-based disincentives to manage the renewable resources on which their production systems are based. Their rights to natural resource exploitation under customary regulations may be clear, but they are weak or non-existent under formal rules. First-line users lack authority to control access to resources that have become scarce, such as fisheries, pastures and woodstocks in some parts of Madagascar. Such resources are effectively open access goods. When demand

for open access resources outstrips supply, the situation creates a powerful negative dynamic that works against management for sustained yield. Instead, each potential user has an incentive to harvest as much of the resource as possible before others exhaust the supply. Such situations are still uncommon in many parts of the island, but growing population pressure makes escalating demand predictable. If the rules authorizing resource users to exclude others are not in place by that time, natural resources will be rapidly devastated, and with them, remaining biodiversity.

Even when resources, such as pasture grasses, are abundant, local users lack legal authority to make and enforce use rules to control their conduct and that of non-local users. In consequence, pastoralists have little ability to regulate the use of fire as a pasture management tool. Wildfires often rage through abundant pastures. Too frequent burns degrade the resource by killing off the best perennial grasses, exposing soils to erosion, and bottom land irrigated rice lands to siltation. The same dilemma faces fishermen and forest dwellers who wish to manage those resources for sustained yield. However, from some perspectives, e.g. tavy farmers, those resources remain abundant, and slash and burn agriculture offers the highest return of time invested in farming.

Resource users lack formal legal authority to resolve conflicts relating to natural resource exploitation. If conflicts cannot be settled at reasonable cost, they will fester. Efforts to clarify rules will falter, and unregulated uses will increase. Again, a negative outcome for biodiversity conservation is predictable.

Local natural resource users face another major problem. They lack legal authority, or believe they lack authority, to establish taxes or impose in-kind or labor contributions upon themselves. Thus first-line users may find it difficult to finance natural resource management if voluntary contributions fail.

The lack of secure tenure rights to land and natural resources and the legal disability of direct, first-line users to manage resources become obstacles to better natural resource stewardship once they become scarce and management becomes imperative to preserve them from destruction. In addition, security conditions have deteriorated to such an extent in some parts of the country that local users lack the most basic incentives to invest in improving natural resource conservation and productivity.

The proposed assessments (see below) are intended to suggest legislative and administrative changes to facilitate improved natural resource management at the local level. These changes will clearly be applicable in the first instance only to those specific sites where the assessments are carried out, and probably will refer to regulatory modifications at the local government level. The effects will need to be closely monitored. However, these sites may provide models for other sites with similar ecological and sociocultural conditions, so that the impact could become more widespread. Some generalizations of approaches or regulatory changes may come out of these assessments and subsequent workshops that could provide an "enabling" framework for improved natural resource management. Thus in its broadest case it could suggest

potential legal and policy changes for groups following an agreed-upon management plan for the natural resources of a defined geographical area (e.g. micro-watershed). In this case, groups would be exempt from regulatory constraints hindering local management of a specified resource.

Desired Changes at the End of Program.

LEGISLATIVE, REGULATORY AND POLICY FRAMEWORK GOVERNING LOCAL USE AND MANAGEMENT OF NATURAL RESOURCES IN PLACE (INITIALLY FOCUSED ON SPECIFIC SITES IN AND AROUND PROTECTED AREAS).

NPA Performance Criteria.

By the end of Tranche IV, the GOM will implement and publicize the legislative, regulatory and policy changes governing local use and management of natural resources, based on the results and recommendations of three assessments (see outputs).

Projectized Outputs.

In Tranche II, assessments relating to three closely-interlinked thematic areas (see below) will be initiated in each of up to six pilot areas, chosen to represent a variety of political and ecological characteristics. The pilot sites will be in areas adjacent to protected areas, in which USAID has, or intends to have an involvement through NGOs and local groups. The assessments will address the following topics:

i. land and resource access and use rights, including customary and formal regulations. Resources could include forest products, grazing resources, water resources, including fisheries and irrigated lands, and agricultural land.

ii. current practices and needed changes regarding community-level revenue generation and expenditure authority, including the authority to levy and collect taxes, mobilize labor and require in-kind contributions within defined geographic domains and specified taxing limits for investment in sustainable natural resource management.

iii. current practices and needed changes regarding the resolution of natural resource management disputes at the local level.

By the end of Tranche III, ONE will coordinate the preparation of draft legislation, regulations and/or policies to clarify or improve local-level natural resource management, based on the results and recommendations of the Tranche I assessments.

Projectized Inputs.

Short-term technical assistance (12 months) will be provided under KEPEM to initiate, monitor and evaluate the three assessments. Three field researchers (12 months each) and six local field assistants will implement the assessments. Vehicles, computers and field research equipment will be provided. Support for post-assessment workshops will be supported to present and analyze the study recommendations.

2b. Foster NGO Growth and Participation in Natural Resource Management.

Rationale

The GOM and USAID will develop a plan for providing the NGO community with legal, financial and managerial assistance designed to enhance growth and access to financing. The purpose is to increase the ability of NGOs to serve as effective partners with local associations in sustainable natural resource management, by encouraging them to mobilize and support local initiatives.

NGOs have begun to play an important role in assisting local natural resource users to manage renewable resources. Some NGOs are helping users to organize. Some are involved in making technical assistance about improved natural resource management techniques available to users. The activity of NGOs appears to offer a cost effective way to transmit appropriate information to users.

Although the existing NGO community is uneven in depth and quality, there is a limited core of experienced organizations with a solid, proven track record over a relatively long period of time. Many of these more experienced NGOs use an integrated development approach to implementing projects. In addition the creation of umbrella organizations such as COMODE and ANAE allows for better flow of information and improved collaboration among members. Therefore the basis exists for the NGO community to play a more active role in the long term development of Madagascar. However, much more needs to be done in terms of developing the organizational and technical capacity of these NGOs in order for them to serve as effective partners to local groups in improved natural resource management initiatives. The centrally-funded A.I.D. PVO/NRMS project has been attempting to do this through support to COMODE and its member institutions.

Major Problem Areas

The difficulty arises because NGOs are unclear about their legal authority to organize, to solicit gifts and grants, to mobilize resources, to charge for their services, to realize a surplus, and to assist local people to organize. These ambiguities should be clarified and the legal status, powers and obligations of NGOs defined in legislation. Present legislation is often ambiguous, causing local associations to either not register or to register but enter into activities outside the strict definition of the law. This is an untenable situation for both local associations and Government for it dissipates the efforts of both to address long term sustainability in Madagascar.

KEPEM is proposing that the GOM and the NGO community enter into a dialogue to discuss the revision of existing legislation which impedes the effective participation of local associations and NGOs as partners in local natural resource management. The result of these discussions will be modification of existing texts by the end of Tranche II.

This process of dialogue may necessitate technical support to the NGO community to enable them to organize, plan and present recommendations to the government which clearly reflect their needs. COMODE, an umbrella support organization for environmental NGOs created through a democratic process within the NGO community, has already begun a process of canvassing the NGO community with regard to modifications, clarifications and changes in regulations pertaining to NGOs. The technical support which is required will allow the NGOs to prepare for meetings in an organized and professional fashion and to meet with GOM representatives as equals and partners in sustainable development. In this way it is hoped that changes to the legal framework will reflect genuine needs of NGOs in Madagascar.

Desired Changes at the End of Program.

LEGISLATION ALLOWING NGOS TO ORGANIZE AND TO RAISE AND SPEND FUNDS AND TO SERVE AS EFFECTIVE PARTNERS WITH LOCAL ASSOCIATIONS IN SUSTAINABLE NATURAL RESOURCES MANAGEMENT.

NPA Performance Criteria.

In Tranche II, the GOM will revise its laws relating to NGO formation and action into a code that simplifies and clarifies rights of association, legal incorporation and official recognition of NGOs - national and international or in partnership with one another, and their freedom of action in support of local associations. The GOM will also revise legislation for NGOs to establish rights as well as accountability for receiving public and private grants, bequests and fees for services, funds raised by appeal or by commerce as well as their rights to purchase, lease and otherwise hold property, and to establish partnership or contractual agreements with governmental or private entities.

Projectized Outputs.

During Tranche II, the NGO community will have completed an analysis of legislation impeding the effective participation of NGOs as partners in local-level natural resources management.

Projectized Inputs.

Support for workshops to present and discuss draft legislation.

3. Natural Resource Revenue Generation and Expenditure.

The generation of revenue from natural resources, for the purpose of environmental conservation, is a major goal of the KEPEM program. With revenues generated by forest products, and by the establishment of an environmental endowment fund, Madagascar may finance the costs associated with the conservation of biodiversity while resource users improve their livelihoods.

3a. Forestry Resource Pricing

Rationale

Much of Madagascar's biodiversity lies in the island's forests, the humid forests of the east and north, the dry forests of the west and the unique spiny forests of the south. Aside from their intrinsic scientific value, the forests of Madagascar are of great economic and environmental importance to the nation. It is estimated that products worth the equivalent of about $250 million flow annually from Malagasy forests, of which about half in terms of value enter the monetized economy. These products range from precious indigenous hardwoods to essential woodfuels for the population to medicinal plants of importance to both traditional and Western medicine. The forests also yield many other products (e.g., ornamental plants) that are easily overlooked, but which, with proper management, could make a substantial contribution to the economy. The forests are, moreover, a mainstay of the developing tourist industry, particularly as they are the habitat of interesting wildlife. Finally, the forests are the home of shifting cultivators who, regardless of their controversial environmental role, are practicing an ancient form of agriculture which is not an easily replaceable economic reality of Madagascar.

Most of the environmental functions of Madagascar's forests are well known. They include watershed protection, which generally means reduction of peak runoff, low-flow maintenance and prevention of abnormal erosion and sedimentation. The latter is especially insidious in terms of destroying rice paddies (rice being the staple food of the island), silting up harbors, and reducing the useful life of hydroelectric and other reservoirs. Forests and trees in rural areas also help maintain soil fertility, moderate climate and ensure the integrity of infrastructure such as roads, bridges and irrigation canals. The role of forests as habitats of many organisms has already been mentioned; the role of mangroves as nurseries of many species of fish and shellfish (including some of great economic importance, such as shrimp) deserves special mention.

An asset flow of over $250 million annually is capable of generating significant revenue. Even given the problems associated with collection of stumpage fees, the KEPEM team currently estimates that the GOM could collect between $400,000 and $2 million annually by the end of the program; more exact figures on the potential revenue and actual collection goals require further study. Moreover, it is essential that the revenues so collected be expended on investment in the protection and management of natural forests, as these represent the most valuable resource, economically and ecologically.

Major Problem Areas

The forests of Madagascar are threatened with degradation and potentially with total destruction within the next 20 - 40 years. The main physical threats include, in a rough order of decreasing importance, shifting cultivation, permanent land clearances, uncontrolled logging, forest fires and, locally, livestock damage. Aerial photography and satellite imagery measurements reveal that, between 1950 and 1985, the eastern rain forest alone decreased from 7.6 to 3.8 million ha. The average annual rate of decrease during this period was thus more than 100,000 ha, or 1.5% of original forest cover. This decrease has been attributed mainly to shifting cultivation, which is becoming less and less sustainable as population increases and the forested area shrinks further.

Deforestation, forest degradation and insufficient reforestation are, however, also caused by social and institutional factors. Among these are, besides more fundamental factors such as population increase and insufficient development of the secondary and tertiary sectors, cultural and economically-based resistance to change (especially among shifting cultivators), social discontent expressed via arson leading to forest fires, inadequate legislation, insufficient local control of, and thus vested interest in, resource management, insecure land tenure and other disincentives to tree planting, weak market mechanisms (notably undervalued products) in the forest industry and a forest service which is currently unable to act as an effective steward of the resource for which it is responsible. The problems facing Madagascar's forestry sector are analyzed in more detail in the Annex XII.

Remedying and reversing the trends in Madagascar forestry described above will obviously require a concerted effort on many fronts over a long time. Economic development that is less reliant on natural resource mining will also play a crucial role in the conservation of forests. In the meantime, however, policy and other interventions can reduce and redirect some of the current pressures on the forests. A program such as KEPEM, especially in an initial phase, can neither attack certain immediate threats to the forests directly nor intervene on all institutional and policy fronts at once. As the implementation strategy outlined below makes clear, KEPEM has to be selective, and aim at some institutional reforms that are relatively easy to achieve and yet likely to have far-reaching results. These results are, in turn, designed to serve as the foundation for the next phase of reforms.

The basic strategy in the forestry sector is to emphasize one major economic reform, and to promote a series of studies and planning actions which are intended as building blocks towards a better knowledge of the resource and of its sustainable yield in the light of the concern for biodiversity conservation. The strategy does not focus on the restructuring and strengthening of the Forest Service (DEF) because a major, multi-donor institution-building project (GPF) is attempting to address the weaknesses of this service. This project underwent a mid-term review in March 1992. However, USAID is supporting a "debt swap" with WWF which will provide support to field personnel of DEF.

The major economic reform proposed is the establishment of national table of true stumpage fees (i.e., which reflect as nearly as possible the value of wood "on the stump" to the markets and to society) and of an effective system for collecting these fees. This policy intervention is directly relevant to the revenue generation thrust of KEPEM. At the moment, stumpage fees exist but they do not remotely reflect real values, they are negotiable to the point of being mere nuisance taxes, and few of them are collected (less than $20,000 in 1990). As a result, wood is wasted at harvest, even the highest-quality wood is seldom transformed into products that reflect its intrinsic value, and revenue is not generated for sustaining the supply of wood products.

With a published, official table of stumpage fees, and the means and will to collect these fees, the GOM would send a clear message to the markets and society at large that wood is a scarce resource, that the scarcer the resource the more reason for restricting its use to high-value-added products, and that the value assigned to forest resources must include the cost of replacement of those resources. In turn, GOM/DEF would begin to generate revenues that should be used to introduce sustained management of the forests. It is estimated conservatively that if an average stumpage fee of only $4/m3 (or twice the current highest fee; real fees exceeding $10/m3 are conceivable for many of the most valuable categories of indigenous sawlogs) were levied on sawtimber corresponding to only one third of the total annual output of sawnwood (300,000 m3), $400,000 could be raised annually; this amount compares to a 1990 operating budget of DEF of $1.2 million. An average fee of $5/m3 levied on the 400,000 m3 cut in 1987 under 293 commercial logging permits would have yielded $2 million. That still leaves large volumes of wood on which stumpage fees could be levied. If stumpage fees were to represent only 3% of the estimated total monetized flow of forest products of $120 million/yr, then nearly $4 million could be generated for investment in forest management. It is clear, however, that a large part of the stumpage fees will be most easily collected from large logging permits; there is the risk, therefore, that if sawtimber stocks are already declining drastically, substantial revenues from stumpage fees will not be sustained, and other means of financing forest conservation will have to be found. Hence the need to assess this risk as soon as possible, as described below.

The preparation of a valid stumpage-fee schedule will require a series of steps. These are mainly a series of economic and financial analyses for the various categories of wood in order to determine residual market values and/or replacement costs. The latter will be problematic for indigenous hardwoods on long rotations; it is possible that if societal values are factored into the calculations, the stumpage fees may well become prohibitive and amount to a logging ban, which then raises policy issues. The analyses will also have to consider the inflationary effects of various levels of fees, especially in the case of wood used for charcoal. It is proposed, however, that for some categories of sawtimber the stumpage fees are currently so low that they can be raised arbitrarily pending further analyses of real values or replacement costs. The use of some plantation wood, at the moment in oversupply, could be encouraged by means of a symbolic reduction in its stumpage fee. The revision of fees in the form of sales taxes, for example, on firewood and charcoal should await thorough analyses of likely impact at the retail level.

Desired Changes at the End of Program.

INCREASED FOREST REVENUE COLLECTION.

NPA performance Criteria.

In Tranche II, the stumpage fees for pine and rosewood (palissandre) will be adjusted to better reflect market value and replacement cost.

In Tranche III, the GOM will institute an improved financial management system for billing stumpage fees, assessing the value to be collected, assuring collection and controlling fee payments from the field to central revenue, and for eventual transfer to the National Forestry Fund. This will include revised reporting and accounting procedures between the field and the central administration, so that in the future amounts billed by field forestry agents in connection with logging permits can be reconciled with the balances in the National Forestry Fund. It will also include projections of revenue flows as a form of financial control.

By the end of Tranche IV, the GOM will have published a comprehensive stumpage fee table reflecting appropriate valuation of the main categories of timber products.

Projectized Outputs.

By Tranche III, the GOM will have developed an improved financial management plan.

By Tranche III, DEF will have also completed a preliminary assessment (conducted in concert with other ongoing inventories such as through GPF) of the remaining commercial volumes of valuable indigenous hardwoods on which much of the generation of forest revenues depends. This assessment will be used to project revenue flows. It should also serve as the basis for an equally preliminary definition of cutting quotas for valuable sawtimber, possibly by regions, pending further inventory and assessment of regeneration and sustainable cuts.

Projectized Inputs.

Short-term Technical Assistance (total 30 months) will be provided to help design and carry out the preliminary timber volume assessment (Forest Inventory Specialist: 6 months), develop revised stumpage fee schedules (Forest/Resource Economist: 12 months), and set up and test improved financial management systems (Financial Management Specialist: 6 months). A Forestry Coordinator (Forester/Resource Specialist: 6 months) will assist with the coordination and technical direction of the forest revenue and management TA.

3b. Improved Natural Forest Management.

Rationale

An important percentage of Madagascar's threatened biological diversity is dependent on the country's shrinking natural forests. Improved management of natural forests for economic as well as ecological benefits is the key to biological diversity conservation in these regions. Development and management of protected areas is a recognized priority, being addressed through SAVEM and other initiatives. The rationale of this component is to improve the management of those natural forests, outside of the protected area system, that are currently exploited in a non-sustainable manner for a variety of forest products (e.g. timber, charcoal), so that they can become more sustainable and provide models for rational forest exploitation throughout the country.

Major Problem Areas

Madagascar's natural forests are under threat from a variety of practices, notably slash and burn agriculture and other land clearing practices. However, some forests are being increasingly degraded and destroyed through a non-sustainable exploitation for wood products (often charcoal in the dry forests of the west and southwest, and around urban centers; and timber in the richer forests of the east). These practices often entail destructive secondary effects such as encouraging slash and burn agriculture through increased access via logging and transport routes and facilitating brush fires through opening up and drying out of the forests. The result is that valuable forest resources that are potentially renewable and harvestable on a sustainable basis are lost, depriving the country of valuable economic and ecological benefits. This element of improved natural forest management thus builds on and complements the previous element of increased valorization of forests and forest products. It is hoped that sustainable management models can eventually be developed for different types of forests under different management regimes for a variety of products (including so-called minor forest products, that might have great value on the local economic market, and potentially important value on a wider market). Clearly such plans represent a major, long-term effort and investment of research and resources. However the long-term benefits are also great. KEPEM, as a relatively short-term policy reform program, cannot address many of the long-term technical issues, but it can suggest that the increased revenues planned to be flowing from forest products as the result of reforms proposed in the previous section be increasingly reinvested in natural forest management, often those forests from which the revenues are raised. Ultimately the National Forestry Fund may be decentralized to facilitate the investment of revenues generated to locally to local management plans in the same area. KEPEM will remain flexible to support this kind of decentralization, which should encourage local participation in the development and execution of such plans. These initiatives will need to be integrated into other initiatives ongoing or proposed under TFAP, GPF and other activities in the sector.

Desired Changes at the End of Program.

INCREASED USE OF REVENUES FOR THE IMPLEMENTATION OF IMPROVED NATURAL FOREST MANAGEMENT PLANS.

NPA Performance Criteria.

In Tranche IV, the GOM and USAID will agree that 50% of the National Forestry Fund will be expended on investment in the maintenance and protection of natural forests outside of protected areas (with budget line items and expenditures to be proposed and approved in later years). This will equally apply to subsequent years over the life of the program

Projectized Outputs.

By Tranche III, DEF will initiate, in conjunction with the forest inventory now underway under GPF, the preparation of management plans in at least one area (probably the Moramanga region, assuming that the necessary inventory data will be available) using funds from the National Forestry Fund. The aim is to establish, on a pilot basis, the full linkage between revenue derived from stumpage fees, the availability of inventory data, the preparation of management plans, the granting of logging permits, and, in turn, the more accurate assessment and invoicing of stumpage fees.

Projectized Inputs.

Short-term technical assistance (Forest Management Specialist: 12 months) will be provided to assist in the preparation and use of management plans in an area of natural forest.

3c. National Endowment Fund for the Environment

Rationale

i. Purpose

The rationale of the Endowment Fund is to provide continuous access to financial resources for long-term efforts to manage the natural resources of Madagascar, that are secure in the face of shifts in national policy, political party and donor priority. This will be achieved by investing a significant capital, the interest from which will generate financial resources to support local initiatives in improved natural resource management, and other environmental priorities to be determined. It will seek the participation of a wide representation from Madagascar's NGO community and local society to forge a broad-based consensus on the priorities and approaches for wise stewardship of the country's natural resources. By virtue of its organizational design, the endowment is intended to increase participation of NGOs in sustainable environmental management, create innovative partnerships among NGOs, the private sector and government agencies and develop a permanent source of financing to which other donors and others interested in environmental conservation could contribute.

As a Malagasy foundation, the Endowment will help foster the growth of a national philosophy on natural resource management and will work to prevent environmentalism from being characterized as an agenda of foreign donors and NGOs.

ii. Structure and Function

The endowment will be created as an NGO under Madagascar law governing non-governmental organizations, and will function as a foundation, providing a perpetual stream of income from an invested capital base for grants and loans to qualifying organizations and groups. Decisions regarding investment and awarding of grants and loans will fall to a Malagasy Board of Directors recruited from the private, public and non-profit sectors by a selection committee made up of two representatives from the NGO community, and one representative each of USAID, the GOM and the private sector. The process of creating the Board of Directors has been designed to maximize the input and influence of Malagasy NGOs in the drafting of the charter of this endowment organization and its management. Options for methods of recruitment and replacement of the Board will be explored, and could include competitive bids from individuals or groups (including existing NGOs) or a rotating committee of selected individuals.

iii. Financing

The fund will be capitalized initially by the GOM, in the amount of $12 million equivalent in FMG, as part of its 25% contribution to the KEPEM program. A local account in the name of the Endowment will be established at the banking institution offering the most favorable terms for investment. This institution will then act as fiduciary agent for the Endowment. Decisions regarding the fund's investment, management and stewardship will be solely the responsibility of the Board of Directors. A financial accounting system will need to be built into the Endowment, for grant management and accounting, etc., which will need to be credible enough to attract additional investment. External audits may need to be programmed into the Endowment's organization.

iv. USAID and GOM authority/responsibility over the endowment

Once the endowment is fully functional, and all performance criteria have been met, neither USAID nor the GOM, nor their representatives, will have any responsibility or authority to monitor the functioning of the endowment, except insofar as responsibility or authority is delegated by the Board of Directors or by the charter of the endowment organization.

Major Problem Areas

Establishing an effective and functional Endowment Fund requires that a number of constraints be addressed. First is the clarification of the legal and regulatory framework governing the establishment and operation of such a fund to assure continuous funding.

This will be directly addressed through KEPEM performance criteria, including the capitalization of the fund through domestic budgetary resources. Sound financial management of these resources will be essential and technical assistance will be provided under KEPEM for this aspect.

A critical element to the success of the Endowment Fund lies in its credibility in the eyes of the individuals, community groups and local NGOs representing a broad cross-section of Madagascar's society. In this respect, the importance of their participation in the selection and composition of the Fund's Board of Directors and drafting of a charter cannot be overestimated. The Endowment's charter needs to be flexible and adaptable to accommodate changing agendas and priorities as reflected by Madagascar society. Only in this way will the Endowment serve to develop a true institutional capacity for environmental management. KEPEM will provide technical assistance in developing criteria for Endowment Fund setup and operations, including administrative management and to help the Board develop criteria for grant funding, which is primarily aimed at helping local communities better manage their natural resources. More details are to be found in the Annex XIII.

Desired Changes at the End of Program.

ESTABLISHMENT AND FUNCTIONING OF A NATIONAL ENVIRONMENTAL ENDOWMENT FUND.

NPA Performance Criteria.

At the end of Tranche II, the GOM will have revised and clarified legislation to permit the setting up and functioning of endowment funds. At the end of Tranche III the GOM will have capitalized the Endowment Fund.

Projectized Outputs.

In Tranche III, the GOM, in close consultation with USAID and the NGO community will initiate the setting up of a National Environmental Endowment Fund in a local interest-bearing account. This will involve an agreement between USAID and the GOM outlining the process of selecting a board and creating a secretariat, and which would: define the broad goals of the Endowment Fund; set the terms of the funding instruments; and specify percentage composition and powers of the board.

In Tranche IV, the National Environmental Endowment Fund will be set up, complete with board and secretariat, and an amount of GOM domestic budget funds, equivalent to $12 million, will have been deposited in the Fund (50% in Tranche III and 50% in Tranche IV), as part of the GOM's contribution to the program.

Projectized Inputs.

A long-term advisor (3 years) and short-term technical assistance (12 months) in financial management will assist in developing procedures for the setting up of the National Environmental Endowment Fund. Two computers and equipment will also be provided.

D. IMPACT OF PROGRAM

1. Impacts

a. **Increased conservation of biological diversity.** The program will improve the conservation of biological diversity in a number of ways. However, each has underlying assumptions that need to be monitored. Firstly, promotion of improved local natural resource management will better conserve the biological diversity associated with those resources. Thus decreasing soil erosion or wetland siltation will provide more favorable conditions for the maintenance of ecological communities associated with hillsides and wetlands. However, certain types of intensive agriculture (e.g. rice production from converted natural wetlands) may have negative effects on local biodiversity. Similarly, better management of forests (including reducing the risk of encroachment, and hence forest degradation) through sustainable management plans will enhance biological diversity conservation in these important areas, especially given current rates of deforestation due to anarchic and uncontrolled exploitation. Secondly, encouraging better natural resource management around protected areas and other natural habitats will relieve pressure on those areas by decreasing the need for their unsustainable exploitation by local populations. This is a largely untested assumption. For example, at Andohahela, improved rice cultivation through the project led one farmer to clear steep forested slopes adjacent to the reserve in order to continue cultivating a manioc crop (Wells et al.). Also, the potential exists for encouraging immigration into the area to take advantage of improved natural resource management opportunities, which might increase pressure on remaining natural habitats. Finally, improved capacity to implement the Environmental Action Plan will favor increased biological diversity conservation, which is one of the Plan's principal components, through among other things, improved resource allocation, environmental education and research. Development of environmental review procedures will help mitigate potential negative effects of investments on biodiversity.

Impacts on biodiversity will be measured using the Biodiversity Planning Service, to be set up through the SAVEM project, at ANGAP. This will involve baseline surveys and a geographic information system to standardize and analyze data. Several projects operating in the areas where the KEPEM local initiatives assessments will take place already have a wealth of biodiversity data. The problem will be separating the impacts of the KEPEM program versus other project inputs (see Monitoring and Evaluation Plan).

b. **Improved natural resource management (NRM).** By addressing constraints to local-level improved NRM initiatives, local communities will have the incentives for better management of natural resources. Effects of this could include increased soil conservation, improved woodland management, diminished siltation of wetlands, greater regularity of downstream water supplies, more efficient range management and fewer bush fires. This will lead to increased agricultural and livestock production, as well as increased opportunities for non-traditional income generating activities (see 3., below)

c. **Increased economic security of local natural resource users.** By better managing local natural resources on a more sustainable basis, the ability of these resources to provide continuing economic benefits for local populations dependent upon them is enhanced. Measures aimed at a more realistic valuation of natural resources (including biodiversity) will also increase the economic security of natural resource users through the provision of revenue streams, which will in turn lead to increased investment in (and hence returns to) natural resource management. Special attention needs to be paid to vulnerable groups such as women and the landless and disaggregated data will be gathered through the socioeconomic monitoring unit of the BPS, and as an integral part of the Local Initiatives component.

d. **More, better organized, community groups and NGOs.** The program will encourage the creation and better organization of local communities and associations and support NGOs for improved natural resource management. This will be done through addressing constraints to the formation and functioning of NGOs, actively supporting local community efforts in selected areas and providing resources, through the National Environmental Endowment Fund, for local community and NGO initiatives. More and better partnerships between local communities and NGOs should lead to improved natural resource management (2., above). An increase in the number and effectiveness of NGOs is expected, as well as an increase in the use of endowment funds to support environmental issues.

e. **Increased effectiveness of investments.** At one level this will be achieved through effective EAP implementation, which will ensure greater coordination, less duplication, increased control, more coherence and transparency regarding investments having direct or indirect environmental implications. At the local levels improved incentives and increased support through NGOs will lead to increased investment in sustainable natural resource management. This will be monitored through ONE's monitoring and evaluation of EAP implementation, which will be directly supported through KEPEM.

f. **Increased sense of stewardship for the environment.** Perhaps the most important impact anticipated from the program, albeit the hardest to quantify, will be the increased sense of stewardship for the environment. This will be as much at a national level, through the strengthening of ONE and its effectiveness in carrying out the EAP, as at the local level through increased valuation of natural resources and realization of the benefits of better environmental management. Development of an environmental review process indicates the GOM's commitment to safeguarding the environment, and the ecological and economic benefits deriving from it, for the benefit of present and future generations. The National Environmental Endowment Fund is intended to strengthen this sense of stewardship and the linkages between national and local levels.

2. <u>Progress Indicators</u> (Responsibilities for measuring in brackets)

EAP Planning, Monitoring and Evaluation (ONE)
- fully staffed, functioning organization for planning, coordinating and evaluating EAP
- paper defining roles and responsibilities in environmental policy formulation
- annual workplans for assessing EAP progress
- evaluation of EAP effectiveness

EAP Coordination (ONE)
- Coordination plan for EAP implementation, including division of responsibilities among executing agencies
- Procedures for improved coordination
- More structured meetings between EAP executing agencies

Environmental Review Process (ONE)
- General environmental review process legislated
- Environmental review procedures for high priority areas elaborated
- Number of investment projects passed through environmental review
- Number of areas where environmental impact of investment projects mitigated

Local initiatives legislation
- Number of sites where land tenure, local governance and conflict resolution assessments performed (AID)
- Number of sites where local regulatory environmental for improved NRM clarified or changed (ONE)
- Number of national level legislative changes made (ONE)

NGO Participation
- NGO code revised (AID/COMODE)
- increased number of NGOs serving as effective partners with local groups in improved NRM initiatives (AID/COMODE)

Increased forest revenues
- stumpage fee schedule adjusted to better reflect market values and replacement costs (DEF)
- increased collection of revised stumpage fees, as reflected in NFF accounts (Min. of Finance/DEF)

Natural Forest Management
- 50% of NFF expended on natural forest management (DEF)
- Number of natural forest management plans initiated (AID/DEF)

Environmental Endowment Fund
- Structure, inc. Board of Directors, secretariat and financial body of EF, in place (AID)
- Procedures, inc. replacement of BOD, accounting and programmatic criteria, in place (AID)
- EF capitalized (AID/Min of Finance)
- Number of Grants made (EF reports)

IV. FINANCIAL PLAN

A. INTRODUCTION

The Financial Plan for KEPEM includes a description of the NPA dollar disbursement uses, mechanism and schedule, the method of implementation and financing, budget estimates, and host country contributions.

B. DOLLAR DISBURSEMENT USES, MECHANISM AND SCHEDULE

USAID financing for KEPEM totals $33,000,000 of nonproject assistance. This assistance will be provided in tranches as specific conditions are satisfied and will be provided on a cash disbursement basis. As required by Agency guidelines, USAID requested and received authorization from AID/W to use this mechanism (See Annex III).

1. Uses.

The GOM will use KEPEM NPA dollars for debt servicing payment. Eligible debt consists of all outstanding debts to multilateral organizations such as the World Bank, the International Monetary Fund, and other international organizations such as the African Development Bank. Madagascar is burdened with the same debt overhang that many developing countries suffer; the debt service ratio in 1991 equalled 90.7 percent of GDP and total outstanding debt equals approximately 136.4 percent of GDP. Currently, debt servicing totals 80 percent of export receipts. The total eligible debt is equivalent to $993 million.

It is reasonable to assume that the GOM will use the KEPEM nonproject assistance to service existing debt rather than retire debt principal in light of recent decisions among official bilateral creditors, especially the Paris Club, to cancel or reschedule official debt under increasingly concessionary terms. Notwithstanding these debt reschedulings, service requirements on multilateral debt which cannot be rescheduled according to the terms specified by the World Bank and the IMF, remain significant.
Agency guidelines require AID/W authorization to use nonproject assistance to service eligible debt. USAID requested and obtained the required authorization as indicated in Annex III.

The following table shows the debt eligible for payment through KEPEM.

Table 2

MADAGASCAR'S ELIGIBLE DEBT
(Millions of US $ equivalent)

	AMOUNT			
	as of end 1990		as end of 1991	
	Million SDR	Million US $	Million SDR	Million US $
World Bank group				
IBRD	13.03	18.6	11.32	16.2
International Development Agency	552.05	789.4	634.01	906.6
International Finance Corporation	13.23	18.9	11.76	16.8
International Monetary Fund	100.98	144.4	88.67	126.8
Other International Organization				
African Development Bank	42.98	61.5	42.88	61.3
African Development Fund	83.34	119.2	94.29	134.8
CEE/BEI	49.96	71.4	53.68	76.8
FIDA	19.22	27.5	20.1	28.7
Other (BADEA, Ligue arabe, OPEP)	21.32	30.5	18.4	26.3
Export-Import Bank	13.4	19.1	13.4	19.1
TOTAL	**909.5**	**1300.5**	**988.5**	**1413.5**

* Estimated Total as of 12/31/91
Source: Central Bank of Madagascar, May 1992, USAID staff calculation

2. Mechanism

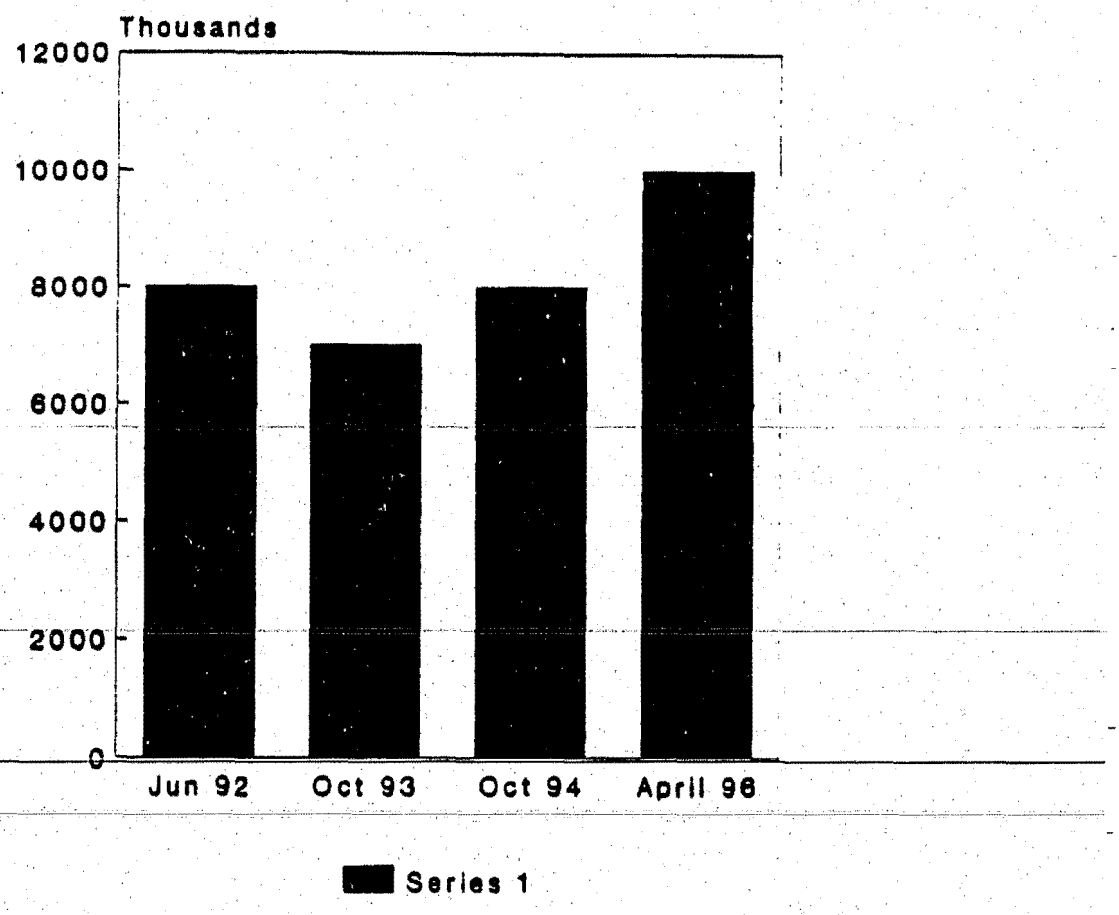
In order to track the use of NPA dollars, the GOM will be required to submit a schedule of eligible debt to be serviced with the release of each tranche disbursement. The schedule will indicate the creditor, amount due and due date. The Ministry of Finance which will be responsible for the overall management of KEPEM within the GOM will send a letter to USAID requesting tranche disbursement based on proof that required conditions have been met along with the eligible debt schedule to be paid. USAID will then send a Project Implementation Letter (PIL) that conditions have been met and debt service approved. The USAID Director will then sign a Financing Request which the Controller will transmit to AID/W for disbursement.

The U.S. Treasury is then notified to disburse the funds to a bank in the U.S., at which the GOM has set up its account. The Ministry of Finance must establish a separate, non-commingled, interest-bearing account at a U.S. bank acceptable to USAID. The Ministry of Finance will instruct the U.S. bank to release the funds for direct payment of the specified debt as approved by USAID. The Ministry of Finance will then submit proof to USAID that the debt has been paid. Any interest accrued in the U.S. account will also be used for debt payment and will be indicated in the list of debts paid after each tranche disbursement. USAID will receive monthly statements from this account to monitor funds flow.

3. Schedule

The schedule and amount of tranche disbursement is as follows: Tranche One - June 1992 for $8 Million; Tranche Two - October 1993 for $7 Million; Tranche Three - October 1994 for $8 Million; Tranche Four - April 1996 for $10 Million

DISBURSEMENT SCHEDULE - CHART 1
($000's)



B. METHOD OF IMPLEMENTATION AND FINANCING

USAID/Madagascar has selected the following A.I.D. methods of financing: cash disbursement, A.I.D. direct payment, buy-ins to centrally funded AID/W projects, and an institutional contract using direct reimbursement. Based on an assessment of the adequacy of the accounting system of the institutional contractor, letters of credit and bank letters of commitment may be used.

Table 3
METHOD OF IMPLEMENTATION AND FINANCING

ITEM	IMPLEMENTATION	FINANCING	EST.AMOUNT
NPA	USAID	Cash disbursement	$33,000,000
COORDINATOR	Personal Svc. Contract	PSC - Direct payment	875,000
INST. CONTRACT	A.I.D. Direct Contract	Direct reimbursement	6,325,000
BUY-INS	AID/W	Buy-In	1,150,000
EVALUATION	A.I.D. Direct Contract	Direct payment	200,000
AUDIT	A.I.D. Direct Contract	Direct payment	60,000
CONTINGENCY			390,000
TOTAL			$42,000,000

Table 4 gives more detailed information about the Project. The institutional contract and buy-in to the AID/W projects will include technical assistance, commodities and training.

. ESTIMATED BUDGET EXPENDITURES

ummary project budget expenditures are presented in Table 4 below. A detailed budget presented in Annex VI.

TABLE 4

	1992 YEAR ONE	1993 YEAR TWO	1994 YEAR THREE	1995 YEAR FOUR	1996 YEAR FIVE	1997 YEAR SIX	[illegible]
I. NPA DISBURSEMENT	$8,000,000	$7,000,000	$0	$8,000,000	$10,000,000	$0	$33,000,000
I. TECHNICAL ASSISTANCE:							
Institutional Contract	0	1,451,358	1,338,413	1,320,233	894,618	391,745	5,396,367
PSC Coordinator	199,413	128,375	145,564	142,039	145,070	114,543	875,004
Short-Term TA (Buy-In)	486,641	525,314	0	0	0	0	1,011,955
TOTAL TECHNICAL ASSISTANCE	$686,054	$2,105,047	$1,483,976	$1,462,273	$1,039,688	$506,289	$7,283,326
I. TRAINING							
Institutional Contract	0	78,750	115,762	173,644	164,093	0	532,250
Buy-In	15,000	31,500	0	0	0	0	46,500
OTAL TRAINING	$15,000	$110,250	$115,762	$173,644	$164,093	$0	$578,750
II. COMMODITIES							
Institutional Contract	207,500	136,125	52,500	0	0	0	396,125
Buy-In	90,000	0	0	0	0	0	90,000
OTAL COMMODITIES	$297,500	$136,125	$52,500	$0	$0	$0	$486,125
V. EVALUATION	0	0	100,000	0	100,000	0	200,000
'. AUDIT	0	15,000	15,000	15,000	15,000	0	60,000
VI. CONTINGENCY	49,928	103,321	73,362	82,546	57,328	25,314	391,799
RAND TOTAL KEPEM PROJECT COSTS	$9,048,482	$9,469,743	$1,840,601	$9,733,463	$11,376,109	$531,603	$42,000,000

D. HOST COUNTRY CONTRIBUTION

The GOM will provide the equivalent of $14,000,000 in support for KEPEM which has a value of 25 percent of the overall total cost of the program at $56,000,000. The host country contribution will consist of the equivalent of $12,000,000 for the endowment fund and the remaining $2,000,000 from the required support of 20 percent for ONE's recurrent cost budget and in-kind contributions such as office support and space and counterparts provided for the institutional contract team. The GOM will make two deposits into the endowment fund of $6,000,000 each at the time of the third and fourth tranche. The rate of exchange used to determine the equivalent of local currency to be deposited will be the highest prevailing rate of exchange as of October 1, the beginning of the Fiscal Year of the United States Government, preceding the GOM budget year in which the deposit is due. It will be the responsibility of the institutional contractor to track host country contributions.

V. PROGRAM IMPLEMENTATION

A. INTRODUCTION.

The KEPEM Program consists of two elements: (1) NPA policy reform activities and (2) specific project activities to support implementation of the required reforms. This section of the PAAD describes how each of these elements will be implemented over the Life of Program Funding.

B. POLICY/PROJECT MATRICES.

1. Policy Matrix. Table 5 presents each of the three program policy themes, details and timing of performance criteria and expected tranche release dates. As stated at the bottom of page 46 of Table 5, Tranche One will be disbursed upon signing of the Program Agreement. The performance criteria for the release of tranche one applies to the implementation of the entire KEPEM Program rather than to any one individual theme. It is expected that the GOM will meet all the performance criteria specified for first tranche disbursement by the signing date of the Program Agreement. In addition to meeting these initial performance criteria, the GOM is also required to provide a list of eligible debt to be paid with Tranche One. This is a recurring condition precedent required for the release of each of the tranches.

2. Project Matrix. Table 6 presents the project inputs which will be provided to carry out the necessary reforms, expected outputs, and end of project status. Project implementation will be tied to the GOM's meeting performance criteria.

KEPEM NPA MATRIX

TABLE 5

	No conditionality at this Level since this is the sum of successful Performance Criteria in individual themes	FIXED END POINTS (Desired changes at EOP)
Program Goal Establish sustainable human and natural ecosystems in areas of Madagascar where biodiversity is threatened		Decrease in rate of biodiversity depletion, as measured by – habitat loss – habitat degradation – biodiversity depletion.
Program Subgoal To encourage sustainable natural resources management		Improved natural resource management (Sustainably managed forests wetlands and agricultural lands around natural habitats)
Program Purpose To create a policy and institutional framework of incentives and revenue generation and use .		Effective policy and institutional framework (effective EAP implementation)

Tranche 1: Performance criteria (upon signing)

1. GOM agrees to the performance criteria and timing of the policy matrix through approval by the Cabinet
2. GOM agrees to formation of KEPT
3. GOM publishes the decree establishing and operationalizing ONE
4. GOM provides legal opinion on the authority of the current government to commit GOM to this program
5. GOM provides list of eligible debt to be repaid before each tranche release
6. GOM designates a U.S. Bank account for transfer of funds

TABLE 5

KEPEM NPA MATRIX

PROGRAM THEMES & ELEMENTS	PERFORMANCE CRITERIA (Logical progression of steps to EOP) YEAR 1 Tranche 1 (May 92)	YEAR 2 Tranche 2 (Oct 93)	YEAR 3 Tranche 3 (Oct 94)	YEAR 5 Tranche 4 (Apr 96)	FIXED END POINTS (Desired changes at EOP)
THEME I Institutional Performance					Central policy formulation and coordination entity implementing the EAP effectively
Element A Plan, monitor and evaluate the implementation of the EAP	GOM authorizes decree establishing parent ministry and Board of Directors of ONE		GOM contributes 20% of ONE's recurrent cost budget	GOM contributes 20% of ONE's recurrent cost budget	Central policy formulation and coordination entity functioning, and supported by GOM
Element B Strengthen coordination among organizations working to implement the EAP					
Element C Set in place an environmental review process for investment projects		GOM approves legislation establishing environmental review process	Specific environmental review processes for high priority regions (including coastal areas and forest access roads) legislated		Environmental review process in place for investment projects

NPA vs Project INPUTS
NPA supports changes in performance which require legislation, decrees or policies. Project inputs support institutional arrangements for implementation and capacity building through Technical Assistance.

TABLE 5

KEPEM NPA MATRIX

PROGRAM THEMES & ELEMENTS	PERFORMANCE CRITERIA (Logical progression of steps to EOP) YEAR 1 Tranche 1 (May 92)	YEAR 2 Tranche 2 (Oct 93)	YEAR 3 Tranche 3 (Oct 94)	YEAR 5 Tranche 4 (Apr 96)	FIXED END POINTS (Desired changes at EOP)
THEME II New local NRM incentives					New legislation in force outlining community and NGO rights and responsibilities with regard to sustainable natural resources management
Element A Strengthen legislative incentives for local NRM				GOM implements and publicizes legislative, regulatory, and policy changes based on the results of three assessments (see Table 6)	Legislation governing local use and management of natural resources (Initially focused in specific sites in and around protected areas)
Element B Foster NGO growth and participation in NRM		GOM publishes an NGO code that clarifies and simplifies rights of association, procedures of incorporation and legal status of NGOs and permits NGOs to receive gifts and bequests, and charge for services			Legislation allowing NGO's to organize and to raise and spend funds and to serve as effective partners with local associations in sustainable natural resources management

NPA vs Project INPUTS
NPA supports changes in performance which require legislation, decrees or policies. Project inputs support institutional arrangements for implementation and capacity building through Technical Assistance.

TABLE 5

KEPEM NPA MATRIX

PROGRAM THEMES & ELEMENTS	PERFORMANCE CRITERIA (Logical progression of steps to EOP) YEAR 1 Tranche 1 (May 92)	YEAR 2 Tranche 2 (Oct 93)	YEAR 3 Tranche 3 (Oct 94)	YEAR 5 Tranche 4 (Apr 96)	FIXED END POINTS (Desired changes at EOP)
THEME III Revenue generation and use					Financial resources for sustainable NRM and biodiversity conservation
Element A Adjust forest resource revenues to better reflect market values and replacement costs		Stumpage fees for pine and palisandra adjusted to better reflect market value and replacement cost	Institute improved system of collection and accounting to increase revenue from stumpage fees.	Publish comprehensive stumpage fee table with appropriate valorization of timber products	Increased forest revenue collection from: – Adjusted stumpage fee schedule – Improved collection and accounting system for forest revenues
Element B Improved use of revenues for natural forest mgt				Fifty percent of forest revenues will be expended on natural forest management, inc. buffer zone plantations	Increased percentage of forest revenues allocated to natural forest management
Element C Endowment fund revenue generation and use		GOM revises and clarifies legislation regarding setting up of Endowment Funds	National Environmental Endowment Fund capitalized and operational		Endowment fund legislation clarified and revised

NPA vs Project INPUTS
NPA supports changes in performance which require legislation, decrees or policies. Project inputs support institutional arrangements for implementation and capacity building through Technical Assistance.

TABLE 6

KEPEM PROJECT MATRIX 12 - May - 92

PROGRAM THEMES & ELEMENTS	OUTPUTS May 92 - May 94 Years 1 - 2	OUTPUTS June 94 - May 96 Years 3 - 4	OUTPUTS June 96 - May 97 Years 5	INPUTS	FIXED END POINTS (Desired changes at EOP)
THEME I Institutional Performance					Central policy formulation and coordination entity implementing the EAP effectively
Element A Plan, monitor and evaluate the implementation of the EAP	Paper defining roles and responsibilities for policy formulation in the envir. arena	Annual workplans for implementing & assessing progress of EAP	Evaluation of the effectiveness of the EAP	1. One long-term advisor (4 yrs) in environmental policy analysis 2. One long-term advisor (4 years) to support implementation and evaluation of the EAP	Policy formulation, monitoring & evaluation system in place for EAP
Element B Strengthen coordination among organizations working to implement the EAP	Plan for coordinating implementation and evaluation roles among EAP actors	Procedures for improving coordination adopted		3. One long-term advisor (4 yrs) for development of operational plan for EAP coordination 4. Short-term TA (6 months) for development of environmental review process	Effective coordination among actors in implementing the EAP
Element C Set in place an environmental review process for investment projects	Guideline for establishing env. review process with specific procedures for high priority areas		Environmental review process in place and adhered to	5. Short-term training in policy analysis, institutional development, information management, environmental review procedures, and impact analysis 6. Local Administrative Assistant and secretary support 7. Vehicules, computers, and other equipment	Environmental review process in place, and adhered to, for investment projects

NPA vs Project INPUTS
NPA supports changes in performance which require legislation, decrees or policies. Project inputs support institutional arrangements for implementation and capacity building through Technical Assistance.

TABLE 6

KEPEM PROJECT MATRIX

PROGRAM THEMES & ELEMENTS	OUTPUTS May 92 – May 94 Years 1 – 2	June 94 – May 96 Years 3 – 4	June 96 – May 97 Years 5	INPUTS	FIXED END POINTS (Desired changes at EOP)
THEME II New local NRM incentives					New legislation in force outlining community and NGO rights and responsibilities with regard to sustainable natural resources management
Element A Strengthen legislative incentives for local NRM	1. An assessment of land and resource access and use rights initiated 2. An assessment of current practice and needed changes regarding community-level revenue generation and expenditure initiated 3. An assessment of current practice and needed changes regarding NRM conflits initiated	The preparation of draft legislation, regulations or policies to clarify or improve local natural resource management based on the results of the assessments		1. Short-term TA (12 months) to initiate, monitor, and assess the results of the three assessments. 2. Three field researchers and six field assistants to implement assessments (12 months each). 3. Vehicles, computers, and field research equipment for assessment teams. Support for workshops at end of assessments.	Legislation prepared governing local use and management of natural resources (initially focused in specific sites in and around protected areas)
Element B Foster NGO growth and participation in NRM	Analysis of legislation impeding the effective participation of NGOs as partners in NRM			Workshop on NGO code.	Legislation analyzed allowing NGO's to organize and to raise and spend funds and to serve as effective partners with local associations in NRM

NPA vs Project INPUTS
NPA supports changes in performance which require legislation, decrees or policies. Project inputs support institutional arrangements for implementation and capacity building through Technical Assistance.

TABLE 6

KEPEM PROJECT MATRIX

PROGRAM THEMES & ELEMENTS	OUTPUTS May 92 – May 94 Years 1 – 2	OUTPUTS June 94 – May 96 Years 3 – 4	OUTPUTS June 96 – May 97 Years 5	INPUTS	FIXED END POINTS (Desired changes at EOP)
THEME III Revenue generation and use					Financial resources for sustainable NRM and biodiversity conservation
Element A Adjust forest resource revenues to better reflect market values and replacement costs	Preliminary forest inventory undertaken	Analysis of revised stumpage fee schedule completed Improved financial management system for collection, accounting and use of stumpage fees		Short-term TA (30 months) to help to design and initiate forest inventories, and sent up improved collection and accounting system develop revised stumpage fee schedule	Increased forest revenue collection from: - Adjusted stumpage fees - Improved collection and accounting system
Element B Improved use of revenues for natural forest mgt			Series of natural forest, management plans developed	Short-term TA (12 months) to help develop forest management plans. Workshops (2) on forest revenues, on forest management.	Use of revenues for implementation of improved management plans - Forest mgt plans developed - Revenues expended on plans
Element C Endowment fund revenue generation and use	GOM and USAID develop procedures for creation and operation for Env. Endowment Fund		Endowment Fund operational	Long-term advisor (3 yrs) for set up of Endowment Fund. Short-term TA (12 months) in endowment financing. Computers to support Fund set-up and functioning GOM capitalizes Endowment Fund in the amount of $ 12 million equivalent	Endowment fund capitalized and functioning

NPA vs Project INPUTS
NPA supports changes in performance which require legislation, decrees or policies. Project inputs support institutional arrangements for implementation and capacity building through Technical Assistance.

C. IMPLEMENTATION PLAN

1. Joint GOM/USAID Management Responsibilities

This will be at two levels:

a) The KEPEM Evaluation of Program Team (KEPT) will be responsible for determining whether the program has met performance criteria in order to trigger release of tranche disbursement. As specified on page of Table 2, the formation of the KEPT is one of the performance criteria for the release of Tranche One. The KEPT will consist of the Director of the Treasury from the Ministry of Finance; the Director of Program and Evaluation from the Ministry of Budget and Plan; the Director of the Ministry of State for Agriculture and Rural Development which is, the parent Ministry of the ONE, and the Director of USAID. KEPT will meet at least twice a year to review progress towards, and achievement of, program performance criteria.

b) The Program Implementation Committee (PIC) will be responsible for reviewing on a more regular basis progress towards the end of program objectives, including performance criteria and projectized outputs. The Committee will meet everyfour months, and will need to be responsive to a changing agenda under a shifting government structure and an evolving EAP. The PIC will also assist the Ministry of Finance, ONE and other technical ministries in the overall coordination of the program. Members will include representatives from ONE, DEF and other technical ministries as appropriate, as well as the USAID KEPEM Program Officer and the KEPEM Program Coordinator. Other technical ministries represented may include the Ministry of Interior, responsible for NGOs, and the Ministry of Finance. The ONE representative from the PIC will serve as secretariat to the KEPT, preparing the agenda, progress reports, identifying policy issues and making recommendations for the semi-annual meetings. (See Chart No. 2).

2. GOM Management Responsibilities

The Ministry of Finance will be responsible for the overall implementation and coordination of KEPEM. The Ministry of Finance will be responsible for assuring that performance criteria are met and submission of evidence to that effect. It will also be responsible for furnishing the list of eligible debt to be paid with each tranche disbursement and verification that the debt has been paid.

ONE will be the principal executing agency of KEPEM, through which implementation efforts will be coordinated. DEF will be a key technical agency for program implementation, particularly for the forest revenue generation and expenditure component.

3. Mission Management Responsibilities

Within USAID, the Agriculture and Natural Resources (ANR) office will be responsible for the overall management of KEPEM. The Environmental Officer will be the KEPEM Program Officer (this person is also SAVEM Project Officer, thus reinforcing linkages between these two major and complementary efforts) and will be assisted by a Program Coordinator. The Program Coordinator, who will be hired through a U.S. Personal Services Contract, will be responsible for the day to day management and coordination of KEPEM within USAID. This person's responsibilities will include monitoring the performance of an institutional contract which will be responsible for carrying out project implementation, overseeing the activities carried out through the use of AID/W centrally-funded projects and coordinating with the Ministry of Finance to ensure that required debt was paid. Both The Environmental Officer and the Program Coordinator will represent USAID at Program Implementation Committee meetings.

The USAID Director will represent USAID on the KEPT and will be the ultimate authority on determining whether performance criteria has been met. Once the Director has made this determination, the USAID Controller will notify AID/W that performance criteria have been met which in turn will notify the U.S. Treasury to disburse funds to the GOM U.S. bank account as described in Section IV, Financial Plan. The Controller along with the Environmental Officer will be responsible for financial management of the project element of the program.

A Mission KEPEM Implementation Committee, chaired by the Environmental Officer will meet as required to address program implementation issues particular to USAID. Representatives from the Project Development, Program and Controller's Offices will be represented, as well as the KEPEM Program Coordinator.

CHART 2

MANAGEMENT OF KEPEM PROGRAM

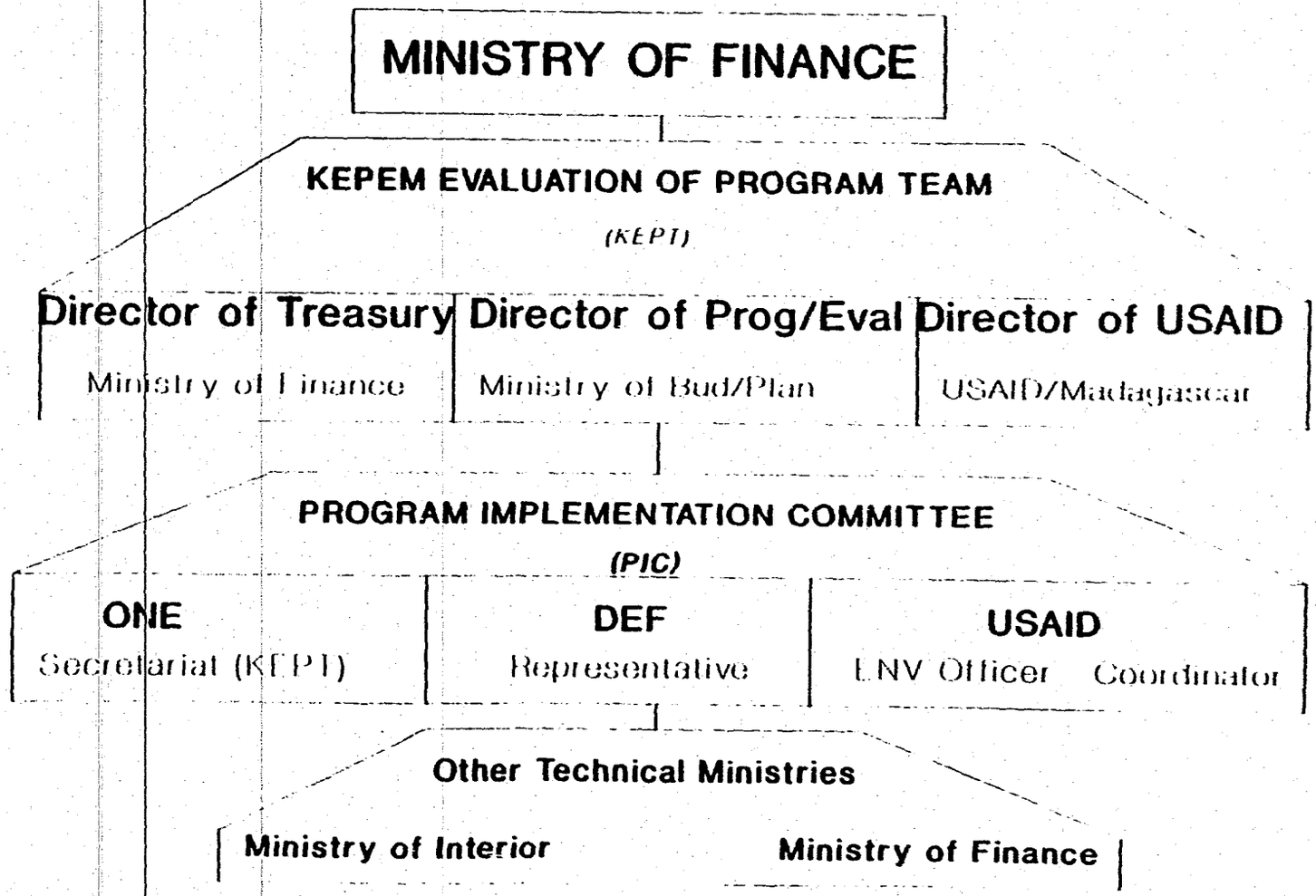
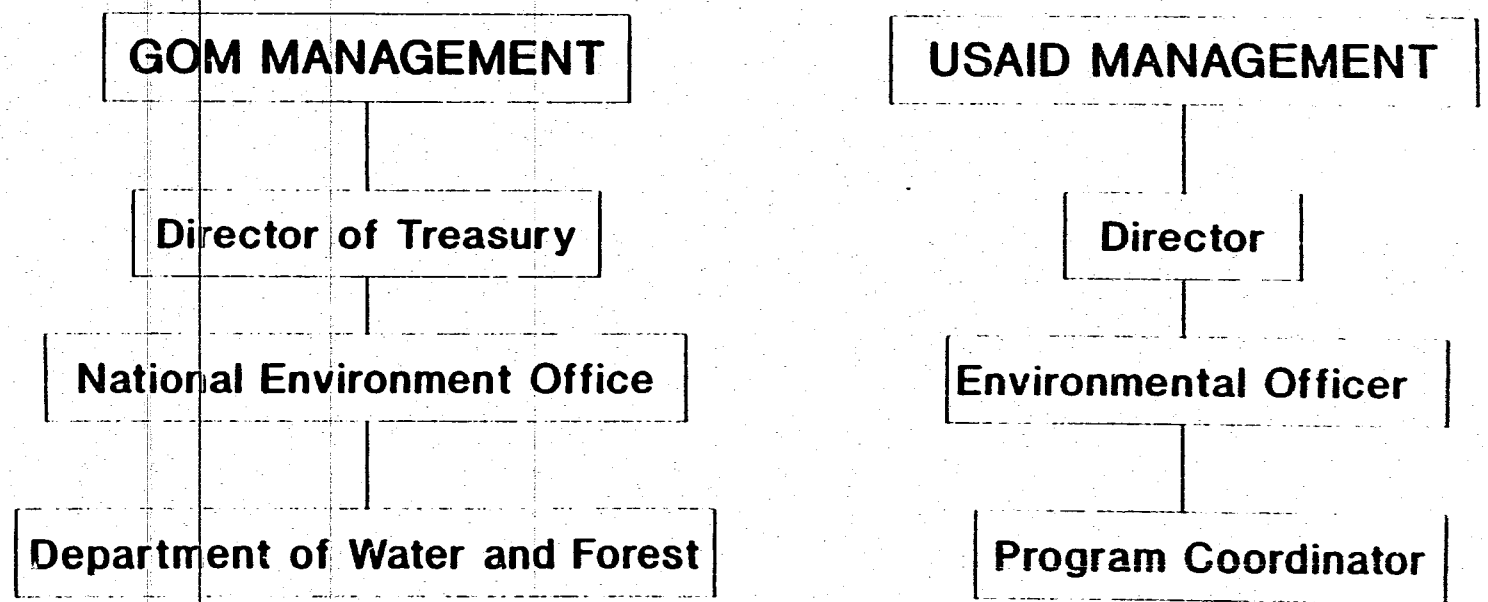


CHART NO. 3

MANAGEMENT RESPONSIBILITIES



4. Responsibilities of Institutional Contract and Centrally Funded Activities

A U.S. based institutional contract will be responsible for implementing project activities for the Institutional Performance and Revenue Generation and Use components of the project. The institutional contract will carry out project activities by providing technical assistance, both long and short-term; training and workshops; and commodities such as vehicles and computers.

Under the first component, Institutional Performance, the long-term technical assistance team will consist of an Institutional Development Coordinator/Chief of Party for four years, a Policy Analyst for four years, a Monitoring and Evaluation Specialist for four years, and two local-hire support employees. The contractor will also provide six months of short-term technical assistance for the environmental review process. The contract team will work directly with appropriate ONE counterparts with ONE providing adequate office space to the contract team. The contract team will work with ONE to develop its institutional capacity to implement the EAP.

Under the third component, Revenue Generation and Use, the institutional contractor will provide a long-term Endowment Specialist for three years to work with ONE to set up an Endowment Fund. The contractor will also provide 12 months of short term technical assistance in endowment financing and two short-term consultants for 12 months each to work with DEF to help initiate forest inventories, collection and accounting systems, develop stumpage fee schedules and natural forest management plans; and, workshops on forest revenues and forest management.

Project activities for the second component, Local Initiatives, will be provided by buy-ins to AID/W centrally funded projects. Inputs will include short-term technical assistance, necessary commodities such as vehicles and computers, to carry out three field assessment studies in the areas of land tenure, local governance and conflict resolution workshops will also be included. AID/W centrally-funded projects such as ACCESS II, through the Land Tenure Center at the University of Wisconsin and, the Decentralized Financial Management Project will be used to implement project activities under this component. It is anticipated that short-term technical assistance will consist of 12 person months for initiating, monitoring and coordinating the three studies for 12 months; three field researches for 12 months each; and, six local field assistants for 12 months each. The contractor will also provide support to a workshop on the revision of an NGO code.

Other AID/W centrally-funded projects or Indefinite Quantity Contracts will be used to provide bridging activities between program grant obligation and the arrival of the long-term contract team.

5. **Summary Implementation Schedule**

Chart 4

KEPEM ACTIVITY	92 YEAR 1 Q1	Q2	Q3	Q4	93 YEAR 2 Q1	Q2	Q3	Q4	94 YEAR 3 Q1	Q2	Q3	Q4	95 YEAR 4 Q1	Q2	Q3	Q4	96 YEAR 5 Q1	Q2	Q3	Q4	YEAR 6 Q1	Q2	Q3	Q4	97 YEAR 7 Q1	Q2	Q3	Q4	98
Obligation and ProAg signing			(X)																										
Tranche One released			(X)																										
Position for Program Coordinator advertised and hired			(X)																										
Request for Proposals sent out for Institutional contract			(X)																										
Local Initiatives Assessments begin				(X)																									
Institutional contract awarded					(X)																								
End of Bridging Activities							(X)																						
Institutional contract team arrives							(X)																						
Local Initiatives Assessments completed								(X)																					
NGO Workshop Held								(X)																					
Second Tranche released									(X)																				
Local Initiatives Assessments Workshops held									(X)																				
End of Local Initiatives buy-in									(X)																				
Mid-term Evaluation										(X)																			
Tranche 3 released													(X)																
First Workshop on forest revenues													(X)																
Project and Program audited														(X)															
Second Workshop on forest revenues																		(X)											
Workshop on Natural Forest Management																		(X)											
Tranche 4 released																			(X)										
Final program evaluation including evaluation of the effectiveness of the EAP																		(X)											
Rest of Contract team departs																							(X)						
End of Program Coordinator contract																								(X)					
Close out activities begin																									(X)				
PACD																											(X)		

D. PROCUREMENT PLAN

1. Procurement of Technical Assistance

a. Institutional Contract

The REDSO/ESA Regional Contracting Office (RCO) will assist in the procurement of technical services. It is envisioned that an institutional contract will be awarded to provide three (3) long term technical assistants for the Institutional Performance component for four years and one for Revenue Generation component for three years. The institutional contractor will also be expected to provide short term consultants for the Institutional Performance component of 6 person months, for the Revenue Generation component of 54 months, for the Local Initiatives component of 3 months as well as 12 months of policy studies, 28 person months of short term training and five trips to attend international conferences or meetings for local personnel. It is anticipated that "buy-ins" to existing centrally funded contracts will be used to obtain 48 person months of services and 72 person months of local research assistants to do assessments of required policy changes for sustainable natural resource management under the Local Initiatives Component and eighteen person months of services for organizational development under the Institutional Performance component. Competition among Gray Amendment entities will be encouraged to the maximum extent possible. The contracting entity will assure compliance with the mandatory ten percent subcontracting requirement of the Gray Amendment.

b. Personal Services Contracts

i. A U.S. Personal Services Contractor will be hired as the Program Coordinator for five years. This person will work under the supervision of the USAID Project Officer and will assist in the management and coordination of all the program elements. Either REDSO/ESA/RCO or the USAID will do the contracting for this individual.

ii. A FSN Personal Services Contractor will be hired as the Program Administrative Assistant for five years. This person will work under the supervision of the Program Coordinator and will handle all administrative and secretarial matters to support the program.

2. Procurement of Commodities

a. Responsible Purchasing Entities

With assistance from the Regional Commodity Management Officer (RCMO), USAID will handle the start up procurement of residential furnishings and equipment, appliances, computer hardware and software and vehicles needed to support the technical assistance under the institutional contract. Any other procurements in support of the T.A.s will be included in the contract and will be performed in accordance with A.I.D. Handbook 14

(AIDAR) and the Federal Acquisition Regulations. USAID will procure office furniture and supplies, residential furnishings and equipment, appliances, computer hardware, software and accessories and supplies to support the U.S.PSC.

b. Equipment List

i. Program Coordination

ITEMS	QTY	PROBABLE S/O	PROCURING ENTITY	AMOUNT IN U.S.$
Residential Furniture, appliances and equipment	1 set	000	USAID	50,000
Office and ADP Furniture	2 sets	000	USAID	15,000
Computer Hardware, Software and Accessories	2 sets	000	USAID	10,000
Typewriter	1 each	000	USAID	1,000
Office and Computer Supplies	1 set	000	USAID	5,000

ii. Institutional Contractor

ITEM	QTY	PROBABLE S/O	PROCURING ENTITY	AMOUNT IN U.S. $
Residential Furniture, Appliances and Equipment for LT Advisors	5 sets	000	CONTRACTOR	250,000
Computer Hardware, Software and Accessories	5 sets	000	CONTRACTOR	25,000
Office and ADP Furniture	6 sets	000	CONTRACTOR	15,000
Vehicles, field, 4 x 4	4	935	CONTRACTOR	100,000

iii. Local Initiatives T.A.

ITEMS	QTY	PROBABLE S/O	PROCURING ENTITY	AMOUNT IN U.S. $
Computer Hardware, Software and Accessories	3 sets	000	BUY-IN	15,000
Vehicles, field, 4 x 4	3 each	935	BUY-IN	75,000

ESTIMATED TOTAL COMMODITIES $561,000

3. Development for Fund for Africa Certification

This Project will be funded by resources provided under the Development Fund for Africa (DFA). Per Congressional guidelines set forth in the legislation authorizing DFA, all reasonable efforts will be made to procure U.S. source/origin commodities to the extent practical. The above list was reviewed by the REDSO/ESA Regional Commodity Management Officer. Only those items, including motor vehicles, which are not serviceable or maintainable in Madagascar have been designated as eligible for purchase from countries contained in A.I.D. Geographic Code 935. The Mission, with the assistance of the Regional Commodity Management Officer from REDSO/ESA, is investigating the support available for U.S. manufactured vehicles in order to establish a Mission Policy that will be reviewed periodically.

Based on the above, the REDSO/ESA/RCMO has concluded that USAID/Madagascar is taking the appropriate steps in accordance with the Agency's Africa Bureau Guidance to maximize U.S. procurement whenever practicable. The USAID Project Officer assigned to monitor this Project will keep records of all commodities, regardless of procuring entity, purchased with funds made available by geographic code to include in the annual report to AID/W. The Project Officer will also ensure that the Buy America requirement is included in the Scopes of Works for all technical assistance contracts and/or buy-ins.

4. Commodity Marking

Commodities purchased with Project Funds will be appropriately marked with the A.I.D. emblem. It is the responsibility of the USAID to assure compliance with the A.I.D. marking requirements contained in Handbook 1B, Chapter 22. When marking requirements have not been complied with, the Mission will initiate corrective action.

E. MONITORING, EVALUATION AND AUDIT PLAN

This program of monitoring and evaluation is designed to meet two objectives. The first objective is to generate information that can be used to assess the progress and impact of the KEPEM policy reform program on natural resources management and biodiversity conservation in Madagascar. This information will also be used to adjust the program as implementation proceeds. The second objective is to establish within appropriate

Madagascar institutions the capacity to generate and analyze an appropriate range of empirical information to strengthen national policy making in natural resources management.

1. Overview

This monitoring and evaluation plan encompasses four levels of program implementation and progress: inputs, outputs, purpose-level indicators, and goal-level indicators. Each is discussed briefly below. The first step is to monitor the disposition of inputs associated with the reform program and the complementary project activity. The second step (and the first step in measuring impact) is to establish whether the resources provided as inputs have accomplished anything; in particular, whether performance criteria have been met and whether anything of significance has happened as a consequence. These are output-level indicators. The next step is to determine whether implementation of the set of KEPEM performance criteria is establishing a policy and institutional framework appropriate for sustainable natural resource management. These are purpose-level indicators. The last step is to establish the effect that these intermediate outcomes may have had on biodiversity in Madagascar, which entails an assessment of goal-level indicators.

As with all monitoring and evaluation activities, this will require (a) a long term perspective, (b) good baseline data, (c) a comprehensive monitoring system which is embedded in the implementation process, and (d) willingness to accept that many causal linkages might be difficult or impossible to prove. The indicators chosen and the means for monitoring them are discussed in turn below. Input monitoring is probably most straightforward, and monitoring of goal-level impacts is most complex. A final section outlines the program evaluation strategy.

2. Input Monitoring

In the first three years, the program encompasses the following inputs:

- A $33 million cash transfer;
- 5 person-years of program coordination
- 15 person-years of long-term technical assistance;
- 111 person-months of short-term technical assistance;
- 28 person-months of short-term training; and
- 12 person-months of policy studies.

The USAID Program Coordinator will be responsible for monitoring and reporting on the disposition of program and project inputs, which will be documented through the normal correspondence associated with program and project implementation. This includes memoranda of understanding with the Government of Madagascar, project implementation letters, Project Implementation Orders for technical assistance and training, financial reports, and program implementation reports. Input monitoring as laid out here appears routine, but is an essential element in the overall monitoring plan since it will provide an answer to this question: what specific resources has A.I.D. provided that might account for the success of biodiversity conservation efforts in Madagascar?

3. Output Monitoring

The program anticipates a range of outputs which are summarized in Tables 5 and 6. Three questions can be asked about each performance criterion. First, has the criterion been formally met? If so, has on-the-ground implementation taken place effectively? And if so, what has been the impact of the policy or institutional change on natural resource management and biodiversity? Section III D. provides preliminary indicators for program effectiveness and impact which can provide such information, although they should be reviewed and adjusted as necessary during the course of program implementation. Different but complementary approaches will be used to provide the answers to the three output-level questions:

a. Meeting of performance criteria.

The USAID Program Coordinator will be responsible for monitoring and reporting on the status of individual performance criteria; for the most part, this can be documented through the routine correspondence associated with program implementation.

b. Effectiveness of performance criteria.

Much information regarding the on-the-ground effectiveness of performance criteria will emerge within the context of active mission involvement in discussing and guiding the process of policy change envisioned in this program, and will be assembled by the USAID Program Coordinator. However, the KEPEM program is sufficiently complex and multi-facetted that some additional mechanism for tracking program effectiveness seems required. Provision has been made for a long-term advisor, whose main task will be to assist ONE in the monitoring and evaluation of EAP implementation, which is considered critical to the success of the KEPEM program.

c. Impact of performance criteria.

The KEPEM program encompasses three mechanisms for tracking the impact of specific performance criteria. First, progress reports of the monitoring and evaluation advisor will shed light on the impact of many of the institutional reforms contemplated. Second, the three in-depth field assessments, under the Local Initiatives component, are intended to generate a wide range of impact information regarding both policy and institutional reforms. And third, the KEPEM program will be implemented in close concert with A.I.D.'s SAVEM project, a project specifically designed to generate a large amount of impact-relevant information on on-going ecological and socio-economic changes in Madagascar. In addition, much relevant information will be available from the baseline surveys and program monitoring activities supported through USAID-funded OPGs in Ranomafana, Amber Mountain, and elsewhere. Information from these three complementary sources will be assembled largely by the ONE monitoring and evaluation advisor, although the USAID Program Coordinator will bear some of these responsibilities as well.

Output monitoring as laid out here is a more elaborate process than found in many programs. This reflects the largely experimental nature of the KEPEM program, and the many unknowns and assumptions embedded in the program. It is anticipated that a careful focus on implementation and impact of performance criteria and outputs will contribute to a flexible but product-oriented Mission implementation strategy needed to track and respond to the complex and changing political-institutional context for natural resource management and biodiversity conservation in Madagascar.

4. Purpose-Level Monitoring

The overall KEPEM program purpose is to create a policy and institutional framework of incentives and revenue generation and use that encourages sustainable natural resource management in Madagascar. Achievement of this purpose will be associated with a concrete indicator of change: effective natural resource management in areas where biodiversity is currently threatened. The same three-part monitoring scheme laid out for the "Output" section above will serve well as a basis for assessing progress toward this purpose-level indicator. The problem here, from an impact monitoring perspective, is not in assembling the information, but rather in making sound judgments about the extent to which A.I.D.'s efforts have helped stabilize natural resource management in Madagascar. By its very nature, this indicator will be influenced by a large number of other factors.

It will be difficult, and may turn out to be impossible, to separate out the effects of USAID's particular interventions on empirical measures of change, but this is not a flaw in the monitoring system proposed here. This monitoring system is designed to collect information on key indicators which will shed useful light on changes in and performance of NRM policies and institutions in Madagascar, and will therefore provide a basis for adjusting the course of program implementation in accordance with empirical circumstances. This will also provide a basis for making careful judgments about the progress of the program at the purpose level. The USAID Program Coordinator will be responsible for preparing interim progress reports at regular intervals that present such judgments for review by Mission management and Madagascar implementing agencies.

The monitoring program outlined here is embedded in the sequence of program performance criteria, and it will be designed and implemented through and with ONE and other relevant agencies. In this way the information generated will make a full contribution to policy decision-making. Moreover, the monitoring process itself will become institutionalized, thus strengthening the capacity to promote effective and sustainable natural resources management in Madagascar.

5. Goal-Level Monitoring

The goal of the KEPEM program, like that of the SAVEM project, is to "establish sustainable human and natural ecosystems in areas of Madagascar where biodiversity is threatened". USAID/Madagascar has made a solid start toward an effective monitoring approach by supporting the establishment of ANGAP (through the SAVEM project), an organization specifically charged, among other things, with monitoring the status of

ecosystems and changes in biodiversity in key areas of Madagascar. Hence goal-level monitoring under KEPEM will be possible to the extent that the SAVEM project is effectively implemented and to the extent that ANGAP assumes its intended role in Madagascar.

As with purpose-level monitoring, the results of goal-level monitoring will be inconclusive to a degree and subject to debate. This is an inevitable outcome which no conceivable expenditure on data and research would alter. This monitoring plan is not designed to resolve all foreseeable issues associated with implementation of this policy and institutional reform activity; rather, it is designed to keep USAID management in close touch with the evolution of key indicators of progress in natural resource management and biodiversity conservation in the country at large. This is the most important reason for undertaking the monitoring effort. Inevitably, knowledgeable individuals will make informed judgments about the extent to which the changes observed can be attributed to USAID's involvement.

6. Evaluation and Audit

A comprehensive monitoring plan of the sort outlined above reduces but does not eliminate the need for program evaluations. Accordingly, it is anticipated that two program assessments/evaluations will take place during the life of the program as outlined below.

a. First assessment.

One evaluation (staffed by a consultant economist and a consultant natural resource management specialist, and augmented as required with REDSO resources) will take place just in advance of the third tranche, perhaps 18-24 months after implementation begins. This evaluation will be designed to (a) test the underlying design assumptions, (b) summarize implementation progress at the input level, (c) summarize the empirical results of the program by reviewing progress at the output, purpose, and goal levels, to the extent that this information is available, and (d) suggest any modifications necessary to assure progress in implementation.

b. Second assessment.

This assessment will take place 12-18 months before the close of the activity, to provide a comprehensive assessment of results, which will feed into the design of possible follow-on or second-generation policy adjustment efforts. Each assessment will cost approximately $100,000.

c. Audit.

Finally, provision is made for a non-federal audit to ensure that program and project funds have been appropriately utilized. $50,000 is budgeted to cover audit costs.

VI. SUMMARIES OF PROGRAM ANALYSES

A. SOCIAL SOUNDNESS ANALYSIS

1. Overview

Cultural variation within Madagascar is a continuum resulting from repeated episodes of migration, assimilation and further migration over the past millennium, which has worked to diffuse peoples and institutions over large areas.

The principal modes of livelihood for the 80% of the population living in rural areas are: rainfed agriculture on tanety lands, irrigated production on permanent fields, slash-and-burn, tavy cultivation mainly in forested areas, livestock, fishing and to a more limited extent hunting and gathering. These do not occur in isolation but are combined in different ways depending upon local ecological circumstances, and regional and ethnic preference.

KEPEM's goal is to achieve a voluntary, self-interested shift from current, resource-destructive, production systems to new forms of natural resource management that are sustainable and will contribute to tangible and fairly rapid returns. Motivating people to change is a complex process. However, there are examples in Madagascar of successful initiatives. Bloch cites that the Zafimaniry are themselves changing their production system from one based on tavy to one based on intensive rice production in valley bottoms (cited in Kottak, 1980:268). Schwennesen et al. (1991), cite pastoralists in Ambalavao that have formed an association to provide veterinary services and improve the quality of their pasture. And, villagers are contacting NGO's to ask for assistance in setting up nurseries for reforestation projects to increase their access to timber resources.

KEPEM will attempt to facilitate these changes by working on several fronts.

Improved environmental policy evaluation and coordination should mitigate some negative effects of policy and action interventions by increasing the transparency of the process by which their consequences are assessed. Facilitating local initiatives will materially increase the participation and control of first-line natural resource users in natural resource management, and empower them to govern and manage more effectively renewable resources critical to their survival. Revenue generation from forest products will benefit local groups to the extent that they are involved in the generation and reinvestment of revenues in local resource management, in this case of forests.

Local populations will be impacted on two levels: first, at the village or community level where local organizations will be supported through policy reform and provision of resources to initiate actions in support of environmental protection and development; and second, at the regional public service level. Since local communities will be given authority to form into action groups, generate and manage financial resources, and receive technical assistance from public and NGO service centers, they will be able to directly

contribute to the economic growth and well-being of their communities. Agents of public sector technical and planning ministries, and NGO organizations responsible for implementation of the EAP will be more able to fulfill their mandates to mobilize and support local initiatives.

These actions will mainly benefit those communities with homogeneous social structures. In areas where there has been a significant internal migration leading to the breakdown of social structures, the possibility of being able to form village committees and community self-help groups may not be as effective. Differential impact of program activities by socio-economic strata, ranked groups, and gender must be monitored carefully during implementation. This level of monitoring will be built into the SAVEM BPS.

2. Women.

Ten percent of the farm households nationwide are headed by women, with the percentage varying by province. Antsiranana in the North has 21% while Fianarantsoa and Toliara have only 6% each. Having less land on average than male-headed households, these are among the poorest farming units. Traditions governing the division of agricultural labor are weakening. Soil preparation tasks have traditionally been men's work. Men also plant and harvest. Activities connected with transplanting rice, weeding and maintaining garden plots have been women's work. Women also gather firewood, cook, tend to the household and nurture children. Today women make use of new technologies when available and men will transplant rice in new production zones away from their ancestral homes.

Despite the existence in the past of Malagasy Queens and the high status of a few women in politics and government administration today, their role in production is relatively unknown and certainly underestimated. Women enjoy the same legal rights as men in all aspects. There are no legal barriers to women marketing agricultural products and in most of the country women manage the household finances. Decisions to buy or sell is usually taken jointly by husbands and wives. However, attention is given to women as mothers, housewives and teachers rather than as producers and marketers. Consequently women have difficulty in gaining access to the factors of production (land, tools and credit); bear heavy household burdens; are isolated in rural areas lacking information on new opportunities; and, when working for others tend to be paid less than men.

Because of the key role that women play in natural resource management, their active participation in local decision-making and rule setting will be actively encouraged in the KEPEM program, notably the Local Initiatives component.

3. Other Vulnerable Groups

With the creation and upgrading of protected areas, there will be short-term negative effects on local populations that have to give up customary sources of livelihood based on forest exploitation. Those most affected will be landless and land-poor people who have few alternatives to traditional resource-consumptive strategies. Sharecropping (**métayage**) is one of a range of contracts by which landless or land-poor peasants gain access to land and income. Longer-term leasing of land and sale of one's labor are alternatives that

need to be considered as similar strategies for the survival of the poorest members of rural society. These exchanges are economic relations and social contracts, the expectations of each party to the contract and their implications for more effective resource management also need to be considered.

The key to successful interventions lies in the participation of all users of a given area, and particularly those most at risk. KEPEM will address this issue through the Local Initiatives component and through EAP implementation.

4. Summary

In the long run millions of Malagasy people stand to benefit from the conservation through development goals of the program. This includes the urban population which depends on the integrity of natural forests for water and electricity as well as the rural people whose rice cultivation will decline if the watersheds continue to be degraded. More immediately, if the KEPEM Local Initiatives component initially focuses on sites where SAVEM will also operate, 60 - 120,000 people who live in peripheral zones of the protected areas will be directly affected. Some of the short-term effects may however be negative, as some customary sources of livelihood may be curtailed in newly-designated protected areas. Those most affected will be landless and land-poor Malagasy who have few alternatives to natural resource exploitation. Participation of the affected populations should minimize damage to them and win their understanding of the need for change. However, there is no single recipe for success, especially in the light of the diversity of Malagasy society and culture.

B. INSTITUTIONAL ANALYSIS

1. A Turbulent Political Backdrop

Madagascar is undergoing rapid political change. After seven months of street demonstrations and paralysing strikes, the coalition of opposition parties and the Ratsiraka regime came to an accord on 31 October, 1991 on a new State structure and a process for arriving at a new Constitution. The Presidency was stripped of most of its powers, these being transferred to a newly-created High State Authority (HAE), supported by a consultative body, the Committee for Economic and Social Redressment (CRES) and a transitional Government of 36 ministries. This transitional structure has given itself 18 months to arrive at a new Constitution and a Third Republic. The process began with regional forums in February, 1992 to canvas local opinion and select delegates for a National Forum to be held in late March. This will be followed by a referendum on the text of the Constitution in June, legislative elections in August and presidential elections in November, 1992. The situation is complicated by the emergence of powerful federalist forces who are advocating the proposition of a second, federalist text alongside the unitary state text on the referendum ballot.

It is unclear how this drama will play out. But it has had, and will continue to have, far reaching impact on the institutional structure that relates to environmental affairs. These include:

- The shifting Government structure has clear implications for the environment. In a period of a few months, a Ministry of the Environment, Water and Forests, to which ONE was briefly attached, has come and gone. An attachment to the Ministry of State for Agriculture and Rural Development (a non-executive Ministry overseeing the Ministries of Agriculture, Water and Forests and Livestock) was approved in March, 1992. The composition of the Government following the transition period is uncertain, creating further potential difficulties for ONE. The other executing agencies have been much less affected, either because of their non-governmental status, or because their parent ministries have remained relatively intact.

- Continued liberalization and emphasis on the private sector. This has been reflected by changes in the administrative council of ONE, from an entirely Government and executing agency composition to a greater representation by banks and commercial firms. Private sector growth could conceivably include firms specializing in environmental impact analysis.

- Uncertainty as to the status of local Government (the collectivités décentralisées, which have been "suspended" at all levels except the most decentralized - the Fokontany). Several proposals would involve major grants of real authority for resource management and regulation, taxation of production and commerce, and discretion to organize services related to use and conservation of water, land, and forest reserves as well as general public services. Such a reform would require a significant shift toward local governments and a decentralized policy regime. Federalist tendencies however also risk coopting of resources by local elites and potential replication of already cumbersome bureaucracies;

- The opportunity for environmental groups and environmentally inclined organizations, as well as (theoretically) local populations to participate in the development of the new Constitution. Environmentally involved NGOs are represented among the 130-member CRES as well as being involved in the National Forum process.

- A change in the legislative process, with a substantial shift in initiative and the capacity to legislate from the Executive to a more empowered Assembly. A major change in these relations could significantly affect the processes by which all law is made and specifically the way in which environmental policy is debated and translated into public regulation, agency mandates, and law.

- A major reform in the weak and ineffective justice system. The judicial branch of government is antiquated, mired in procedural complexity, suspected of corruption, ponderous and slow. A major reform through the constitution could dramatically affect its legitimate role as protector of the legal order, human and

property rights, and the guardian of basic social values. In natural resource conflict resolution, its power to serve as arbiter under new environmental impact legislation, and its capacity to resolve jurisdictional disputes over resource domains, could become crucial in the implementation of the EAP;

In sum, these measures towards a new constitution, and others that may arise during the current debate, can have very substantial impact on the institutional context in which environmental policies are made, translated into law, and executed. KEPEM will have to take into account and accommodate to these changes as they occur.

2. The Environmental Action Plan

Madagascar's Environmental Action Plan is an ambitious undertaking, requiring sustained Government and donor commitment. ONE is tasked with overseeing its implementation. ONE's central task is policy formation, including the generation of appropriate rules, laws and regulatory systems. However it cannot fulfill this task without effectively coordinating, monitoring and evaluating all activities within the EAP. The plan of action to support ONE and the institutional structure at the center is sound. The necessary conditions to its success have been identified and included within the KEPEM strategy. In the end, however, it is suggested that it is ONE's role as institutional innovator - a part of the policy analysis task - that will result in the greatest impact on the future of Madagascar's environment. No blue-printed program design should try to replace that creative and important function.

3. Local Initiatives

The most pressing institutional issues are local. The issues involved in improving the framework for management and governance of natural resources by first-line users are multiple and complex. They include resource property rights, whether they are assigned to individuals, families, lineages or communities. They involve the problems of establishing the boundaries of specific natural ecosystems, of defining authorized and non-authorized users, of controlling use patterns to ensure sustainability, providing for investments to regenerate and protect natural resources, raising the means to govern, manage, and upgrade renewables, and finally, to resolve disputes relating to property, access, use and investment rules.

This complex of issues has no easy solution, and undoubtedly has no single solution in a country with as diverse a range of environments, production systems, socio-economic organization and local politico-legal arrangements. However, traditional systems for making and enforcing rules do exist, though overlain by more recent State-imposed systems, and these offer considerable potential for setting frameworks for improved local initiatives.

A second issue concerns the provision of technical assistance and information. An ineffective Government extension system and a poorly developed NGO service sector pose problems for improved natural resource management initiatives, even though some of the technical solutions are thought to be known. An analysis of the costs of an

effective Government service decentralization argued against KEPEM addressing this weakness. KEPEM instead is supporting greater freedom of organization and operation for NGOs, to increase their effectiveness as partners in local resource initiatives, and deferring DEF institutional strengthening to the World Bank-led GPF project.

4. Summary

The institutional analysis notes that the rapidly changing political situation, besides presenting some obvious logistical constraints, also offers some opportunities for KEPEM. Greater democratization and decentralization offer scope for local governance changes, such are proposed under the Local Initiatives component of KEPEM. The EAP framework, and the relatively stable set of operating agencies under it, has significant potential for improving resource allocation, coordination and institutional capacity for environmental protection and management. KEPEM aims to reinforce GOM committment to the EAP.

C. ECONOMIC ANALYSIS

1. Introduction

The relationship between Madagascar's environment and its economic and institutional realities is in rapid transition. Any analysis which is based on a static understanding of what are essentially fluid relationships is likely to be misleading.

"Environmental degradation" is one outcome of the individual production and consumption decisions - patterns of behavior - which make up the macroeconomy. Sustainable and widespread behavior change, however, takes time. There seem to be no examples, anywhere in the world or at any time in history, of the scale of change needed to preserve Madagascar's environment occurring in less than several decades. If current resource use trends in Madagascar remain unchanged, the majority of forest resources outside protected areas will have disappeared by then.

A time-based strategy must operate at three levels:

1. it must assure that protection strategies for parks and reserves remain effective for the foreseeable future;

2. it must initiate the long term structural changes needed to foster non-destructive environmental management as soon as possible;

3. it must offer a need and opportunity driven resource management vision.

KEPEM will address these three levels, as part of the national Environmental Action Plan. The basic economic premise of the KEPEM approach is that, in the long run, natural resources can only be successfully maintained if:

1. it is in the self-interest of those with effective control over resources to sustain them;

2. technically feasible resource management options exist and are available to resource managers;

3. the generalized system of incentives provides clear, consistent and stable signals in support of long term resource management initiatives.

Historically, systems of extensive resource management in agriculture and herding have been consistent with the relative resource endowments in rural areas: large land area relative to population; availability of fertile soils for crops and livestock; relative abundance of forests. As population has increased and the resource base has declined, the relative scarcity of land, labor and capital has changed dramatically.

Consequences of changing factor scarcities are already seen in many areas: growing migration trends (from the plateau to lowlands, from the south to north); intensification of lowland rice cultivation in densely populated zones, furthered by the increased availability of agricultural inputs (as a result of more liberal economic rules); a reevaluation of the financial attractiveness of extensive herding, resulting in herding populations turning to sedentary agriculture and, in peri-urban areas, to wood plantations; the potential for emergence of rural labor markets as successful diversification and intensification by more prosperous and/or successful farmers gives rise to a demand for paid farm labor.

In economic terms, these changes reflect adaptations to changing factor scarcities and to a changing economic environment. All available evidence points in the direction of accelerating change in relative factor scarcities in the years to come. Resource management strategies which capitalize on these underlying trends appear to hold promise.

Changes in relative factor scarcities are also leading to fundamental changes in rural property relations, most notably as a result of growing competition for access to resources. Violent conflicts over land access rights have been reported in the Malagasy press. Land tenure has taken on increasing importance throughout the country. Land tenure is a complex issue with several dimensions, including issues of social justice, the emergence of "modern" agriculture and questions of direct relevance to environmental protection.

2. Market Failures.

There are a myriad of market failures such as land insecurity, lack of competition, distorted pricing, and other negative externalities which have resulted in resource degradation and lack of investment in resource production. Like most countries, Madagascar historically has treated its natural resources as free public goods. Forests have provided a reliable and constant source of energy building materials and cash income for loggers of the more sought-after species. Land, with few exceptions, has been considered the property of the state since independence in 1960; a burdensome system of titling has discouraged private ownership. The majority of cultivated and exploited

terrain therefore falls under the rubric of customary usage rights. Land insecurity translates directly into a disincentive for productive investment, shortening the time horizons for front-line natural resource managers and contributing to the failure of markets to promote capital investment and the protection of future potential income.

Market failures are manifest most directly in market prices. Disaggregating the chain of production of various natural resources reveals the distorted pricing of factor inputs. In the case of firewood, the vast majority of the resource is collected free of charge by individuals in rural areas. Where markets exist, retailers charge a price which reflects transportation costs and other transaction costs of bringing the product to market, but with the exception of wood produced on plantations, prices do not reflect the costs of replanting, the investment cost of maintaining land security and the opportunity cost of capital. The factor costs in charcoal production reflect the same market failures as firewood. Transport costs to the market in Antananarivo typically account for 33 to 45 percent of factor costs, while the local tax and cutting permits average 1 percent and 0.3 percent respectively.

Besides lack of competition and distorted pricing, negative externalities have also contributed to market failures. For example, annual deforestation throughout the 1980s by conservative estimates totals 150,000 hectares per year or 1.5 percent of the natural forest cover. At least three distinct externalities are evident in a loss this great. The loss in terms of biodiversity will never be known in forests characterized by a vast and uncategorized array of endemic flora and fauna, but a safe assumption is that the economic loss in terms of potential future income is great. Second, the loss of foregone present income represented by the underpricing of those wood products actually sold is considerable and represents a real social cost. The clearest example is in the reliance in urban areas on charcoal for household energy: a sack of charcoal weighing 35 kilos will last a family of six in Antananarivo approximately three weeks. The sack requires a wood harvest of about 14 percent of the annual sustainable yield of a single hectare, and wastes at least 80 percent of the energy potential in the conversion process. Finally the tavy itself, responsible for an average of 135,000 hectares or 90 percent of deforestation annually bears associated social costs of atmospheric pollution, loss of watershed capacity and soil erosion.

3. Policy Failures.

A fiscal system designed to promote sustainable management of natural resources would tax negative externalities and subsidize positive externalities at levels which would promote production which would balance current net income with future potential net income. The tax system governing production of natural resources reveals a broad range of small levies, differing according to the resource in question. Aside from these small levies, forest products are not subject to additional tax. Commercial forest producers must purchase cutting permits through Department des Eaux et Forêts (DEF); large producers must pay stumpage fees according to a schedule which in no way reflects the relative values of the species cut. Small-scale commercial producers must pay a nominal fee for a permit or are issued a permit free of charge.

The dismal collection rate of stumpage fees has been well documented. Although approximately $120 million worth of forest products should be subject to stumpage fees annually, DEF is estimated to have collected the equivalent of $4,348 in 1990 (at the exchange rate of 1840 FMg per dollar). The overall system of taxation of natural resources reveals an implicit subsidization of production. Whereas meat, agricultural and forest products are explicitly taxed in such a way as to increase the marginal costs of production, the rate of collection, especially with regard to forest products, creates a taxless production regime. The access to land and water for production of all natural resources is essentially open and free, either legally, or functionally in the case of logging concessions being able to choose the lands to be exploited in the absence of forest management plans.

Based on a complete analysis of forestry flows around Antananarivo, and on detailed recommendations for forest products pricing and taxation strategies, it is estimated that recoverable fiscal revenues of the equivalent of $1.12 million for the Antananarivo supply zone alone. It is therefore reasonable to conclude that nation-wide fiscal revenues from forest products flows can realistically reach an annual level of $2.5 million.

4. Sustainable Financing.

The key to sustainable financing in Madagascar is collection of revenues. The central government has remained well within the limits of deficit spending agreed to under structural adjustment, but has done so through a recessionary policy of reduced spending and cuts in services. The ability of decentralized governmental authorities to tax is an established, but limited right under existing tax law. Awarding budgetary and service provision responsibilities to local authorities is not guaranteed to provide a solution, but represents one of several options to be explored and tested. The key to success is to transfer the budget-balancing discipline exhibited by the central government in recent years down the chain of authority to those local authorities which have demonstrated far greater success in tax collection and have the potential to provide more effective provision of services.

A traditional cost-benefit analysis cannot readily be applied to the KEPEM program. Policy change, in and of itself, does not entail significant costs; the costs that emanate from policy change can be significant, but the nature of the KEPEM approach in its final form is to obtain a public commitment to long-term stewardship of natural resources, generate an internal policy dialogue and create momentum toward sound policy formation to support long-term sustainability. While KEPEM cannot be analyzed from a traditional cost-benefit viewpoint, it is possible to estimate the costs associated with not promoting policy reform, currently 5-15 percent of Madagascar's GNP annually. With the increased marginalization of lands (and waters) employed in natural resource production for an expanding population, increased costs of production will generate substitution of alternatives automatically as they become economically viable. The point is that the associated costs of forcing such substitution - poverty, loss of biodiversity, increased loss of quality of life - are costs that need not be borne in the presence of rational policy.

The KEPEM strategy rests on an underlying hypothesis: that sustainable resource management is a decentralized process which must be responsive to local needs and driven by local initiative. The hypothesis does not arise from a desire to affirm the rights of local populations, but rather from the recognition that central authority does not exercise effective day-to-day control over locally dispersed and locally accessible natural resources.

If the hypothesis is correct, then the policy and institutional reforms supported by the program (if successful) will prove essential to implementing any viable sector strategy. Indeed, this is the final element in the economic justification of the program: it is impossible to justify undertaking environmental protection in Madagascar in the first place if steps are not taken to establish the preconditions which are judged essential to success.

What remains to be analyzed is the degree to which microeconomic incentives will initiate potential resource management activities. Through the assessments to be undertaken under the Local Initiatives component, specific data must be gathered on whether the financial potential of resource enhancing investments outweighs the financial benefits of resource-destructive exploitation in the short, medium or long term. The answer is likely to vary for different regions and for different management options.

5. Summary

The economic analysis points out that, although traditional cost-benefit analyses are inappropriate for KEPEM, it is clear that the economic costs of doing nothing will have major negative repercussions on Madagascar's economy. It is further suggested that a policy and institutional reform program is the most effective means to influence the required changes. Given the GOM's dire financial position, the combined NPA/project approach is clearly indicated for A.I.D.

D. FINANCIAL ANALYSIS

1. Approach to Programming Funds

The specific level of NPA dollar funding (planned at $33 million) is not intended to bear a direct relationship to the level of domestic budgetary resources which the GOM may expend in the process of meeting performance criteria.

The relationship between uses of GOM budgetary resources and the disbursement of dollar tranches under the NPA derives from the KEPEM strategy of building a bridge between macroeconomic growth and development, on the one hand, and biodiversity conservation and environmental management, on the other hand:

a. Dollar disbursements will serve directly for debt servicing repayment. In this critical transition period during which overall economic and policy liberalization (of which KEPEM is a part) has not yet shown its full results, easing balance of payments constraints will alleviate some of the pressure to sacrifice orderly long term decision-making on the altar of immediate foreign exchange limitations.

b. The dollar amounts released through the NPA are based on the importance of the reforms in meeting KEPEM goals, and the political and logistical difficulty in achieving these reforms. Tranches will be released as performance criteria are met.

c. GOM budgetary resources (in FMg), will be allocated by the government in accordance with what is needed to meet the performance criteria. Decision authority on the level, rate and sector of FMg expenditure rests with GOM. Unlike prior A.I.D sector assistance to Madagascar, such as food aid, no local currency will be generated and therefore no separate local currency accounts will be created or monitored.

2. Basis for Levels of NPA Dollar Disbursements

The following criteria, used in developing the disbursement plan, are needed in order to provide consistent, objective and stable signals:

a. that disbursements be linked to meeting performance criteria; specifically, the timing and level of a given tranche should bear a clear relationship to progress to date in meeting program objectives.

b. that reasonable expectations of what GOM must spend to meet performance criteria not be more than NPA dollar disbursements; the logic of the NPA will be undercut if the costs of the program (to the GOM) exceed the benefits (see section 3, below);

c. that the timing of dollar disbursements be such that GOM is not "out-of-pocket," especially in the opening phases of the structural/budgetary adjustment process; this criterion implies the need for an initial disbursement in not requiring time-consuming performance criteria;

d. that there be sufficient flexibility to allow adjustments to reflect new information and changing conditions.

e. that project (technical assistance, training and commodities) financing is provided above and beyond the $33 million NPA assistance described below.

3. Direct Financial Costs and Benefits Accruing to the GOM

a. Direct Costs

The direct costs to the GOM of the proposed reforms concern two principal areas. The first is the direct capitalization of the Endowment Fund and the second is the cost associated with setting up an improved collection and accounting system for stumpage fees. However, for the latter, initial costs are not expected to be high, and further refinement of the system will be more than compensated by the increased revenues generated (see Annex XII). Similarly the costs of initiating natural forest management plans will be directly funded from the National Forestry Fund (which will be augmented

by increased stumpage fees), under KEPEM NPA criteria. Some direct costs to the GOM may be incurred through revision of the NGO code and regulatory changes proposed under the Local Initiatives component. Examples might be loss of tax revenues through provision of tax-exempt status to more NGOs, and changes in local taxation authority for local groups undertaking improved natural resource management initiatives. Costs will be relatively minor and will eventually lead to a decreased burden on GOM extension services through a greater presence of NGOs and increased financial autonomy of local groups.

b. Direct Benefits

The direct benefits to the GOM are the NPA cash transfers totalling $33 million and revenues from revised stumpage fees, estimated to be between $400,000 and $2 million by the end of the program (see Annex XII).

c. Recurrent Costs

There will be very few recurrent costs accruing to the GOM as a result of the KEPEM program. As noted in section a. above, costs to maintaining a forest revenue collection and accounting system, and natural forest management plans will be covered by increased revenues. Support to ONE assumes a continuing GOM commitment, which KEPEM seeks to reinforce. Recurrent financing for non-governmental executing agencies under the EAP, however, demands serious analysis. An effective environmental review process for investment projects will exceed ONE's capacity and mandate, and opportunities for private sector involvement should be encouraged, although not specifically required under the KEPEM program.

d. Conclusions

The principal conclusion is that direct financial benefits of the KEPEM program significantly outweigh costs to the GOM over the life of the program, and beyond, given low recurrent costs. However, in KEPEM's role of supporting Madagascar's EAP, consideration needs to be given to the Plan's sustainability. Technical assistance to ONE, and the Environmental Endowment Fund should assist in this effort.

E. FORESTRY ANALYSIS.

The purpose of this analysis is to highlight the principal problems concerning the protection, management and development of forest resources in Madagascar, and to indicate areas where some of these problems might be solved or alleviated by means of policy and other interventions.

1. Knowledge of the Resource. Effective management of a resource starts with a sound knowledge of the quantity, quality and dynamics of that resource. In the case of Madagascar forests, information is missing, incomplete, outdated or inaccurate. Statistics from the 1950s are still being used although they are so obsolete as to be irrelevant. Steps are, however, being taken to remedy the poor data base. Analysis of satellite imagery is beginning to provide accurate and up-to-date data on forested areas and rates

of deforestation. Some aerial photographic surveys have been carried out in specific areas. FTM is currently carrying this type of survey and analysis, and, under the SAVEM project, BPS will coordinate the collection of relevant data for biodiversity conservation.

2. Restructuring and Strengthening DEF. The weaknesses of the Forest Service (DEF) include too large an administrative staff at headquarters, insufficient number of middle to high-level managers, inadequate salary structures and operating budgets, insufficient decentralization of decision-making to the provincial and circonscription levels, field staff that is too thin on the ground, lacks mobility and combines regulatory with extension functions, forestry legislation and regulations that are too repressive, and a cost recovery that is extremely low because of an unrealistic fee and taxation structure and inefficient collection. In general, DEF is marked by bureaucratic inertia and is not acting as the monitor and manager of a substantial national resource.

Above all, DEF should be assisted in making the transition from pro forma administrative "responsibility" for the national forest estate to true "stewardship" of this resource, which entails fundamental changes in outlook and attitudes and not simply institutional restructuring. The World Bank-supported GPF project is addressing these issues.

3. Rural Tree Planting. The obstacles to rural afforestation include lack of motivation among farmers, insecure land tenure, ineffective forestry extension, lack of critical inputs such as seed or seedlings, brush fires, labor competition at tree-planting time, land-use conflicts, and inappropriate rules (e.g., inability to dispose freely of planted trees on private land), etc. Conversely, rural afforestation is usually promoted, in a rough order of decreasing importance by: the existence of cash markets for tree products that can be produced on short rotations; secure land tenure; the need to mark property boundaries; the need to meet immediate and clearly perceived needs (shade, fruit, windbreak, dry-season fodder, etc.); and firewood scarcity.

Given these attributes of rural tree planting, promising areas of programmatic support lie with the reform of the land-tenure system with fiscal and legislative reforms designed to favor the tree farmer and with the better integration of all field technical services that, in turn, promotes multipurpose tree planting. These kinds of regulatory reforms will be studied under the KEPEM Local Initiatives component.

4. Cost Recovery and Revenue Sharing. The salient facts are: out of an estimated total annual monetized flow of forest products of $120 million, less than $20,000 in stumpage fees have been deposited in the National Forestry Fund; the stumpage fees currently applied do not remotely reflect tree market values or replacement costs, particularly in the case of valuable indigenous hardwoods; the revenue-collection system is inadequate and poorly supervised; because of poor cost recovery, over 90 percent of DEF's operating budget goes toward salaries; and, at the moment there is no systematic revenue sharing with lower levels of government.

Against this background, institutional and policy reform should address the following issues: revision and publication of a schedule of stumpage fees based on true market values and replacement costs of the various categories of forest products; the financial controls on the present collection system should be tightened; the National Forestry Fund should be made operational as revenue begins to be generated; and, the entire system of revenue sharing among the various levels of government should be reviewed. Revenue generation and expenditure in the forest sector is a major element of KEPEM.

5. Shifting Cultivation (Tavy). Slash and burn cultivation (tavy) has long been a traditional method of subsistence farming in the forested regions of Madagascar. So long as population densities remain low, and the recovery time of any section of the forest so utilized is sufficiently long, tavy is an efficient method of food production, especially where there is no other method for maintaining soil fertility in easily leached forest soils. Tavy becomes a problem when population increases, and the fallow periods are progressively shortened. When this occurs, the forest degrades ("savoka") or disappears, and food production declines. Other environmental degradation also sets in such as erosion and loss of biodiversity. By the 1980s, it was estimated that some 4 million hectares of forest was degraded. Today it is estimated that about 200,000 hectares of forest is degraded or cleared annually by tavy.

Tavy is a distinctive way of life, which is why improving or eliminating it is a difficult socio-economic task. It usually means reaching a dispersed, often illiterate population which is distrustful of outsiders. It also continues to make short-term economic sense to forest dwellers who have no alternative forms of food production. Tavy remains subject to prior authorization, as any other forest clearance, but it is inevitable that in remote areas this rule is unenforceable.

The land use solutions to tavy can be summarized as follows:

- prolonging tavy by means of anti-erosive structures and the use of leguminous green manures and crops such as soybeans;

- the use of forestry/agroforestry elements, such as plantations of pine and intercropping with trees;

- the introduction of perennial crops such as coffee and cacao;

- intensive gardening coupled with pigs and chickens, sometimes further boosted with chemical fertilizers; and,

- expand or improve paddy-rice cultivation on the bottomlands of forested watersheds so as to give tavy farmers a clear economic alternative.

Given the history of tavy and unsuccessful attempts to control the practice in Madagascar, it is unrealistic to expect policy and other institutional interventions to have a major impact on this problem in the near future. SAVEM, however, will monitor technical progress and assist with the diffusion of promising results, through the Grant Management Unit.

6. Efficiency of Resource Use. A recent study of the fuelwood supply of the capital region indicates that the use of traditional methods of charcoal-making in both the natural forest and plantations results in average recovery rates of about 15 percent. Rates of at least 20 percent are attainable with improved traditional methods, and of 25 percent with simple technology.

Other methods promoting efficiency of resource use are improved sawmilling, improved management of woodlots and improved cooking methods. The relative efficiency of sawmilling in Madagascar is not well known, but it is probably safe to assume that a large part of the 300,000 m3 of sawnwood produced annually is poorly milled. Efficient milling will become a more critical issue once realistic stumpage fees are levied on indigenous hardwoods, and the trend towards higher value added products is initiated. The poor management of private and public woodlots near the capital has been reported repeatedly.

Although KEPEM will not directly address this issue, it will promote value-added use of forest products by ensuring that these better reflect true market values.

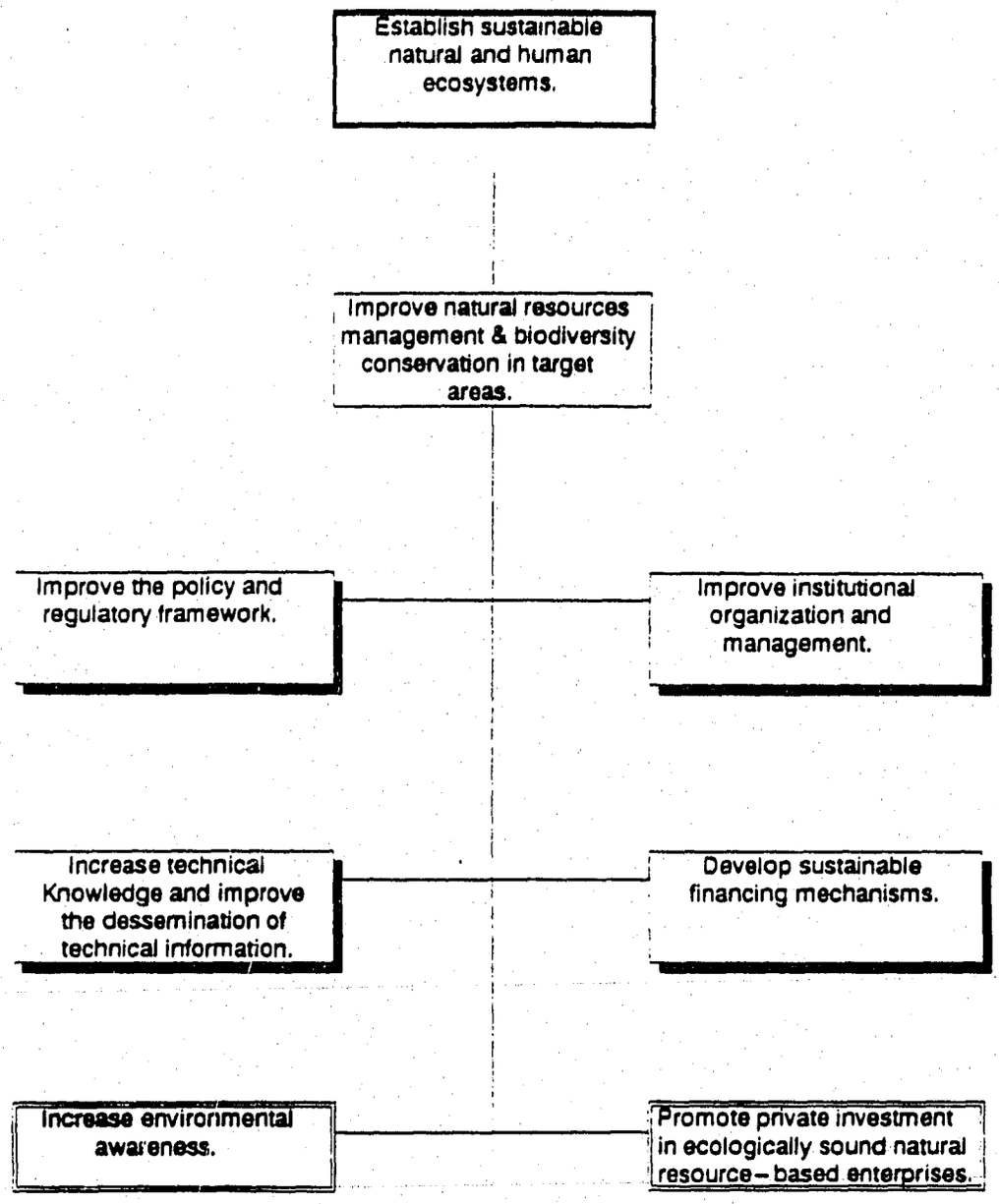
7. Logging Permits and Concession. The present procedure for granting logging permits is lax and results in wastage of the resource and loss of revenue. The obligation to replant is apparently seldom, if ever, met. Logging permit and concession procedures need to be established under the stumpage fee collection and accounting procedures to be revised under KEPEM. Coordination with the GPF, and other initiatives in the sector, will be necessary.

8. Summary. The forestry analysis summarizes the principal constraints to better forest management in Madagascar, and details how KEPEM will address those constraints, taking into account the activities of other donors in the field.

ANNEX I

USAID/Madagascar Environmental Objective Tree

USAID/MADAGASCAR
ENVIRONMENTAL OBJECTIVE TREE



Double line boxes are potential additions to be further studies during the preparation of the CPSP.

ANNEX II

LETTER OF REQUEST FROM GOM

MINISTERE DES FINANCES

SECRETARIAT GENERAL

DIRECTION GENERALE DU TRESOR

DIRECTION DE LA DETTE PUBLIQUE
ET DES OPERATIONS FINANCIERES

N° 25 -MF/SG/DGT/DDFOF/2/RL

REPUBLIQUE DE MADAGASCAR

AMB. D.T.M.

Le MINISTERE DES FINANCES de la REPUBLIQUE DE MADAGASCAR présente ses compliments à l'AMBASSADE DES ETATS-UNIS D'AMERIQUE et a l'honneur de recourir à son obligeante entremise en vue de solliciter une assistance de l'USAID pour un montant d'environ 4,0 millions de dollars destinés à financer la Connaissance des politiques effectives pour la Gestion de l'Environnement (Knowledge and Effective Policies for Environmental Management - KEPEM).

Le MINISTERE DES FINANCES de la REPUBLIQUE DE MADAGASCAR remercie l'AMBASSADE DES ETATS-UNIS D'AMERIQUE de la suite qu'elle jugera pouvoir réserver à la présente Note et saisit cette occasion pour lui renouveler les assurances de sa haute considération.

AMBASSADE DES ETATS-UNIS
D'AMERIQUE
- ANTANANARIVO-

Antananarivo, le 15 APR 1992

MINISTERE DES FINANCES

MARSON Evariste

BEST AVAILABLE

ANNEX III

ECPR CABLE & DELEGATION OF AUTHORITY

PDO

UNCLASSIFIED STATE 130217

ACTION: AID-2 INFO AMB DCM RF

VZCZCAT0681BA0164
RR RUFHAN
DE RUEHC #0217 1150521
ZNR UUUUU ZZH
R 240521Z APR 92
FM SECSTATE WASHDC
TO AMEMBASSY ANTANANARIVO 0958
BT
UNCLAS STATE 130217

LOC: 147 473
24 APR 92 0523
CN: 31644
CHRG: AID
DIST: AID

AIDAC

E.O. 12356: N/A
TAGS:
SUBJECT: KEPEM AMENDMENT APPROVAL (687-0113) AND (687-0115)

REF: ANTANA 00599

1. MISSION IS ADVISED THAT THE ACTING ASSISTANT ADMINISTRATOR FOR AFRICA, JOHN F. HICKS APPROVED THE ACTION MEMO FOR THE KEPEM PROGRAM (687-0113) AND (687-0115) ON APRIL 22, 1992.

2. THE ACTION MEMO AUTHORIZES THE DIRECTOR TO AMEND THE AD HOC DELEGATION OF AUTHORITY, DATED MARCH 10, 1991 TO APPROVE THE KEPEM PAAD AND AUTHORIZE INCREMENTAL FUNDING AMENDMENTS, TO INCREASE THE AUTHORIZED AMOUNT BY DOLLARS 7 MILLION, FOR A NEW LOP OF DOLLARS 42 MILLION.

3. APPROVAL ALSO GIVEN FOR THE USE OF CASH DISBURSEMENT PROCEEDS FOR SERVICE OF DEBT OWING THE IMF AND MULTILATERAL DEVELOPMENT BANKS, TO THE EXTENT THAT THERE IS NOT UNRESCHEDULED NON-MILITARY DEBT OWED TO THE USG.
BAKER
BT
#0217

NNNN

RECEIVED ON: APR 27 1992
REPLY DUE ON:

	ACTION	INFO
DIR		✓
DCR		✓
AMR	✓	
CONT		✓
FCO		
PROG		✓
EXO		
GSO		
ISM		
PER		
HPN		
PDO		✓
PROJ		✓
CO		
PDO		
DETM		✓
RF		✓

UNCLASSIFIED STATE 130217

U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

APR 21 1992

ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: AFR/EA, A. David Lundberg

SUBJECT: Madagascar - Amendment to the Ad Hoc Delegation of Authority to Approve KEPEM at a New Funding Level and Use of Funds for Debt Servicing

Problem: USAID Mission Director in Madagascar requests an increase in ad hoc delegation of authority to approve the Knowledge and Effective Policies for Environmental Management Program (KEPEM) at a new funding level of $42 million, an increase of $7 million and to use the cash disbursement proceeds to service debt owed to the IMF and multilateral development banks.

Discussion: The ECPR for the review of the PAIP took place in AID/W on January 11, 1991. It approved the PAIP at a level of $35 million ($30 million NPA and $5 million PA) and AA/AFR delegated authority to the Mission to (a) approve the combined KEPEM program/project document and authorize a PAAD and an FY 1991 obligation of $10.9 million; (b) approve incremental PAAD amendments thereto for a total combined program/project amount not to exceed $35 million with the understanding that the incremental PAAD amendments would not change the basic objectives of the sector reform conditionality framework; and (c) to authorize related project assistance. The ECPR was concerned that the program as proposed in the PAIP was possibly underfunded (see attachment). AID/W indicated to the Mission its openness to a Mission recommendation to increase the program's level of funding. However, due to political turmoil in the country initiation of the program was postponed to FY 1992.

During the design of the PAAD in FY 1991 and FY 1992, financial analysis indicated that the program was, in fact, underfunded and that an additional $7 million is needed to support the Government of Madagascar in its efforts to carry out proposed reforms. The conditionality framework remains as proposed in the PAIP.

The revised total funding of $42 million ($33 million NPA and $9 million PA) includes NPA funding to be disbursed in four tranches

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of $8 million (shortly after signing), $7.5 million (after 18 months), $7.5 million (after 30 months) and $10 million (after 48 months). The projectized component of $9 million will be for technical assistance to include three long-term advisors to the National Office for the Environment, which is responsible for implementation of the Environmental Action Plan, one long-term advisor for setting up the endowment fund, and one long-term PSC program coordinator.

Justification for expanded DOA: (a) the revision of the stumpage fee schedule and collection of stumpage fees as proposed in the conditionality of the PAAD will be politically and logistically costly to the government. To institute these reforms, the government will have to incur considerable costs in developing a more accountable fee collection system. Increased revenues from stumpage fees will ultimately help the forest service meet recurrent costs and help achieve the sustainability of forestry operations in Madagascar. (b) The PAAD design includes the establishment of an endowment fund. As part of program conditionality, the government will be required to capitalize this fund. The idea for establishing an endowment fund was conceived after the PAIP design. For this fund to be effective, the government will have to fund it at a significant level. Additional funding is needed to offset this cost to the government. (c) An increase in funding is also required under the projectized component to assist the government in the implementation, monitoring and evaluation of the National Environmental Action Plan.

The PAAD proposes to use the NPA cash disbursement proceeds for debt service. The Agency guidance on use of cash transfer proceeds [87 State 325792], made applicable to DFA cash disbursements by 90 State 50769, states that "in certain instances where recipient country dept service is a significant barrier to growth and development,...cash transfer assistance may be used to effect debt service payment. The use of cash transfer dollars for debt service payment may be particularly justified when such servicing will have a significant effect on leveraging additional flows of development finance." The country is in a critical transition period where after seven months of strikes and civil paralyses, the country's foreign exchange reserves are almost exhausted. Madagascar's debt service ratio in 1991 was equal to 90.7 percent of GDP, and will be essentially the same for the duration of this program. Sufficient foreign exchange resources for essential imports and debt servicing are not currently available. Because of the country's debt profile, the servicing of eligible debt is the most targeted and quickest mechanism to address Madagascar's seriously ill economic condition. If this high level of debt service were fully met, a wholly inadequate amount of funds would be left for development purposes, and several important development projects would have

to be canceled. Thus, debt service is clearly a barrier to Madagascar's development.

State 325792 also states the first priority debt service is non-military debt owed to the U.S. Government. The only such debt that Madagascar owes is to the Export-Import Bank. To the extent that this debt is not rescheduled the cash disbursement proceeds will first be applied to it. State 325792 states that the second priority debt service is that owed to multilateral development banks and the IMF. Madagascar's debt service to the IMF in 1991 was $42.3 million and to the IBRD and IDA $84.5 million. These levels will continue well beyond the life of this program. The cash disbursement proceeds not applied to non-military debt service to the U.S. Government will be applied to this debt service.

Under State 325792, the approval of the assistant administrator is required to permit use of cash disbursement proceeds to service debt owed to the IMF and multilateral development banks.

Recommendation: That you [a] amend the ad hoc delegation of authority to the mission director, USAID/Madagascar, dated March 10, 1991 to approve the KEAPEM PAAD and authorize incremental funding amendments, to increase the authorized amount by $7 million, for a new total LOP of $42 million, and [b] approve the use of cash disbursement proceeds for service of debt owing to the IMF and multilateral development banks, to the extent that there is not unrescheduled non-military debt owing to the U.S. Government.

Approved: [signature]

Disapproved: _____

Date: 4/22/92

Attachment: Cable - State 077050

Clearance:

DAA/AFR:RCobb [signature]
GC/AFR:MAKleinjan [signature]

Drafted:AFR/EA:SPulaski:647-7988:02/21/92:KEPEMADH.MEM

ACTION: AID-2 INFO AMB DCM RF

VZCZCATCS12EAO682
RUFRAN
DE RUFHC #7050/01 0690335
ZNR UUUUU ZZH
R 100332Z MAR 91
FM SECSTATE WASHDC
TO RUFRAN/AMEMBASSY ANTANANARIVO 9172 DUPE MCN
INFO RUFHAR/AMEMBASSY NAIROBI 9934
BT
UNCLAS SECTION 01 OF 03 STATE 077050

AIDAC NAIROBI FOR REDSO/FSA RLA

E.O. 12356: N/A
TAGS:
SUBJECT: ECPR GUIDANCE CABLE FOR MADAGASCAR KNOWLEDGE AND EFFECTIVE APPLICATION OF POLICIES FOR ENVIRONMENTAL MANAGEMENT (KEAPEM) PAIP 6970113

REF: A. 90 STATE 194322 B. 90 STATE 050759
C. ANTANANARIVO 00733

1. ECPR FOR SUBJECT PROJECT MET ON 11 JANUARY, CHAIRED BY ACTING AA/AFR AND ATTENDED BY REPRESENTATIVES OF AFR/PD, AFR/TA, GC/AFR, AFR/DP, AFR/TR, AND STATE DESK. USAID/MADAGASCAR WAS REPRESENTED BY THE MISSION DIRECTOR. THE ECPR APPROVED THE PAIP FOR THE SUBJECT PROJECT AT A LEVEL OF DOLS 35 MILLION AND RESOLVED A NUMBER OF ISSUES RELEVANT TO PAAD DESIGN. THE ECPR COMMENDED THE MISSION FOR A FINE PIECE OF WORK IN A NEW, COMPLEX AND DIFFICULT AREA.

2. THE ECPR DISCUSSION BEGAN WITH A FOCUS ON KEAPEM'S GENERAL APPROACH. THE SPECIFIC PURPOSE OF THE KEAPEM PROGRAM IS TO MOBILIZE RESOURCES TO MAKE BIODIVERSITY MANAGEMENT AND PROTECTION SUSTAINABLE. THE COMPANION ENVIRONMENTAL PROJECT, SAVEM (SUSTAINABLE APPROACHES TO VIABLE ENVIRONMENTAL MANAGEMENT), IS FOCUSED ON

IDENTIFYING AND INITIATING SYSTEMS (INSTITUTIONS, METHODS, AND BEHAVIORS) THAT WILL BE APPLIED UNDER THE POLICY AND INSTITUTIONAL CONTEXT ESTABLISHED BY KEAPEM. THE KEY QUESTION IS WHY COMMUNITIES AND INDIVIDUALS WILL SEE IT IN THEIR ECONOMIC INTEREST TO CHANGE THEIR BEHAVIOR WITH REGARD TO THREATENED SPECIES AND AREAS. THE PAAD NEEDS TO BE CLEARER ON HOW KEAPEM'S POLICY AND INSTITUTIONAL CHANGES, COMBINED WITH SAVEM'S ACTIVITIES, WILL CHANGE THE ECONOMIC AND SOCIAL FRAMEWORK UNDER WHICH THE MALAGASY PEOPLE DECIDE TO USE NATURAL RESOURCES. AT THE VARIOUS LEVELS OF POLICIES, INSTITUTIONS, COMMUNITY, AND THE INDIVIDUAL, WHAT CHANGES IN POLICIES, INSTITUTIONS, AND AT THE COMMUNITY LEVEL WILL LEAD TO A NEW ECONOMIC AND SOCIAL INCENTIVE STRUCTURE UNDER WHICH PEOPLE WILL ACT TO PROTECT ENDANGERED SPECIES AND AREAS? IN THIS NEW AND COMPLEX ARENA, THE MISSION MAY NOT BE CLEAR ON ALL THAT HAS TO BE DONE. WHERE THERE IS UNCERTAINTY, HOW WILL KEAPEM PROGRAM

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ACTIVITIES AND THE MONITORING AND EVALUATION SYSTEM HELP CLARIFY THE REMAINING PIECES OF THE INCENTIVE FRAMEWORK?

3. CONDITIONALITY: FIXED END POINTS FOR SECTOR REFORM. IN DISCUSSING THE CONDITIONALITY FRAMEWORK, THE ECPR ADVISES THAT THE PAAD AND PROGRAM AGREEMENT MUST CONTAIN CLEAR INITIAL CONDITIONS AND FIXED END POINTS FOR SECTOR REFORM. IN THE THREE MAJOR AREAS THE MISSION IS WORKING IN: (A) ESTABLISHING AN ECONOMIC POLICY FRAMEWORK FOR REVENUE GENERATION AND UTILIZATION; (B) STRENGTHENING PUBLIC INSTITUTIONS; AND (C) STIMULATING LOCAL INITIATIVES. THE PAAD SHOULD DESCRIBE THE BASIC STEPS FOR REACHING THESE END POINTS AND THEIR FEASIBILITY. THE MISSION SHOULD USE THE PAAD AND PROGRAM AGREEMENT AMENDMENT PROCESS TO THE EXTENT THE INTERVENING STEPS NEED CLARIFICATION OR REVISION IN THE LATER YEARS OF THE PROGRAM AND TO THE EXTENT THAT LATER YEAR CONDITIONS ARE NOT SPECIFIED IN THE PAAD.

4. CONDITIONALITY: FOCUSING THE CONDITIONALITY FRAMEWORK. GIVEN THE LARGE NUMBER OF WIDE-RANGING POINTS INCLUDED UNDER THE PAIP CONDITIONALITY FRAMEWORK, THE ECPR WAS CONCERNED WITH THE DIFFICULTY IN MONITORING AND MOVING FORWARD SUCH A COMPLEX AGENDA. THE ECPR THEREFORE RECOMMENDS THAT THE MISSION IDENTIFY A FEW, FUNDAMENTAL AREAS FOR CONDITIONS. SATISFACTORY GDRM ACTION ON THESE FEW POINTS SHOULD INDICATE BROAD PROGRESS ON THE WHOLE RANGE OF REFORMS DISCUSSED IN THE PAIP. MANY OF THE POINTS NOT INCLUDED IN THE FORMAL CONDITIONS CAN BE COVERED UNDER COVENANTS AND MONITORED BY THE MISSION AS IT TRACKS GDRM PERFORMANCE ON SECTOR REFORM.

5. MISSION MANAGEMENT CAPACITY: WITH ITS TWO LARGE PROGRAMS IN THE ENVIRONMENTAL SECTOR, THE MISSION'S CURRENT AGRICULTURAL, NATURAL RESOURCES, AND SUPPORT STAFF WILL BE STRETCHED TO THE LIMIT IN MANAGING THE EXISTING PORTFOLIO. THE KEAFEM PROGRAM WILL ADD THE DAUNTING TASK OF MONITORING AN AMBITIOUS SECTOR REFORM PROGRAM TO SAVEMOS WIDE RANGE OF PROJECT AND SUBGRANT ACTIVITIES. IT IS OUR VIEW THAT UNTIL A.I.D. IS IN A POSITION TO PROVIDE THE RESIDENT DR STAFF NECESSARY (A) TO DO THE ANALYTICAL WORK REQUIRED PRIOR TO EXPANDING INTO NEW SECTORS AND (B) TO ADEQUATELY UNDERSTAND AND MONITOR THE IMPACT WE ARE HAVING WITH EXISTING PROGRAMS, THERE SHOULD BE NO EXPANSION INTO OTHER SECTORS. SEPTEL WILL DEAL WITH AID/W CONCERNS ON STAFFING AND MISSION WORKLOAD CONCERNS AND RESPOND TO RECENT MISSION CABLES.

6. PROGRAM FINANCIAL FEASIBILITY: BECAUSE THE KEAFEM'S

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INSTITUTIONAL CHANGES, DECENTRALIZATION, AND CIVIL SERVICE REFORM IN THE ENVIRONMENTAL AREA IMPLY A LARGE COST TO THE GORM. THE ECPR WAS CONCERNED THAT THE PROGRAM MAY BE UNDERFUNDED. IN THE PAAD DESIGN, THE MISSION SHOULD UNDERTAKE A FINANCIAL ANALYSIS OF THE FINANCIAL COSTS TO THE GORM OF THE PROPOSED REFORMS. IN ITS DISCUSSIONS WITH THE GORM, THE MISSION MAY WISH TO INDICATE THAT IF THE GORM IS WILLING TO UNDERTAKE FUNDAMENTAL AND DIFFICULT CHANGES (SUCH AS THE REORGANIZATION OF THE DEPARTMENT OF WATER AND FORESTS), ADDITIONAL RESOURCES MAY BE PROVIDED. THE PURPOSE OF A LARGER PROGRAM WOULD BE TO PROVIDE ADDITIONAL RESOURCES NEEDED TO ACCELERATE FUNDAMENTAL REFORMS ON A BROADER SCALE DURING THE PERIOD WHEN TAX REVENUES FROM POLICY CHANGES BEGIN TO CATCH UP WITH COSTS. THE MISSION SHOULD UNDERTAKE A FINANCIAL ANALYSIS OF REFORMS AS EARLY IN THE DESIGN PROCESS AS POSSIBLE AND NOTIFY AID/W OF ITS RECOMMENDATION ON THE PROGRAM FUNDING LEVEL.

7. NEED FOR DESIGN ASSISTANCE: THE MISSION HAS TWO LARGE AND COMPLICATED DESIGN EXERCISES IN POPULATION AND ENVIRONMENT SCHEDULED FOR THE SAME PERIOD. THIS WILL TAX THE MISSION'S RELATIVELY SMALL STAFF. AID/W UNDERSTANDS THAT REDSO/ESA IS WILLING TO PROVIDE LIMITED ASSISTANCE TO THESE DESIGNS, WHICH WILL COMPLEMENT THE CONSULTANTS PLANNED FOR DESIGN TEAMS. AID/W IS WILLING TO PROVIDE SHORTTERM TDY ASSISTANCE OF PDOS OR OTHER PERSONNEL TO HELP FILL GAPS. THIS WOULD ASSUME THAT CURRENT TRAVEL RESTRICTIONS EASE. WITH REGARD TO MISSION'S REQUEST FOR A SEVERAL MONTH PDO ON TDY, SUCH A PERSON HAS NOT BEEN FOUND. AID/W WILL COORDINATE WITH REDSO/ESA AND THE MISSION TO DETERMINE IF AND WHEN TDY TRAVEL BY AID/W PDO STAFF WOULD BE MOST HELPFUL.

8. PAAD/PROJECT APPROVAL AND AUTHORIZATION: THE AA/AFR HEREBY DELEGATES AUTHORITY TO THE MISSION DIRECTOR, USAID/MADAGASCAR, OR TO THE PERSON ACTING IN THAT CAPACITY, (A) TO APPROVE THE COMBINED KEAPEM PROGRAM AND PROJECT DOCUMENT; TO AUTHORIZE A PAAD FOR DOLS 10.9 MILLION FOR FY 1991; (B) TO APPROVE INCREMENTAL PAAD AMENDMENTS THERETO FOR A TOTAL COMBINED PROGRAM/PROJECT AMOUNT NOT TO EXCEED DOLS 35 MILLION WITH THE UNDERSTANDING THAT THE INCREMENTAL PAAD AMENDMENTS WILL NOT CHANGE THE BASIC OBJECTIVES OF THE SECTOR REFORM CONDITIONALITY FRAMEWORK; AND (C) TO AUTHORIZE RELATED PROJECT ASSISTANCE. THIS AD HOC DELEGATION OF AUTHORITY SHALL BE EXERCISED UNDER ALL THE OTHER TERMS AND CONDITIONS OF DOA 551, EXCEPT FOR THE DOLLAR AMOUNT LIMITATION, AND IN ACCORDANCE WITH THE GUIDANCE PROVIDED HEREIN. AS STATED IN PARA 6 ABOVE, FOLLOWING THE RESULTS OF A FINANCIAL ANALYSIS OF THE COSTS OF KEAPEM REFORMS TO THE GORM, THE MISSION MAY RECOMMEND THAT THE LEVEL OF THE PROGRAM BE CHANGED, AND AID/W WILL CONSIDER THE MISSION'S RECOMMENDATION.

TO ASSIST THE MISSION IN COMPLETING ITS PROGRAM DESIGN AND REVIEWING THE FINAL DOCUMENTS, AID/W PROPOSES TO SEND 23

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SENIOR AID/W REPRESENTATIVES FROM APPROPRIATE OFFICES TO PARTICIPATE IN THE FINAL REVIEW OF THE PROGRAM DOCUMENT. THIS AID/W TEAM WOULD BE WILLING TO SPEND 2-3 WEEKS IN MADAGASCAR TOWARD THE END OF THE DESIGN PROCESS TO (1) HELP REVIEW AND COMPLETE THE PAAD AND (2) PARTICIPATE IN DISCUSSIONS WITH KEY GDRM REPRESENTATIVES ON THE REFORM AGENDA. TO AID IN THIS PROCESS, AID/W SUGGESTS THAT AN INFORMAL PROCESS OF CONSULTATION OCCUR DURING THE PAAD DESIGN BETWEEN THE MISSION AND AID/W ON DEVELOPMENT OF THE CONDITIONALITY FRAMEWORK, PROPOSED DOLLAR USES AND TRACKING, AND PROPOSED LOCAL CURRENCY USES.

B. CONCERNS: A NUMBER OF CONCERNS DISCUSSED AND RESOLVED IN THE ISSUES MEETING AND AT THE ECPR ARE NOTED BELOW.

A. RLA SERVICES: THE MISSION SHOULD ASCERTAIN IMMEDIATELY THE AVAILABILITY OF RLA SERVICES FOR REVIEW OF THE PAAD, THE AUTHORIZATION PACKAGE, AND PREPARATION OF THE PROGRAM AND PROJECT AGREEMENTS.

B. LOCAL-LEVEL PERSPECTIVES: PURSUANT TO NEW DFA LEGISLATION, THE PAAD MUST INDICATE HOW THE LOCAL- LEVEL PERSPECTIVES OF THE RURAL AND URBAN POOR, INCLUDING WOMEN, HAVE BEEN TAKEN INTO ACCOUNT IN THE DESIGN PROCESS AND HOW LOCAL PEOPLE WILL BE CONSULTED AND INVOLVED IN IMPLEMENTATION.

C. LOGICAL FRAMEWORK: THE PAAD MUST CONTAIN A PROGRAM LOGICAL FRAMEWORK WITH INDICATORS OF SUCCESS (EOPS). THE PAAD SHOULD ALSO DISCUSS THE PROGRAM'S EXPECTED PROGRESS IN ATTAINING SUSTAINABLE BIODIVERSITY AND ENVIRONMENTAL PROTECTION IN THE FOREST AND WOODLAND SECTOR.

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D. REQUIRED GDRM LEGISLATIVE ACTIONS: TO MEET THE REQUIREMENTS OF FAA SECTION 511(A)(2), THE PAAD MUST IDENTIFY ANY GDRM LEGISLATIVE ACTIONS NEEDED TO ACCOMPLISH THE PROGRAM'S OBJECTIVES AND DESCRIBE THE BASIS FOR CONCLUDING THAT THESE CHANGES WILL OCCUR IN A TIMELY WAY.

E. HOST COUNTRY CONTRIBUTION: A 25 PERCENT HOST COUNTRY CONTRIBUTION TOWARD THE NPA, AS WELL AS THE PROJECT COMPONENT, OF THE ACTIVITY IS REQUIRED BY FAA SECTION 110. LOCAL CURRENCY GENERATED FROM THE DOLLAR DISBURSEMENTS MAY BE USED TO MEET THIS REQUIREMENT. THE AFRICA BUREAU'S JULY 1988 NPA GUIDANCE REQUIRES THAT THE LOCAL CURRENCY GENERATIONS BE USED IN SUPPORT OF THE SECTOR PROGRAM OBJECTIVES. IF A WAIVER OF ALL OR PART OF THE SECTION 110 REQUIREMENT IS CONTEMPLATED, ONLY THE AA/AFR CAN APPROVE THE WAIVER; IT MUST BE APPROVED PRIOR TO PAAD APPROVAL; AND THE WAIVER MUST DISCUSS THE GDRM'S COMMITMENT TO THE PROGRAM IN ABSENCE OF THE REQUIRED CONTRIBUTION.

F. PROTECTION OF VULNERABLE GROUPS: THE PAAD SHOULD DISCUSS THE STEPS THAT WILL BE TAKEN TO MEET THE REQUIREMENTS OF THE NEW DFA LEGISLATION THAT THE PROGRAM SHALL INCLUDE PROVISIONS TO PROTECT VULNERABLE GROUPS FROM POSSIBLE NEGATIVE CONSEQUENCES OF THE REFORMS.

G. DISADVANTAGED ENTERPRISES: THE PAAD MUST CONTAIN A DISCUSSION CONCERNING THE EXTENT TO WHICH DISADVANTAGED ENTERPRISES WILL BE INVOLVED IN THE IMPLEMENTATION OF THE PROGRAM.

H. DOLLAR TRACKING: IF AN EXCEPTION TO THE SEPARATE ACCOUNT/DOLLAR TRACKING REQUIREMENTS FOR THE NPA PORTION OF THE KEAPEM PROGRAM IS CONTEMPLATED, THE REQUEST FOR THAT EXCEPTION MUST BE APPROVED BY THE DAA/AFR AFTER CONSIDERATION OF A DESCRIPTION OF THE FOREIGN EXCHANGE ALLOCATION SYSTEM DISCUSSED IN PARA 2(C)(2) OF REF.(B) AND SUBMITTED TO CONGRESS UNDER THE CONGRESSIONAL NOTIFICATION PROCESS. IF DOLLARS ARE TRACKED, THE PAAD NEEDS TO DESCRIBE THE MECHANISMS, AS WELL AS THE BASIS FOR THE MISSION'S CONCLUSION REGARDING THE CAPABILITY OF THE GDRM AGENCY TO EFFECTIVELY MANAGE THE DOLLAR SEPARATE ACCOUNT. PER PARA 5(A) OF REF.(A) QUOTE, THIS CONCLUSION WILL BE BASED ON EITHER A FORMAL FINANCIAL ASSESSMENT OF THE AGENCY OR THE MISSION'S PAST EXPERIENCE WITH THE AGENCY'S PERFORMANCE UNQUOTE. PARA 5(A) OF REF.(A) GOES ON TO STATE THAT QUOTE, IF A HOST COUNTRY AGENCY HAS NO PRIOR EXPERIENCE WITH MANAGING AN A.I.D. DOLLAR SEPARATE ACCOUNT, ... THEN A FORMAL FINANCIAL ASSESSMENT MUST BE PERFORMED UNQUOTE.

I. IFE. AID/W IS CURRENTLY REVIEWING THE IFE AND WILL ADVISE SEPTEL. EAGLEBURGER

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ANNEX IV

STATUTORY CHECKLIST

CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of a country to receive assistance. This section is divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources. Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

CROSS REFERENCE: IS COUNTRY CHECKLIST UP TO DATE? YES

A. CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1. **Host Country Development Efforts** (FAA Sec. 601(a)): Information and conclusions on whether assistance will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

The overall objective of Environmental Action Plan (EAP) is to assist the Malagasy population in protecting and improving its environment while working for sustainable development. The program will complement the roles of other donors in the implementation of the EAP.

2. **U.S. Private Trade and Investment** (FAA Sec. 601(b)): Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

N/A

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3. Congressional Notification

a. General requirement (FY 1991 Appropriations Act Secs. 523 and 591; FAA Sec. 634A): If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the notification requirement has been waived because of substantial risk to human health or welfare)?

A Congressional Notification was submitted and expired without objection on 2/27/92

b. Notice of new account obligation (FY 1991 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?

N/A

c. Cash transfers and nonproject sector assistance (FY 1991 Appropriations Act Sec. 575(b)(3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic poolicy reforms to be promoted?

YES

4. Engineering and Financial Plans (FAA Sec. 611(a)): Prior to an obligation in excess of $500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

N/A

5. Legislative Action (FAA Sec. 611(a)(2)): If legislative action is required within recipient country with respect to an obligation in excess of $500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance?

- Legislation governing local use and management of natural resources
- Legislation allowing NGO's to organize and to raise and spend funds and to serve as effective partners with local associations in sustainable natural resources management.
- Disbursment of funds contingent upon passing of legislative action.

6. **Water Resources (FAA Sec. 611(b); FY 1991 Appropriations Act Sec. 501):** If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, *et seq.*)? (See A.I.D. Handbook 3 for guidelines.)	N/A
7. **Cash Transfer and Sector Assistance (FY 1991 Appropriations Act Sec. 575(b)):** Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?	YES
8. **Capital Assistance (FAA Sec. 611(e)):** If project is capital assistance (*e.g.*, construction), and total U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?	N/A
9. **Multiple Country Objectives (FAA Sec. 601(a)):** Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	Program will improve management of natural resources.
10. **U.S. Private Trade (FAA Sec. 601(b)):** Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	N/A

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11. Local Currencies

a. Recipient Contributions (FAA Secs. 612(b), 636(h)): Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.

The GOM has agreed to provide a 25% contribution to KEPEM

b. U.S.-Owned Currency (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

The U.S does not own excess foreign currency in Madagascar

c. Separate Account (FY 1991 Appropriations Act Sec. 575). If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

(a) N/A

(b) N/A

(c) N/A

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

N/A

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

N/A

(4) If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government? N/A

12. Trade Restrictions

a. Surplus Commodities (FY 1991 Appropriations Act Sec. 521(a)): If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? N/A

b. Textiles (Lautenberg Amendment) (FY 1991 Appropriations Act Sec. 521(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel? N/A

13. Tropical Forests (FY 1991 Appropriations Act Sec. 533(c)(3)): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas? NO

14. **Sahel Accounting** (FAA Sec. 121(d)): If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? — N/A

15. **PVO Assistance**

a. **Auditing and registration** (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? — All requirements concerning PVO's will be complied with

b. **Funding sources** (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? — All requirements concerning PVO's will be complied with

16. **Project Agreement Documentation** (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision). — Requirement will be complied with

17. **Metric System** (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the — YES

extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

18. Women in Development (FY 1991 Appropriations Act, Title II, under heading "Women in Development"): Will assistance be designed so that the percentage of women participants will be demonstrably increased? — YES

19. Regional and Multilateral Assistance (FAA Sec. 209): Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs. — The project is not susceptible of execution as part of a regional or multilateral project. It will however, be coordinated with other donors.

20. Abortions (FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 525):

a. Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? — NO

b. Will any funds be used to lobby for abortion? — NO

21. Cooperatives (FAA Sec. 111): Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life? — YES

22. U.S.-Owned Foreign Currencies

a. Use of currencies (FAA Secs. 612(b), 636(h); FY 1991 Appropriations Act Secs. 507, 509): Describe steps taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services. — N/A

b. Release of currencies (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? — NO

23. Procurement

a. Small business (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? — YES

b. U.S. procurement (FAA Sec. 604(a)): Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him? — YES

c. Marine insurance (FAA Sec. 604(d)): If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? — YES

d. Non-U.S. agricultural procurement (FAA Sec. 604(e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) — N/A

e. Construction or engineering services (FAA Sec. 604(g)): Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible — No construction is planned

under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)	
f. Cargo preference shipping (FAA Sec. 603)): Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates?	N/A
g. Technical assistance (FAA Sec. 621(a)): If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	To the extend possible YES
h. U.S. air carriers (International Air Transportation Fair Competitive Practices Act, 1974): If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?	YES
i. Termination for convenience of U.S. Government (FY 1991 Appropriations Act Sec. 504): If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?	To the extend possible YES

j. Consulting services (FY 1991 Appropriations Act Sec. 524): If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? N/A

k. Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage? YES

l. Competitive selection Procedures (FAA Sec. 601(e)): Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? YES

24. Construction

a. Capital project (FAA Sec. 601(d)): If capital (e.g., construction) project, will U.S. engineering and professional services be used? N/A

b. Construction contract (FAA Sec. 611(c)): If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? N/A

c. **Large projects, Congressional approval** (FAA Sec. 620(k)): If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed $100 million (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress? N/A

25. **U.S. Audit Rights** (FAA Sec. 301(d)): If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N/A

26. **Communist Assistance** (FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? N/A

27. **Narcotics**

a. **Cash reimbursements** (FAA Sec. 483): Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? N/A

b. **Assistance to narcotics traffickers** (FAA Sec. 487): Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance? N/A

28. **Expropriation and Land Reform** (FAA Sec. 620(g)): Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President?	N/A
29. **Police and Prisons** (FAA Sec. 660): Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?	N/A
30. **CIA Activities** (FAA Sec. 662): Will assistance preclude use of financing for CIA activities?	N/A
31. **Motor Vehicles** (FAA Sec. 636(i)): Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained?	N/A
32. **Military Personnel** (FY 1991 Appropriations Act Sec. 503): Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel?	N/A
33. **Payment of U.N. Assessments** (FY 1991 Appropriations Act Sec. 505): Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues?	Disbursments will be used to pay eligible debt to international organizations
34. **Multilateral Organization Lending** (FY 1991 Appropriations Act Sec. 506): Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)?	See above
35. **Export of Nuclear Resources** (FY 1991 Appropriations Act Sec. 510): Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology?	N/A

36. **Repression of Population** (FY 1991 Appropriations Act Sec. 511): Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?	N/A
37. **Publicity or Propoganda** (FY 1991 Appropriations Act Sec. 516): Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress?	N/A
38. **Marine Insurance** (FY 1991 Appropriations Act Sec. 563): Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate?	YES
39. **Exchange for Prohibited Act** (FY 1991 Appropriations Act Sec. 569): Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law?	NO

B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

1. Agricultural Exports (Bumpers Amendment) (FY 1991 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment): If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?	N/A
2. Tied Aid Credits (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund"): Will DA funds be used for tied aid credits?	NO
3. Appropriate Technology (FAA Sec. 107): Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	YES
4. Indigenous Needs and Resources (FAA Sec. 281(b)): Describe extent to which the activity recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.	KEPEM will : -develop the institutional capacity of the ONE to implement the Environmental Action Plan -facilitate local-level natural resource management initiatives -foster improved natural resources revenue generation and expenditure.

5. **Economic Development** (FAA Sec. 101(a)): Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?	YES
6. **Special Development Emphases** (FAA Secs. 102(b), 113, 281(a)): Describe extent to which activity will: (a) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries.	(a) The core logic of KEPEM is to improve incentives for first-line users of natural resources to manage those resources sustainably. The program will operate at the local level. (b,c)The program proposes to create a more favorable regulatory environment for NGO's to became more effective partners with local association and individuals in improved natural resource management. (d) Women's active participation in local decision-making and rule setting will be actively encouraged .
7. **Recipient Country Contribution** (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?	YES
8. **Benefit to Poor Majority** (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?	ONE Local resources

9. **Abortions** (FAA Sec. 104(f); FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 535):

a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?	N/A
b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations?	N/A
c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?	N/A
d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services?	N/A
e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning?	N/A
f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?	N/A
g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization?	N/A

10. **Contract Awards (FAA Sec. 601(e)):** Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

YES

11. **Disadvantaged Enterprises (FY 1991 Appropriations Act Sec. 567):** What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?

To the maximum extend possible funds will be made available to disadvantaged enterprises

12. **Biological Diversity (FAA Sec. 119(g):** Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?

(a) YES by holding workshops

(b) YES

(c) YES

(d) YES

13. **Tropical Forests (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c)-(e) & (g)):**

a. **A.I.D. Regulation 16:** Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16?

YES

b. **Conservation:** Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent

YES

feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; (11) utilize the resources and abilities of all relevant U.S. government agencies; (12) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land; and (13) take full account of the environmental impacts of the proposed activities on biological diversity?

(1)	YES
(2)	YES
(3)	YES
(4)	YES
(5)	YES
(6)	YES
(7)	YES
(8)	YES
(10)	YES
(11)	YES
(12)	YES
(13)	YES

14. **Energy** (FY 1991 Appropriations Act Sec. 533(c)): If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases? YES

15. **Sub-Saharan Africa Assistance** (FY 1991 Appropriations Act Sec. 562, adding a new FAA chapter 10 (FAA Sec. 496)): If assistance will come from the Sub-Saharan Africa DA account, is it: (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (a) YES

(b) to be used to promote sustained economic growth, encourage private sector development, promote individual initiatives, and help to reduce the role of central governments in areas more appropriate for the private sector; (b) YES

(c) being provided in accordance with the policies contained in FAA section 102; (c) YES

(d) being provided in close consultation with African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (d) YES

(e) being used to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (e) YES

(f) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, (f) YES

to maintain and restore the renewable natural resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide increased access to voluntary family planning services, to improve basic literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

16. **Debt-for-Nature Exchange (FAA Sec. 463):** If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and atmosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management. N/A

17. **Deobligation/Reobligation (FY 1991 Appropriations Act Sec. 515):** If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified? N/A

18. **Loans**

a. **Repayment capacity (FAA Sec. 122(b)):** Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest. N/A

b. **Long-range plans (FAA Sec. 122(b)):** Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?	N/A
c. **Interest rate (FAA Sec. 122(b)):** If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter?	N/A
d. **Exports to United States (FAA Sec. 620(d)):** If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?	N/A
19. **Development Objectives (FAA Secs. 102(a), 111, 113, 281(a)):** Extent to which activity will: (1) effectively involve the poor in development, by expanding access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (2) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?	Local resources

mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

22. **Education and Human Resources Development (FAA Sec. 105):** If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

(b) Workshops on results of studies concerning the environment will be held at the local level.

23. **Energy, Private Voluntary Organizations, and Selected Development Activities (FAA Sec. 106):** If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

a. concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;

ONE National Environment Office will develop their capacity to coordinate data collection

b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

N/A

c. research into, and evaluation of, economic development processes and techniques;	N/A
d. reconstruction after natural or manmade disaster and programs of disaster preparedness;	N/A
e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance;	N/A
f. for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development.	Local resource
24. **Sahel Development (FAA Secs. 120-21).** If assistance is being made available for the Sahelian region, describe: (a) extent to which there is international coordination in planning and implementation; participation and support by African countries and organizations in determining development priorities; and a long-term, multidonor development plan which calls for equitable burden-sharing with other donors; (b) whether a determination has been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of projects funds (dollars or local currency generated therefrom).	N/A

ANNEX VI

DETAILED BUDGET

ILLUSTRATIVE KEPEM EXPENDITURE BUDGET

I. INSTITUTIONAL CONTRACT									
A. RESIDENT PERSONNEL									
INST. DEV. COORD/COP	48	5500	0	46,200	72,765	76,403	80,223	35,379	310,970
ONE POLICY ANALYST	48	5000	0	42,000	66,150	69,458	72,930	32,162	282,700
ONE M&E EXPERT	48	6000	0	33,600	52,920	55,566	58,344	25,730	226,160
ENDOWMENT ADVISOR	36	4000	0	33,600	52,920	55,566	29,172	0	171,258
TOTAL RESIDENT PERSONNEL	180		0	155,400	244,755	256,993	240,670	93,271	991,089
B. FRINGE BENEFITS:25% SALARY			0	38,850	61,189	64,248	60,168	23,318	247,772
C. SHORT-TERM CONSULTANTS									
FOREST FIN. MGT. SPEC.	6	7500	0	47,250	0	0	0	0	47,250
FOREST INVENTORY	6	7000	0	44,100	0	0	0	0	44,100
FOREST COORDINATOR	6	9000	0	56,700	0	0	0	0	56,700
ENVIRONMENTAL REVIEW	6	9000	0	56,700	0	0	0	0	56,700
ENDOWMENT FIN. SPEC.	12	7500	0	7,502	82,688	0	0	0	90,190
FOREST REV. SPEC.	12	7500	0	47,250	49,612	0	0	0	96,862
FOREST MGT. SPEC.	12	7000	0	0	0	72,930	25,526	0	98,456
NGO SUPPORT EXPERT	2	7000	0	7,350	7,717	0	0	0	15,067
SPECIAL POLICY EXPERT	12	10000	0	0	63,000	66,150	0	0	129,150
TOTAL CONSULTANTS	74		0	266,852	203,018	139,080	25,526	0	634,476
D. PROFESSIONAL MALAGASY STAFF									
LOCAL ADMIN. ASST.	48	300	0	2,760	4,761	5,475	6,296	2,414	21,706
SECRETARY	48	200	0	1,840	3,174	3,650	4,198	1,609	14,471
TOTAL MALAGASY STAFF	96		0	4,600	7,935	9,125	10,494	4,023	36,177
E. OVERHEAD 80%			0	434,622	467,945	418,048	288,723	101,957	1,711,296
F. LOCAL/INT'L TRAVEL									
INTERNATIONAL TRAVEL	14	6000	0	52,920	13,891	21,879	0	7,658	96,348
LOCAL TRAVEL			0	17,250	13,225	15,209	16,958	0	62,642
PER DIEM			0	187,275	74,790	63,476	13,206	0	338,747
TOTAL TRAVEL			0	257,445	101,907	100,564	30,164	7,658	497,737
G. POST ALLOWANCES									
EDUC. ALLOWANCE			0	10,000	10,500	11,025	11,576	12,155	55,256
HHE/TVL/CONSUM/UAB/STORAGE			0	156,520	15,120	38,197	12,502	65,498	287,837
R&R TVL/HOME LEAVE TVL/EMERG TVL			0	24,000	95,550	143,799	90,295	37,344	390,988
TOTAL POST ALLOWANCES			0	190,520	121,170	193,021	114,373	114,997	734,081
H. LOCAL HOUSING COSTS			0	83,160	109,147	114,605	96,268	31,841	435,021
I. OFFICE SUPPORT/MAINTENANCE									
VEHICLE MAINTENANCE	48	414	0	3,809	5,477	6,299	7,244	3,499	26,327
COMMUNICATIONS/FAX	48	1500	0	20,700	23,805	27,376	31,482	15,206	118,569
TOTAL OFFICE SUPPORT/MAINTENANCE			0	24,509	29,282	33,675	38,726	18,705	144,896
J. TRAINING/WORKSHOPS									
SHORT-TERM TRAINING (INT'L)	28	15000	0	63,000	99,225	173,644	145,861	0	481,729
WORKSHOPS (IN-COUNTRY)	3	15000	0	15,750	16,538	0	18,233	0	50,520
TOTAL TRAINING			0	78,750	115,762	173,644	164,093	0	532,250
K. COMMODITIES									
VEHICLES	4	25000	0	50,000	52,500	0	0	0	102,500
COMPUTERS	5	5000	0	25,000	0	0	0	0	25,000
FURNITURE	5	50000	200,000	52,500	0	0	0	0	252,500
OFFICE FURNITURE	6	2500	7,500	8,625	0	0	0	0	16,125
TOTAL COMMODITIES			207,500	136,125	52,500	0	0	0	396,125
TOTAL INSTITUTIONAL CONTRACT			**$207,500**	**$1,666,233**	**$1,506,675**	**$1,493,877**	**$1,058,711**	**$391,745**	**$6,324,742**

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2. PSC COORDINATOR									
SALARY	65	4500	36,000	56,700	59,535	62,512	65,637	51,689	332,073
FRINGE BENEFITS			9,000	14,175	14,884	15,628	16,409	12,922	83,018
POST ALLOWANCES			53,005	35,280	47,584	38,896	36,465	28,755	239,985
HOUSING COSTS			18,408	19,920	20,916	21,962	23,060	18,160	122,425
RESID/OFFICE FURNITURE			65,000	0	0	0	0	0	65,000
OFFICE EQUIP./SUPPLIES			16,000	0	0	0	0	0	16,000
SECRETARIAL SUPPORT	65	250	2,000	2,300	2,645	3,042	3,498	3,017	16,502
TOTAL PSC COORDINATOR COSTS			$199,413	$128,375	$145,564	$142,039	$145,070	$114,543	$875,004
3. BUY-INS (CONSULTANTS SALARY)									
ENV. REVIEW EXPERT	6	7500	37,500	7,875	0	0	0	0	45,375
EAP DEVEL. SPEC.	12	9000	45,000	66,150	0	0	0	0	111,150
ASSESSMENT COORDINATOR	6	9000	18,000	37,800	0	0	0	0	55,800
LAND TENURE RESEARCHER	12	5000	25,000	36,750	0	0	0	0	61,750
LOCAL GOVERNANCE RESEARCHER	12	5000	25,000	36,750	0	0	0	0	61,750
CONFLICT RESOLUTION RESEARCHER	12	5000	25,000	36,750	0	0	0	0	61,750
MALAGASY FIELD RESEARCH.	6	2500	12,500	2,625	0	0	0	0	15,125
TOTAL CONSULTANT SALARY		43000	188,000	224,700	0	0	0	0	412,700
OVERHEAD 80% SALARIES		34400	150,400	179,760	0	0	0	0	330,160
COMMODITIES (3 LAPTOPS; 3 VEHICLES)			90,000	0	0	0	0	0	90,000
VEHICLE MAINTENANCE	36	414	22,356	23,474	0	0	0	0	45,830
WORKSHOPS	3	15000	15,000	31,500	0	0	0	0	46,500
TRAVEL			56,000	27,000	0	0	0	0	83,000
PER DIEM			59,985	59,985	0	0	0	0	119,970
LOCAL HOUSING COSTS			9,900	10,395	0	0	0	0	20,295
TOTAL BUY-IN COSTS			$591,641	$556,814	$0	$0	$0	$0	$1,148,455
3. EVALUATION			0	0	100,000	0	100,000	0	200,000
4. AUDIT			0	15,000	15,000	15,000	15,000	0	60,000
SUBTOTAL KEPEM PROJECT COSTS			$998,554	$2,366,422	$1,767,239	$1,658,917	$1,318,781	$506,289	$8,608,201
CONTINGENCY			49,928	103,321	73,362	82,546	57,328	25,314	391,799
GRAND TOTAL KEPEM PROJECT COSTS			$1,048,482	$2,469,743	$1,840,601	$1,733,462	$1,376,109	$531,603	$9,000,000

NOTE: 1. SALARY COSTS. SALARIES FOR SHORT TERM CONSULTANTS BASED ON LEVEL OF EXPERTISE NEEDED IN RELATION TO MAXIMUM DAILY RATE OF $306*1.041(COST OF LIVING INCREASE)*1.25 (FRINGE BENEFITS)

2. PER DIEM COSTS. PER DIEM COSTS BASED ON PERCENTAGE OF TIME SPENT IN ANTANANARIVO VS. FIELD

ANNEX VII

DETAILED IMPLEMENTATION PLAN

DETAILED IMPLEMENTATION SCHEDULE

ANNEX VII

TIME	ACTION	AGENT
FY 1992		
MAY 92		
	Obligation and ProAg signing	GOM/USAID
JUNE 92		
	KEPT meets to review progress towards program performance criteria	KEPT
	Conditions Precedent for Tranche One met	GOM
	Tranche One released	USAID
	Verification of payment of eligible debt submitted to USAID	GOM
	Position for Program Coordinator advertised	USAID
JULY 92		
	PIO/T for bridging activities prepared	USAID
	PIO/T for Institutional Contract prepared	USAID
	PIO/T for buy-ins (Local initiatives studies) to centrally funded projects prepared	USAID
	PIC meets for the first time	PIC
AUG 92		
	Request for Proposal sent out for Institutional contract	REDSO/ESA
SEP 92		
	Bridging activities begin	USAID
	Program Coordinator hired	USAID
OCT 92		
	Local initiatives assessments begin	USAID/Buy-in

FY 1993		
NOV 92		
	Institutional Contract awarded	REDSO/ESA
	Semi-annual progress review	KEPT
	Institutional Contract short-term TA arrives to procure houses and necessary commodities	Contract
APR 93		
	Semi-annual progress review	KEPT
MAY 93		
	Institutional Contract team arrives Chief of Party Long-term advisors to ONE (2) Long-term Endowment Specialist Short-term Env. Review Specialist	Contract
JUL 93		
	Forest Revenue Specialist arrives	Contract
AUG 93		
	NGO Workshop	Contract
	End of bridging activities	USAID
SEP 93		
	Local Initiatives Assessments completed	AID/W Buy-in
	Semi-annual progress review	KEPT
FY 1994		
OCT 93		
	Workshops held on Local Initiatives Assessments	
	Legislation approved for establishing environmental review process	GOM
	NGO code published	GOM
	Stumpage fees for pine and palissandre are adjusted	GOM

	Legislation established regarding endowment fund	GOM
	Conditions for Second Tranche met	GOM
	Second Tranche released	USAID
NOV 93		
	Verification of payment of eligible debt sent to USAID	GOM
	Local Initiatives Assessments Workshops held	AID/W Buy-in
	ST TA Environmental Review Specialist leaves	Contract
	Financial Expert for Endowment fund arrives	Contract
DEC 93		
	Preliminary forest inventory completed	AID/W Buy-in
FEB 94		
	Mid-Term Evaluation	USAID/GOM
APR 94		
	Semi-annual progress review	KEPT
MAY 94		
	Paper defining roles and responsibilities for environmental policy formulation	KEPT
SEP 94		
	Semi-annual progress review	KEPT
	Plan for coordinating implementation and evaluation roles in EAP	KEPT
FY 1995		
OCT 94		
	Equivalent of $6 million deposited in endowment fund	GOM
	20 percent of ONE's recurrent cost budget contributed by GOM	GOM

	Specific environmental review processes legislated	GOM
	Improved of collection and accounting system established to increase revenue from stumpage fees	GOM
	Conditions for release of Tranche 3 met	GOM
	Tranche 3 released	USAID
NOV 94		
	Verification of payment of eligible debt	GOM
	Financial Expert for Endowment Fund leaves	Contract
	Annual workplans for implementing and assessing progress of EAP prepared	GOM
DEC 94		
	First Workshop on forest revenues	GOM/DEF
JAN 95		
	Project and Program audited	USAID
FEB 95		
	Preparation of draft legislation based on results of Land Tenure, Local Governance and Conflict Resolution studies	Contract/GOM
APR 95		
	Semi-annual progress review	KEPT
	Nat'l. Forest Mgt. Specialist arrives	Contract
FY 1996		
OCT 95		
	Semi-annual progress review	KEPT
NOV 95		
	Annual workplans prepared for implementing and assessing progress of EAP	GOM

	Procedures for improving EAP coordination adopted	GOM
JAN 96		
	Final program evaluation	USAID/GOM
FEB 96		
	Second workshop on forest revenues	GOM/DEF
MAR 96		
	Workshop on Natural Forest Management	GOM/DEF
	Forest Revenues Specialist leaves	Contract
APR 96		
	Equivalent of $6 million deposited in endowment fund	GOM
	50 percent of forest revenues to be allocated to Natural Forest Management	GOM
	20 percent of ONE's recurrent cost budget contributed	GOM
	Legislative, regulatory and policy changes implemented based on results of Land Tenure, Local Governance and Conflict Resolution studies	GOM
	Comprehensive stumpage fee table published	GOM
	Semi-annual progress review	KEPT
	Conditions for release of Tranche 4 met	GOM
	Tranche 4 released	USAID
	Nat'l. Forest Management Specialist leaves	Contract
MAY 96		
	Verification of payment of eligible debt presented to USAID	GOM
JUL 96		
	Series of natural forest management plans begin to be developed	GOM
	Plans for use of endowment fund begins	GOM/Contractor

FY 1997		
OCT 96	Semi-annual progress review	KEPT
DEC 96	Evaluation of effectiveness of EAP	
MAY 97	Rest of contract team departs	Contractor
SEP 97	End of Program Coordinator contract	USAID
OCT 97	Close out activities begin	USAID
APR 98	PACD	USAID

ANNEX VIII

DONOR SUPPORT TO THE EAP

ENVIRONMENTAL PROGRAM I
FINANCIAL PLAN SUMMARY
DONOR PARTICIPATION

COMPONENT	PROGRAM EST. TOTALS	FUNDING														
		IDA	NORWAY	USAID	KFW	SWISS	UNESCO	FAC	FED	ADB	WWF	CI	UNDP	ODA	TOTAL DONORS	GOVT. OF M'GASCAR
1. Biodiversity	27.7		1.1	26.6	4.4		3.3		# 3.0				* (1.7)		38.4	5.2
2. Cartography	12.7	8.6			3.1			3.5							15.2	4.2
3. Cadaster	9.0	6.1													6.1	2.9
4. Research	5.1	2.3	0.6												2.9	0.9
5. Soil conservation Mini-projects ANAE	12.6		2.1			0.6				6.4					9.1	2.7
6. Institutional support ONE	15.1	9.0						0.4		5.1			0.9		15.4	1.0
7. Training and Education	3.3						0.400	0.8		3.5					4.7	0.3
8. TOTALS	** 85.5	26.0	3.8	26.6	7.5	0.6	3.7	(a) 4.7	# 3.0	## 15.0	(b) (3.8)	(c) (5)	@@ (0.9) (1.7) *		91.8	17.2

Note: 1. USAID will provide support to ONE from its upcoming KEPEM Program.
2. The FAC and CCCE will provide support to ONE education program coordination, environmental studies and for cartographic and cadastral training
3. All fundings is expressed in millions of U.S. dollars.

* UNDP funding for UNESCO Biosphere program, included in UNESCO amount.
** Includes $17.2 million Govt. of Madagascar contribution.

Proposed funding, not yet negotiated.
Approximate figures, program recently appraised, soon to be negotiated

(a) $2.3 already in place; estimated balance to be negotiated
(b) total approved and financed debt swap
(c) total approved debt swap, $ 3M financed ($ 2M UNDP funding)
@@ total new program, including $ 2M debt swap for CI

ANNEX IX

SOCIAL SOUNDNESS ANALYSIS

SOCIAL SOUNDNESS ANALYSIS

KNOWLEDGE AND EFFECTIVE APPLICATION OF POLICIES FOR ENVIRONMENTAL MANAGEMENT - (KEPEM) - MADAGASCAR

I. Introduction

KEPEM's goal is to establish sustainable human and natural ecosystems in areas of Madagascar where biodiversity is threatened. As such KEPEM will address a number of interlinked issues that impede efforts to conserve biodiversity. It is part of the GOM/Multi-donor Environmental Action Plan (EAP). With "Sustainable Approaches to Viable Environmental Management" (SAVEM), KEPEM reflects USAID's commitment under the EAP to address the protection and management of biodiversity as well as institutional strengthening in the resource-management field. Analyses conducted by USAID, other donors and GOM officials, indicate that conserving biodiversity (or, more realistically, slowing the depletion of biodiversity) depends heavily on upgrading the capacity of local natural resource users to improve the efficiency and sustainability of their production systems in threatened environments.

The core logic of KEPEM is to improve incentives for first-line natural resource users to manage those resources sustainably and to intensify resource production through investment. The purpose of KEPEM is to create a policy and institutional framework of incentives and revenue generation and use that encourage sustainable natural resources management.

The goal and purpose will be achieved as a consequence of policy and institutional changes supported by A.I.D. The three major components of KEPEM are: (1) developing the institutional capacity to implement the EAP; (2) facilitating local natural resource management objectives; and (3) natural resource revenue generation, expenditure and resource pricing.

Direct beneficiaries of KEPEM will be: first-line natural resource users benefiting from improved natural resource management; non-governmental organizations and local associations which, through program reform efforts, will be better able to organize and operate at the local level; and the GOM which will be better able to define, implement and evaluate environmental policy.

In the long run millions of Malagasy people stand to benefit from the conservation through development goals of the program. This includes the urban population which depends on protected areas and natural forest for water and electricity as well as the rural people whose rice cultivation will decline if the watersheds are destroyed. More immediately, if the KEPEM Local Initiatives component initially focuses on sites where SAVEM will also operate, 60 -120,000 people who live in peripheral zones of the protected areas will be directly affected. Some of the short-term effects may however be negative, as some customary sources of livelihood may be curtailed in newly-designated

protected areas. Those most affected will be landless and land-poor Malagasy who have few alternatives to natural resource exploitation. Participation of the affected populations should minimize damage to them and win their understanding of the need for change. However, there is no single recipe for success.

The following social analysis will concentrate on the individual beneficiaries of KEPEM, where direct human level impact is anticipated. It will look at legislative incentives for local natural resource management and measures proposed to foster NGO growth and participation in natural resource management. It is not the intention of this analysis to provide a final picture of the situation. KEPEM makes provision for further study of the issues and is pre 'icated on the need for an interactive process involving local communities and associations, NGOs, and Government bodies to utilize this information to create a policy agenda. This analysis is an attempt to define the key issues.

MADAGASCAR: SOCIETY AND CULTURE

Madagascar, an island of extreme ecological diversity, was settled over the past millennium by peoples of African, Middle Eastern and Indonesian origin. Despite official recognition of some twenty ethnic groups, there is a generally recognized underlying unity of language and culture including common cultural traits such as monotheism, veneration of ancestors, a system of kinship which can be traced through either the paternal or maternal line, division of societies into three relatively rigid strata (nobles, commoners and descendants of slaves); circumcision of children, the practice of astrology and divination, and certain concepts associated with authority such as **hasina** (defined as sacred of life-giving power) which legitimate the position of political as well as familial authorities.

Cultural variation within Madagascar has been described by Huntington (1973) as a continuum. There appears to have been a continuous pattern of migration, assimilation, and more migration which worked to diffuse peoples and institutions over large areas. The process of differentiation whereby the present diversity of culture and social organization developed within this wider embracing unity emerged in reaction and adaptation to variations in the physical environment, different histories as subnational political units and contact with the outside world. The relative importance of the environment is reflected in the names of many ethnic groups. (e.g Tanala means people of the forest. Antemoro - people of the shores; Antefasy - people of the sands; Sihanaka - people of the lake; Sakalava - people of the long valley; Antandroy - people of the thorns.)

The principal modes of livelihood for the rural population are, rainfed agriculture on "tanety" lands, irrigated production on permanent fields, slash and burn "tavy" cultivation mainly in forested areas, livestock rearing, fishing and to a more limited extent hunting and gathering. These do not occur in isolation rather they are combined in different ways depending upon local ecological circumstances, regional and ethnic preference. (A discussion of regional variation can be found in the EAP and SAVEM social soundness analysis).

The population in 1989 was 11.3 million with a projected annual population growth rate over the next decade of 3.1%. (World Bank 1991) Approximately 18% of the population live in urban areas. (Pryor 1990) Two thirds of the rest of the population live on 20-25% of the land mass with population densities reaching 300/km2 in fertile valleys. 85% of the active labor force is involved in agriculture and there are 1.5 million small farming units of 2 hectares or less. (World Bank, 1988) Migration continues and is both seasonal and permanent. In 1975 approximately 5% of the population lived in provinces other than those of their birth and a further 14% lived a significant distance from the area of their birth. These percentages

have certainly increased, especially for men, due to increasing rural insecurity and increasing economic pressures. (Dash et al. 1990) Rural natural resource users - farmers, pastoralists, forest gleaners, fishermen, fire-wood cutters and charcoal makers, artisans and woodsmen -have limited or no access to technical, financial and organizational assistance to make their production systems more profitable and sustainable. Yet these rural people constitute 80% of the population. They produce 60-75% of the gross national product, and about 80% of the foreign exchange earnings. (USAID, 1991) Their production systems are often resource wasteful and endanger biodiversity. This is particularly true for: tavy/slash and burn cropping; seasonal burn-off of prairie grasses for pasture management; extensive grazing on open-access, public domain lands without regular following; erosive annual crop planting on hillsides; high siltation and water inefficient irrigation schemes; and, unmanaged, non-renewing timber and forest product extraction.

Ten percent of the farm households nationwide are headed by women, with the percentage varying by province. Antsiranana in the North has 21% while Fianarantsoa and Toliara have only 6% each. Having less land on average than male-headed households, these are among the poorest farming units. (Dash et al. 1990) Traditions governing the division of agricultural labor are weakening. Soil preparation tasks have traditionally been men's work. Men also plant and harvest. Activities connected with transplanting rice, weeding and maintaining garden plots have been women's work. Women also gather firewood, cook, tend to the household and nurture children. Today women make use of new technologies when available and men will transplant rice in new production zones away from their ancestral homes.

Despite the existence in he past of Malagasy Queens and the high status of a few women in politics and government administration today, their role in production in relatively unknown and mistakenly assumed to be less than it is. Women enjoy the same legal rights as men in all aspects. There are no legal barriers to women marketing agricultural products and in most of the country women manage the household finances. Furthermore, the decision to buy or sell is usually taken jointly by husbands and wives. However, attention is given to women as mothers, housewives and teachers rather than as producers and marketers. Consequently women have difficulty in gaining access to the factors of production (land, tools and credit); bear heavy household burdens; are isolated in rural areas lacking information on new possibilities; and, when working for others tend to be paid less than men.

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RESOURCE USE

With a few exceptions, Madagascar's natural resources are legally and functionally free public goods. Whether by formal "droit d'usage" in the forests or customary law governing fisheries and watersheds, the use of Madagascar's natural resources is considered a birthright of the citizenry. This legal regime has resulted in over-exploitation and degradation of resources and has been exacerbated by population growth and pervasive poverty which leave people with little option but to continue to mine their resource base.

If the first-line natural resource users do not change their behavior, Madagascar's biodiversity is at grave risk. The goal is to achieve a voluntary, self-interested shift from resource destructive production systems to new forms of natural resource management that are sustainable and will contribute to tangible and fairly rapid returns. It is believed that more productive and environmentally sound technologies are known (i.e more intensive, less extensive agriculture and pastoral systems leading to a reduction of tavy in and around forests and on hillsides; reducing or eliminating the firing of prairies grasses as a regrowth management system by pastoralists; containing pasture encroachment into forested areas; managing forest product take-off; and encouraging labor intensive agro-pastoral industry, product commercialization and employment generation (For more information see KEPEM and SAVEM technical analyses.) However, these technologies must be made available to men and women. Currently there are no female agricultural extension agents and those agents which do exist are hampered by a lack of resources. In addition there are only three female "Agents pour la Protection de la Nature" (APNs). The ability of these agents to transmit new technologies depends upon the availability of necessary support services such as inputs and credit as well as the agents' relationship with local communities, their ability to convince farmers and pastoralists that it is in their best interests to change and the capacity of the target population to afford the risks as well as meet new labor requirements.

Motivating people to change is a complex process. However, there are examples in Madagascar of successful initiatives. Bloch cites that the Zafimaniry are themselves changing their production system from one based on tavy to one based on intensive rice production in valley bottoms (cited in Kottak, 1980:268). Schwennesen et al. (1991), cite that pastoralists in Ambalavao that have formed an association to provide veterinary services and improve the quality of their pasture. And, villagers are contacting NGO's to ask for assistance in setting up nurseries for reforestation projects to increase their access to timber resources.

The Office Nationale de l'Environnement (ONE) must take the lead in studying how the institutional rules can be changed to give first-line natural resource users the incentives to take this path. KEPEM intends to give impetus to the momentum already underway by enhancing ONE's capacity to fulfill its mandate; by instituting legislative changes to enhance the incentives for first-line natural resource users to govern and manage these resources, and by enhancing the ability of public and private organizations to disseminate the necessary technical information. The latter will be effected by changing the legal climate which currently discourages NGOs from participation in natural resource management.

STRENGTHENING LEGISLATIVE INCENTIVES FOR LOCAL-LEVEL NATURAL RESOURCE MANAGEMENT

Initially KEPEM proposes to tackle legislative incentives by undertaking three assessments on: 1) land and resource access and use rights; 2) current practice and needed changes regarding community-level revenue generation and expenditure; and 3) current practice and needed changes regarding natural resource management conflicts.

LAND AND RESOURCE ACCESS AND USE RIGHTS

The most critical issue for improving local resource management towards the goal of sustainable utilization, is the affected communities ability to control their use, take responsibility for their management and obtain the assistance necessary to maintain and replicate them. The assessment of land and resource access and use rights will address this issue. However, trying to cover all aspects of land and resource access and use rights in one study is overly ambitious.

There are for example three principal forms of land tenure in Madagascar - cadastral land registration, customary tenure, and state land. However, other systems coexist with these namely; collective ownership, ownership resulting from post independence legislation, individual ownership without title, and use rights on tavy land. Little is known about actual land tenure patterns and land management systems practiced throughout the country other than that they are associated with different modes of production.

Low lying rice-fields in permanent use (found throughout Madagascar but concentrated in the central highlands) are owned by a family and sometimes by individuals. They can be sold. Most remain under the customary land tenure system despite efforts in the central highlands to institute cadastral registration. Tavy and most tanety fields (also found throughout Madagascar with tanety being more prevalent in the highlands and tavy most prevalent in the East) also remain subject to customary patterns of ownership, with rights to land being established through clearing and cultivation. However, villages have clear rights to land within a given area and, within that area, specific plots are allotted to particular extended families. Consequently neither tanety nor tavy production systems are random or practiced without regard to management of the resource. In southwestern Madagascar, where pastoralism is at least as important as agriculture, the household is the unit of access to agricultural land as well as of livestock ownership. However, access to pasture is through the maximal lineage. In recent years there has been a great deal of migration and resettlement in response to the increased threat of cattle rustling combined with the need for adequate wet-season agricultural land. It is not known what impact this has had on customary rights, access and range management over the past decade. Finally, the Eastern coastal region and along part of the Northern coast is the major zone for export crop production (coffee, cloves and vanilla). Consequently it was one of the principal zones for colonization by foreigners and numerous colonial "concessions" were delimited.

Whatever the prevalent land tenure system, the distribution of land in Madagascar is not equitable. The pattern of inequality is a result not only of twentieth century social, demographic and economic change but also of the hierarchical organization of pre-colonial societies. Nobles and high-ranking commoners controlled large areas of land, while slaves were not permitted to own land. Although slavery has long been abolished, the land-holding patterns associated with it remain. Many who have no land of their own are descendants of slaves and remain dependent on the families of their former masters for access to land. For others land shortage may be of more recent origin, the product of population growth or indebtedness for example. Share cropping or métayage has developed as a response to landlessness with the land owner receiving 25 -50% of the harvest. Though presently illegal, in Mahajanga and Lac Alaotra 20% land under this system.

Sharecropping is one of a range of contracts by which landless or land-poor peasants gain access to land and income. Longer-term leasing of land and sale of one's labor are alternatives that need to be considered as similar strategies for the survival of the poorest members of rural society. These exchanges are economic relations and social contracts, the expectations of each party to the contract and their implications for more effective resource management also need to be considered.

Understanding, these land tenure systems and production relationships, their social and economic underpinnings and their relation to agricultural practices, is of fundamental importance to the objectives of KEPEM. Further information is also required concerning rights to forest land, products and activities as well as the degree to which different social groups are dependent upon them for their survival.

Some work has already been conducted on the complex issues of land tenure; current and potential forest, water, and grazing resource use; household and commercial exploitation; and agricultural practices, and related studies are proposed. For example, a national NGO is requesting money from the SAVEM grant fund to look at pasture use and burning, the African Development Bank and USAID have proposed land registration and tenure studies. In addition NGO's working in protected areas have undertaken socio-economic surveys which look at current practices and utilization of resources.

Key issues which remain to be addressed include:
- How can the needs of the landless be met?
- How will the process of migration be affected?
- How can women's access and rights be enhanced or at least not diminished?
- Do inheritance laws need to be adjusted to protect the rights of children?
- How can rural people be protected from speculation and people of power and influence gaining access to their traditional land and resource bases.

It should be possible for the KEPEM to develop the capacity of ONE to compile the data which exists, analyze the gaps with the GOM, other donors and NGO's and then to proceed with a narrower scope of work for this study. Particular attention will need to be paid to gender issues and the impact of proposed changes on the rural poor both of which have to date been largely excluded from all studies and analysis.

CURRENT PRACTICE AND NEEDED CHANGES REGARDING COMMUNITY LEVEL REVENUE GENERATION AND EXPENDITURE

Local natural resource users lack legal authority, or believe they lack authority to establish taxes or impose in-kind or labor contributions upon themselves. Thus they may find it difficult to finance natural resource management if voluntary contributions fail leaving themselves and their resources subject to exploitation by outsiders with the necessary finance to mine them but without the desire to sustainably manage them.

In order to effectively generate revenue and make decisions concerning its expenditure, well established community associations are essential. In Madagascar, there is a long tradition of local associations working to support the community and one another. However, community associations are often based upon gerontocracy and a hierarchy dictated by birth into particular strata (royal, commoner or freed-slave clans). These hierarchies coupled with "deference to post" (officials being respected because of their position), and the use of arson as a form of social protest as well as an expression of jealousy, indicate that the base upon which to build more effective local institutions to manage natural resources and generate revenue is problematic.

Local conditions are highly variable and the most effective associations to date have been developed in homogeneous communities. Many areas of critical concern to KEPEM are not homogeneous and social stratification poses serious equity issues. (Leaders are chosen because of their traditional position in the community rather than their interest or skills; there are multiple ways in which influence and patronage can be used to avoid regulations imposed by associations and/or Government; and members from different clans do not come together on an equal footing). In addition, the relationship between local associations and the more formal institutions of local Government are unclear. In some instances these structures and offices complement each other, in others they compete with each other dividing local communities in their loyalties.

The relationship between traditional and modern, formal and informal associations as well as the experience of national and international NGOs with local-level institution building needs to be analyzed in greater depth during the initial phase of KEPEM. KEPEM can, for example, profit from the experience of national NGOs in organizing potable water systems, management committees and community based revenue collection for their maintenance.

Analysis of the NGO experience, could be incorporated into the proposed study on current practice and recommended changes to enhance community level revenue generation and expenditure. However, since the transitional Government is proposing to modify the existing structure of Local Government, it may be unwise to initiate the study until decisions about the nature of future Local Government have been made.

CURRENT PRACTICE AND NEEDED CHANGES REGARDING NATURAL RESOURCE MANAGEMENT CONFLICTS

The study on current practice and needed changes regarding natural resource management conflicts should address the following: conflicts between individuals, men and women, land-holders and the landless, established community members and recent immigrants, elders and juniors, different clans and rank groupings and neighboring communities. A key issue will be to determine how the needs and aspirations of the different stakeholders can be met without exacerbating existing inequalities. Another key issue concerns commercial exploitation of resources. If greater control over natural resources is to be vested in local communities and a sense of stewardship fostered, what rights and obligations will they have vis-à-vis commercial exploiters? How can the relationship between centrally issued licenses and local control be mediated to enhance the sustainable use of resources? What will be the nature of local level participation in decision making?

The suggestion has been made that all three studies should focus on critical areas rather than being national in scope. If the objective is to propose draft legislation, regulations or policies to clarify or improve local natural resource management, then such an idea is impractical. Any laws drafted would have to be national in scope. A solution might be to define pilot areas where the studies would be undertaken, changes proposed and tested, while the same issues are considered in other areas.

FOSTERING NGO GROWTH AND PARTICIPATION IN NATURAL RESOURCE MANAGEMENT

The EAP has given an important mandate to the NGO community in terms of: (1) grassroots development initiatives; (2) acting as intermediaries between the rural poor, government and donors; and (3) promoting innovative approaches to renewable natural resource management and community self-reliance. This mandate provides a unique opportunity for NGOs to play a major role in promoting some of the policy objectives of KEPEM. The Local Initiatives component of KEPEM is designed to support and strengthen initiatives by local associations and NGOs.

The delineation between NGO and "association" remains unclear. Religious voluntary organizations and institutions come under the umbrella of their religious affiliation and are not required to register as NGOs. Other organizations such as the Red Cross can apply for special status as public utility associations which are neither NGOs nor religious groups and may benefit from government subsidies.

NGOs tend to focus on emergency aid, assistance to disadvantaged groups, and establishing structures which assure the development of these groups through an integrated approach. NGOs have specifically targeted populations and their activities are development-oriented. Associations have a traditional character, born out of a spontaneous initiative and founded in general on a spirit of mutual support and aid. These organizations stem from family, clan, village, cultural and/or mutual-aid associations. The ties that unite members lie in the **fihavanana**, traditional Malagasy social values within the relationships of a family or other group. However few are involved with activities which directly benefit the whole community.

Legal associations, for the most part, are simply traditional associations which state publicly through the formality of the district or province judicial offices the intention to benefit others. This legal status provides the authority to charge member fees, rent space, obtain services and so forth.

Cooperatives are yet another form of association. Due to perceived government interference, the failure of government sponsored cooperatives in the past, and the suspicion with which villages view the questions they are asked by government when trying to form a cooperative, there appear to be few examples of newly created, dynamic cooperatives in Madagascar. Instead, many cooperatives call themselves "associations", register under ordonnance 60-133 and choose the looser legal identity conferred by this term.

The NGO community in Madagascar is growing rapidly. In the past, NGOs have been led by churches. Today they are uneven in depth and quality, and have only relatively recently shifted away from a predominately welfare based orientation towards development. Of the more than three hundred registered NGOs in Madagascar, only 20-30 can be said to have a solid, proven track record over a relatively long period of time. Few NGOs are fully mature or sufficiently experienced in administration and finance. In addition, the majority are located in Antananarivo, and only a minority (43) have a national scope (USAID, 1991).

When considering the possible expansion of NGO activities into new regions, one must address the issue of ethnic rivalry which exists despite Madagascar's cultural unity; some NGOs are clearly identified with certain localities and would find it difficult to move to new areas. Expansion is also constrained by the absorptive capacity of communities and the fact that NGOs work through existing community structures or assist communities with building the necessary structure. While enhancing the institutional capacity of the community, this approach is time consuming and places constraints on both the communities and the NGOs' activities.

Weaknesses evident in the environmental NGO community include limited institutional and technical capacity, inadequate coordination and collaboration among different groups, and a paucity of credit programs. Markedly absent are programs which address the particular concerns of Malagasy women.

Accompanying the growth of registered NGOs there has been increasing activity among informal groups, and grassroots associations but only very recently are linkages among them being made. The legal status of these groups and associations is often ambiguous and is an important issue to be addressed.

Various umbrella organizations have also emerged. Religious umbrella organizations play an active support role toward NGOs which they serve. Newer umbrella organizations such as COMODE, and ANAE which are nondenominational, are beginning to play roles as support organizations on behalf of their members. As a support organization, COMODE focuses on the provision of technical assistance and organizational capacity

building. Given the democratic process through which COMODE came into existence it is in a good position to engage in dialogue with the Government on policy issues, legislative reform and to support the development of NGO activities in Madagascar. However, to proceed along this path it may require some technical assistance.

Attempts to consolidate group activity for development purposes may face resistance on the part of local government officials who, in some cases, are unwilling to take the rural population seriously. Actions taken by NGOs to organize local farmers have been seen by local authorities as usurping the government's authority to take the initiative to organize provision of services in light of local needs. Where local government is willing to work with groups and their representatives there are indications that solidarity groups are able to federate and work for the benefit of both their membership and the wider community. In addition there is evidence that central Government is ready to revisit the question of NGOs and to revise the laws pertaining to their registration and range of activities.

KEPEM addresses the issue of proper recognition and registration of NGOs, users associations and informal groups by supporting the development of an NGO code. This will clarify and simplify rights of association, procedures of incorporation and the legal status of NGOs. At the same time it will permit NGOs to establish endowment funds, receive gifts and bequests and charge for services. It has been proposed that the dialogue between GOM and NGOs be undertaken through an umbrella support organization for NGOs such as COMODE. While COMODE represents many of the national NGOs working in the field of natural resource management, it does not represent the majority of NGOs or the international NGO's whose effectiveness is also hampered by existing laws.

COMODE has already taken a lead in canvasing its members on necessary changes to the existing NGO code. However, care needs to be taken to ensure that any code proposed does not restrict the activities of the 275 or so national NGOs who are not members. In addition, it may be necessary for international NGOs to draw up a separate code if their needs are to be included. Care should also be exercised to ensure that, while reassessing the legal framework, steps are not taken to restrict freedom of association.

CONCLUSION

The major components of the program, support for ONE, facilitating local natural resource management Initiatives and natural resource revenue generation and resource pricing, will either improve the situation of groups affected by KEPEM activities, or at least not harm them.

Improved environmental policy evaluation and coordination should mitigate some negative effects of policy and action interventions by increasing the transparency of the process by which their consequences are assessed. Facilitating local initiatives will materially increase the control of first-line natural resource users over the resource base, and empower them to govern and manage more effectively renewable resources critical to their survival. Taxation of the saw timber will not materially affect local groups, except insofar as it slows destruction of the remaining high forest. However, there may be some opposition from commercial loggers who tend to be people of power and influence.

Local populations will be impacted on two levels: first, at the village or community level where local organizations will be supported through policy reform and provision of resources to initiate actions in support of environmental protection and development; and second, at the regional public service level. Since local communities will be given authority to form into action groups, generate and manage financial resources, and receive technical assistance from public and NGO services, they will be able to directly contribute to the economic growth and well-being of their communities. Agents of public sector technical and planning ministries, and NGO organizations responsible for implementation of the EAP will be more able to fulfill their mandates to mobilize and support local initiatives.

These actions will mainly benefit those communities with homogeneous social structures. In areas where there has been a significant internal migration leading to the breakdown of social structures, the possibility of being able to form village committees and community self-help groups may not be as effective. Differential impact of program activities by socio-economic strata, ranked groups, and gender must be monitored carefully during implementation.

The GOM, ONE and NGOs are the principal direct beneficiaries of KEPEM. As stated above, local communities and individual first-line natural resource users should benefit from the efforts made by KEPEM to improve the legislative environment through which their access and use rights are defined. If the studies proposed result in the anticipated changes, then sufficient conditions will be met for the success of the program. However, favorable institutional and legal environments, though prerequisites are not sufficient incentives to change behavior. KEPEM is a part of USAID's total strategy and complements the SAVEM project which has direct contact with communities through integrated conservation and development projects. Several of these projects are in the process of being evaluated and lessons learnt should be incorporated into both SAVEM and KEPEM as well as widely disseminated to other similar projects in Madagascar and throughout the region.

Preliminary observations indicate that the impact of these projects on local communities will be enhanced if NGOs confine themselves to doing what they do best. Conservation NGOs should be encouraged to form partnerships with national and international development NGOs with more experience in community organization and knowledge of the technologies which can improve productivity and the welfare of Malagasy citizens. (Several conservation NGOs, are already working with local development NGOs). If more international NGOs become active in Madagascar they should be encouraged to work as equals with their Malagasy counterparts. Malagasy NGOs have varied capabilities, some have an excellent and proven track record which should not be undermined. Their understanding of the socio-cultural environment is invaluable, and with technical assistance, they may be able to assume the role being considered for international NGOs.

National and international NGOs should also be encouraged to share their failures as well as their successes so that mistakes are not replicated in other parts of the country. Communication between them is being enhanced through umbrella organizations but could be improved through exchange visits to field sites.

Women, in particular, need assistance which will enable them to take a more pro-active role in the recovery and development of Madagascar. The objectives of KEPEM must facilitate, where possible, the opportunity for women to be involved in policy dialogue and to ensure that any changes in existing legislation or institutional structure reflect their needs. KEPEM must also assure that whatever changes may be instituted as a result of this program do not adversely affect women and their concerns. This is best done by involving women in each step of the process.

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ANNEX X

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BFV	Banky Fampandrosoana ny Varotra
BMOI	Banque Malgache de l'Océan Indien
BNI	Banque Nationale pour l'Industrie
BNP	Banque Nationale de Paris
BTM	Bankin' ny Tantsaha Mpamokatra
CCCE	Caisse Centrale de Coopération Economique (French lending window)
DEF	Direction des Eaux et Forêts
FAO	Food and Agriculture Organization
FIARO	Financière d'Investissement de la Compagnie d'Assurances Ny Aro
GOM	Government of Madagascar
IFC	International Finance Corporation
IMF	International Monetary Fund
MPAEF	Ministère de la Production Animale et des Eaux et Forêts
PAIP	Program Assistance Initial Proposal
PARV	Projet d'Appui au Reboisement Villageois
UNDP	United Nations Development Program
UNIDO	United Nations Industrial Development Office
ZODAFARB	Zone de Défense en Faveur de l'Arbre

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Table 5.3 Production and Consumption of Electricity, 1984-89 (millions of kilowatt hours)

Table 5.4 Hotel capacity in Madagascar, 1989

Table 5.5 Projections of the Results of No Policy Reform on the Economy, Environment and Population

1. INTRODUCTION

1.1 The KEPEM Program

The KEPEM program has been designed to generate revenues, strengthen public institutions and stimulate local initiatives to make biodiversity management and conservation sustainable. The aims of the policy regime which the KEPEM program initiates are to create an ongoing GOM dialogue for the formation of policy, to obtain a commitment from the government for a long-term stewardship of natural resources and to generate some momentum for the creation of policy which sustains the natural resource base. KEPEM complements the AID-financed SAVEM project, and is best understood in this context. SAVEM provides urgently needed assistance to conserve the biological diversity of Madagascar's unique protected areas and to foster non-destructive resource management in buffer zones around such areas.

KEPEM provides "non-project assistance" which expands SAVEM's effort to protect biodiversity in three principal ways: a broader geographic focus, a longer time horizon and a more supportive institutional framework. In short, KEPEM will help build the capacity to sustain the resources which SAVEM helps to protect.

1.2 The Basic Economic Premise

The basic economic premise of the KEPEM approach is that, in the long run, forest and biological resources can only be successfully maintained if:

- it is in the self-interest of those with effective control over resources to sustain them;
- technically feasible resource management options exist and are available to "resource managers";
- the generalized system of incentives -- policies, prices, administrative procedures, extension support, information and "sensitization", decision-authority, etc. -- provides clear, consistent and stable signals in support of long term resource management initiatives.

Because KEPEM does not just focus on a defined set of protected areas, its concerns will be more dependent on the factors which drive overall economic and production system decisions than is the case for SAVEM. Because the public sector cannot protect all forests as intensively as it can the parks and reserves, "generalized incentives systems" are likely to be of greater relative importance than direct public intervention.

1.3 Objectives of This Analysis

The link between economic development and environmental sustainability is at the core of the KEPEM approach. However, because KEPEM provides "non-project" assistance, its potential economic contribution cannot be understood in terms of the "benefit-cost"

analysis of project investments. This document therefore undertakes a broader examination of underlying economic issues in the environment sector, and of the potential contribution of natural resources in increasing options for rural income generation and macroeconomic growth.

The objectives of this analysis are to explore the underlying market and policy failures which led to the KEPEM policy agenda, as well as to respond to some of the questions posed in the PAIP.

2. SYSTEMS IN TRANSITION

2.1 The Need for Time-Based Strategies

The relationship between Madagascar's environment and its economic and institutional realities is in rapid transition. Any analysis which is based on a static understanding of what are essentially fluid relationships is likely to be misleading.

"Environmental degradation" is one outcome of the individual production and consumption decisions -- patterns of behavior -- which make up the macroeconomy. Sustainable and widespread behavior change, however, takes time. There seem to be no examples, anywhere in the world or at any time in history, of the scale of change needed to preserve Madagascar's environment occurring in less than several decades. If current resource use trends in Madagascar remain unchanged, the majority of forest resources outside protected areas will have disappeared by then.

It is, therefore, difficult to realistically argue that SAVEM, KEPEM or the remainder of the $200 million programmed for environment (from all donor and government sources) can successfully hold the line against further resource degradation. A time-based strategy must therefore operate at three levels:

- it must assure that protection strategies for parks and reserves remain effective for the foreseeable future;
- it must initiate the long term structural changes needed to foster non-destructive environmental management as soon as possible;
- it must offer a need and opportunity driven resource management vision.

Policy change and empowerment of local populations are necessary but not sufficient conditions.

2.2 Population and Environment

Whether Madagascar is or is not overpopulated is a secondary question. Total population is currently 12 million. With a growth rate in the order of 3 percent per year, total population will be over 20 million by 2010. Because urban growth is in excess of the rate of natural growth, urban population could pass from its current level of 2.5 million to as much as 8 million by 2010.

Rural population growth directly influences four major "motors" of land-based environmental degradation: agricultural land use, land use for livestock, forest fires for purposes other than agriculture or herding[1] and demand for forest products, including energy and timber. Marine and coastal resources have come under increasing pressure as well. Agricultural and herding practices are, in particular, very land- and resource-intensive per unit of output.

Urban population growth can have a direct and dramatic impact on demand for forest products. Woodfuels (firewood and charcoal) provide energy for the majority of the urban population. Charcoal accounts for eighty to ninety percent of woodfuels consumed.

The link between urbanization, energy and environment provides an instructive example of the potential for growing resource degradation and for income generation through resource enhancing initiative, but it is clear that charcoal prices have been rising at a much higher rate than inflation. In Antananarivo, toward the end of the 1991 rainy season (when charcoal prices reach a seasonal high) charcoal prices attained a level high enough to make bottled gas competitive, usually a luxury for only the very wealthy. Bottled gas is employed by a small minority of wealthy households in other urban areas as well. But a move to alternative energy sources driven by supply shortage of an inferior good, rather than demand for a superior good, is not a sustainable transition. What the urban energy situation represents is an opportunity for exploration of alternative energy sources, such as electricity, which are endemic to Madagascar and can be relatively cheaply produced.[2]

As population pressure in agricultural zones around Antananarivo increases, agricultural production has "crept up" the hillsides, leading to unsustainable farming and more severe erosion. The potential financial returns from growing trees rather than crops could increase incomes, diversify the rural economy, promote internal trade and better protect the resource base for agricultural activity. Efforts of the Swiss and FAO projects in Madagascar's central plateau region suggest that a key variable in promoting this transition to sustainable resource use is likely to be increased security of land tenure.

A twenty-year perspective on population growth suggests that current resource use practices (tavy, extensive herding, exploitation of natural forest for wood and charcoal), coupled with a doubling of population in the next generation, will either themselves be unsustainable or will make remaining forest resources unsustainable.

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[1] while it may seem redundant to cite forest fires as a category which is additional to agricultural and herding land use, there is widespread evidence (from social scientists more competent to judge than the author) of fire being used for both "habitat improvement" (i.e. reducing mosquitos, snakes, etc.) and as a means of expressing dissatisfaction for social or other reasons.

[2] The Minister of Industry, Energy and Mines reports that the current hydroelectricity power structure in Madagascar has supplied since the early 1980s more electricity than can be delivered to urban households, given the lack of powerline networks.

2.3 Changes in Rural Economic Relations

Six years ago, Madagascar redefined its macroeconomic growth strategy and philosophy. Many of the basic economic reforms associated with this process and with structural adjustment have begun to take hold within the last two to three years. Other changes are either underway or likely.

The World Bank cites structural constraints in the agricultural sector as the major obstacle blocking the response of production to price incentives. Large sub-sectoral growth in fisheries and livestock (average growth of 4.9 percent per year 1983-1989) has offset sluggish growth of crops (average 1.5 percent annual growth over the last five years). According to the IMF, growth of GDP in 1990 slowed to 3.8 percent (the GDRM's estimates are lower), and the terms of trade declined by 16 percent. Rural credit remains scarce and the increase of value-added in the agricultural sector again fell below the population rate. The results of a severe drought in rice-growing areas await the figures describing the final harvest in May.

Other major macroeconomic developments include liberalization of investment codes and of import restrictions, a substantial inflow of foreign capital (much of it public, but also some private) and growth of the tourist industry. The short-term effect of these developments is a crisis in the stock of foreign reserves: at the end of 1990, the Central Bank held foreign exchange equal to eight weeks worth of imports (close to zero after dedicated lines of credit are factored in), compared to 33 weeks at the end of 1989.

What is clear is that after a long period of relative economic isolation, the economy is subject to new and more diverse influences than it has been. It is likely that these changes -- if they remain in place -- will give rise to new forms of economic activity in rural areas, and will create new income generating opportunities both for resource exploitation and for positive resource management initiatives, but the short-term transition will continue to be painful.

3. MACROECONOMIC TRENDS

3.1 Total and Per Capita GDP

Budgetary restrictions and structural adjustment since 1980 have sharply limited the growth of demand in the national economy. Public and private consumption declined from 93.3 percent of GDP in 1980 to 91.1 percent in 1990. During the same period, the rate of investment fell drastically, from 22.8 percent in 1980 to a low of 13.8 percent in 1986, rebounding slightly to 16.3 percent by 1989.

The terms of trade for Malagasy exports declined by more than 26 percent over the last decade (1980-89), with a further sharp decline of 16 percent reported for 1990. Gross domestic product has shown very limited growth, despite a rapidly growing population. From 1984-88, real GDP growth was negative. Over the period from 1980-84, per capita GDP declined by a cumulative total of over 20 percent. Since 1988, it has been positive, but only very slightly so in per capita terms, as shown in Table 3.1.

Table 3.1
GDP growth in constant market prices
Annual percentage change
Sector percent change at factor cost

Sectors:	1986	1987	1988	1989	1990
Agriculture	2.4	2.2	1.4	5.5	2.4
Industry	2.3	2.8	-0.5	3.0	5.2
Services	0.8	0.8	1.1	3.4	4.7
Total GDP	1.4	1.7	1.6	4.0	3.8

In light of recent economic trends, the World Bank Policy Framework Paper (PFP) for 1990-1992 addresses issues of direct relevance to the KEPEM strategy:

> "Madagascar faces serious social problems linked to poverty, which stem essentially from the persistent decline in per capita income over a number of years. However, specific groups have been adversely affected by the necessary adjustment measures. The Government program for 1990-92 provides for a variety of social policies designed to alleviate the most serious social problems, improve access of the poorest groups to the employment market, and preserve the integrity of property and individuals ... At the same time, it will seek the maximum participation possible by local entities, particularly at the local government level, and by non-governmental organizations. In addition, financing of the above-mentioned activities is considered an integral part of the public expenditure program adopted as part of the general review of public expenditures and, more specifically as part of the reformulation of expenditure and resource allocation priorities".

The intensification of poverty is evidenced by the deterioration of most major indicators of socio-economic development over the last decade. Per capita nutritional levels have declined, and infant mortality has increased 30 percent in eight years. Educational and health infrastructure has deteriorated. Available medicines cover only 5 percent of estimated needs. The Ministry for Primary and Secondary education can no longer meet minimum salary requirements for teachers. Housing, water supply and sanitation systems have suffered similarly.

This downward economic spiral has aggravated negative economic consequences for the environment. It is the poorest farmers who are obliged to cultivate the most marginal and erosion-prone land. Rural poverty also increases the need to practice slash and burn agriculture, shifting cultivation and uncontrolled forest exploitation.

3.2 Rural Production Systems

There is a strong, two-way linkage between the performance of agricultural and pastoral production systems and the degradation or stewardship of natural resources.

The EAP cites the following distribution of national territory:

cultivated agricultural surface	5%
pasture	59%
rivers and lakes	2%
forests	17%
cultivable but unused land	9%
non-cultivable land	8%

Cultivated agricultural land still constitutes only about one-third of potentially cultivable land. Pasture accounts for the majority of land area, and has grown the most rapidly relative to other land uses. Forests, which once covered the majority of surface area, had been reduced to 21 percent in 1970 and only 17 percent today. The current rate of deforestation is between 150,000 and 300,000 hectares per year, with sizable negative impacts on agricultural productivity.

The national agricultural census indicates a livestock population of approximately 10 million, 80 percent of which are cattle. Cattle herding is practiced throughout Madagascar, but is most concentrated in the western coastal region and in the extreme south, which contain three-fifths of the cattle population. Herding in both of these regions is extensive.

Agricultural performance from 1980-89 is shown in Table 3.2.

Most notable from this table, and most significant for long term natural resources management, is the prolonged stagnation of the principal subsistence crop -- rice. Rice production per capita has declined by an average of nearly 1.5 percent per year.

Table 3.2
Average Annual Growth Rates by Crop (1980-89)

Grains	
Paddy	1.3 %
Maize	2.5 %
Root Crops	
Potatoes	5.6 %
Manioc	3.4 %
Sweet Potatoes	2.9 %
Commercial Crops	
Sugar Cane	4.1 %
Peanuts	- 2.2 %
Cotton	6.3 %
Coffee	0.7 %
Vanilla	1[illegible].2 %
Cloves	- 3.4 %

3.3 Relative factor scarcities

Historically, systems of extensive resource management in agriculture and herding have been consistent with the relative resource endowments in rural areas: large land area relative to population; availability of fertile soils for crops and livestock; relative abundance of forests. As population has increased and the resource base has declined, the relative scarcity of land, labor and capital has changed dramatically.

Consequences of changing factor scarcities are already seen in many areas: growing migration trends (from the plateau to lowlands, from the south to north); intensification of lowland rice cultivation in densely populated zones, furthered by the increased availability of agricultural inputs (as a result of more liberal economic rules); a reevaluation of the financial attractiveness of extensive herding, resulting in herding populations turning to sedentary agriculture and, in peri-urban areas, to wood plantations; the potential for emergence of rural labor markets as successful diversification and intensification by more prosperous and/or successful farmers gives rise to a demand for paid farm labor.

In economic terms, these changes reflect adaptations to changing factor scarcities and to a changing economic environment. All available evidence points in the direction of accelerating change in relative factor scarcities in the years to come. Resource management strategies which capitalize on these underlying trends appear to hold promise.

3.4 Rural property relations

Changes in relative factor scarcities are also leading to fundamental changes in rural property relations, most notably as a result of growing competition for access to resources. Violent conflicts over land access rights have been reported in the Malagasy press. Land tenure has taken on increasing importance throughout the country. Land tenure is a complex issue with several dimensions, including issues of social justice, the emergence of "modern" agriculture and questions of direct relevance to environmental protection.

Resource conflicts reported in the editorial pages are thought to represent the "tip of the iceberg". In the south-east coastal region, inter-tribal conflicts have been reported between Zafisoro and Antaifasy; in the south, between two clans of the Antandroy tribe, based largely on stresses created by the growth of modern agriculture. The Antandroy are herders by tradition, but herding has lost some of its comparative economic advantage in the region in recent years (reductions in herd size, insufficient pasture, growing theft of animals, etc.). At the same time, the value of agricultural land in the region is growing. In this context of change and competition, press reports indicate that one of the clans has contested ownership rights being exercised by the other clan over some 200 ha. of fertile land. As a further indicator of the complex underlying relations, the clan which currently holds the land received ownership at independence after the departure of colonial settlers. The rival clan claims it owned the same land before colonial settlement. The bitter struggle which has resulted has claimed several lives.

The two examples given above are not isolated cases. One of the points they underscore is that many of the issues related to local resource management -- such as land tenure, agricultural intensification, land use for pasture vs. farming -- will be forced to the forefront by fundamental changes in structure of rural economic production and competition.

4. MARKET AND POLICY FAILURES

It is a straightforward exercise to perform a benefit-cost analysis which shows that, other things being equal, reducing the rate of environmental destruction can be in Madagascar's economic interest (see Section 5, below). It is quite another matter to attribute the benefits from sustainable resource management to a given project or program.

An honest appraisal must conclude that KEPEM, even if successful, could not claim the credit for final success. Nor is it necessary to argue this in order to justify the value of the program. KEPEM must be regarded in the context of the Environmental Action Plan, AID's own SAVEM project, and nearly $200 million of environmental expenditures planned to protect Madagascar's environment. To the extent that it helps the Government of Madagascar build a policy and institutional framework which is better adapted to sustainable local resource management and which is better equipped to make efficient use of the donor and domestic resources available for environment (and, more broadly, for rural development), KEPEM will have made a critical contribution to the overall effort. It is, however, the overall effort, and not just KEPEM, which can result in success.

The Madagascar economy can be characterized by a myriad of failures and successes in both the behavior of the market and the design of policy. Since the goal of KEPEM is to target policy reform to address failures, however, successes will not be the focus of this analysis.

4.1 Market Failures

4.1.1 Access to resources: common property or public good?

The management of any nation's natural resources may occur under variations of three ideal regimes. Private goods, characterized by clearly demarcated boundaries and exclusive access, are the easiest to manage for profit maximization, conservation or other goals. Public goods, in contrast, permit open access to all users and may or may not be divisible in nature, i.e., that use of the good by one consumer denies another consumer a directly proportional use of that good (e.g., wood is a divisible good; sunlight is not). Common property resources fall in the middle of the continuum, exhibiting shared ownership and management to effect equitable and sustainable distribution.

Like most countries, Madagascar historically has treated its natural resources as free public goods. Forests have provided a reliable and constant source of energy, building materials and cash income for loggers of the more sought-after species. Water is plentiful through most seasons in all but the arid southwest and portions of the western province of Mahajanga. Land with few exceptions has been considered the property of the state since independence in 1960; a labyrinthine system of titling has discouraged private ownership.[3] Notwithstanding a population growth rate hovering at 3 percent, density totaled a low 200 people per hectare in 1989.[4]

In 1991, the management of Madagascar's resources is in a transitional phase. Markets for many resources, most notably firewood, have not developed outside of major urban areas owing to a perceived lack of scarcity. Other products from the natural forests are managed under a variety of regimes, or not managed at all. Informal village woodlots for poles and other building materials, requiring permit permission, exist adjacent to special (unharvested) forest reserves; areas planted with Leucaena surround villages with an abundant source of energy, exhibiting traits of both a private field and common property resource. The most prized specimens of 200-year old rosewood trees (palissandre) are traded at bargain basement prices for construction of common household moldings (and is reported to be exported clandestinely as well). Projects organize complex systems of nursery management on the threshold of abundant open access wood supplies. Water user associations have evolved locally to manage irrigation projects while associated watersheds are systematically degraded through upland tavy agriculture. Cattle grazing and brush fires sweep through lands dedicated to pilot reforestation.

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[3] Subterranean resources--marble is the principal resource that can be mined economically--are extracted on a concessionary basis.

[4] World Resources Institute, *World Resources 1990-91* (Washington, D.C.: WRI, 1990).

Where markets exist, prices do not reflect the true income generation value of natural resources, let alone the incalculable values associated with biodiversity. Neither competition nor cooperation characterizes the systems in place. The existing legal, economic and political structure in Madagascar has contributed to a mosaic of management regimes, none of which employ market mechanisms which accurately reflect the value of the extensive national resource base.

4.1.2 Security of Tenure

Individual property with title to real estate has not yet developed in Madagascar. Legally, the partition of lands is approximately as follows:

Community property:	2 million ha
Individually-titled land:	3 million ha
State-owned property:	53.7 million ha

The majority of cultivated and exploited terrain therefore falls under the rubric of customary usage rights but the patterns of ownership vary according to region.

A large portion of the familial property and individually-titled property is concentrated in the high plateau region. Customary law nevertheless characterizes the use of the greatest land area.

In the western and southern provinces, the "tanety" dominate, rough savannahs which serve as natural pasture. These areas legally are state-owned lands to which access is regulated by customary practice. In certain sub-regions, including the home of the Mahafaly (southwest), access to land for cattle-raising and agriculture is controlled by individual households.

The eastern region of the country is the area most affected by tavy, which consumes approximately 200,000 ha per year. Customary rights predominate, established through clearing of forest and cultivation.

The appropriation of cultivable soil is not egalitarian; the practice of tenant-farming is scattered throughout the island. It represents one result of precolonial structures, and has not developed in response to difficulties of access to land. The practice of western-style farming is much less developed in Madagascar.

In this context, several different types of land insecurity may be distinguished:

1. Occupation of state-owned property. The customary appropriation of land which the user has already settled and cultivated is guaranteed; it is protected by "user-right." The only problem exists in new appropriations; the process of acquiring title requires 21 steps over a period of five to seven years and the claimant is never assured that the process will be concluded successfully. Key to the problems of titling is the definition of "mise en valeur." The ministry responsible

for land tenure interprets existing law governing the valuation of land to mean that herders and agro-pastoralists may not may not gain title pasture lands, but must instead rent the land from the state. In fact, formal rental contracts are few since institutional coverage is inadequate.

2. Absentee ownership. Land belonging to absentee landlords are often cultivated by village-dwellers. This practice is manifest particularly in the cultivation of lands abandoned by former colonial owners following the political events of 1972, when Tsiranana resigned and his successor, Général Gabriel Ramanantsoa, turned toward the eastern bloc and China for political inspiration. Those villagers who do cultivate the remnants of former owners are often threatened with expulsion. Specific examples of this type of land insecurity were observed by the SAVEM team in Antsiranana and the KEPEM team in Marovoay.

3. Tenant-farming. Leases are in effect implicitly or explicitly for one year, and may be renewed. The tenant-farmer has no explicit interest in introducing technological improvements, or investing in the land; this represents a keystone in the barrier blocking growth of production. Moreover the tenant is often obliged to share the proceeds of production according to a two thirds-one third, or 50-50 formula, with the landowner, a clear disincentive to increased productivity.

The appropriation of renewable natural resources such as pasture and forests may be subject to change, according to interviews conducted by the KEPEM team. The Direction of Livestock, has indicated that a long-term rental arrangement might be possible on a 50-year basis, with leasing applicable not only to individuals but on the basis of lineage, a possibility with obvious ramifications for the creation of special districts for management of natural resources. With respect to forests, the Swiss project PARV (Projet Appui au Reboisement Villageois) used the Decree 85-072, a 1985 Government declaration establishing ZODAFARB reforestation zones through which land grants are made following the planting of trees, to explore new methods of land acquisition. PARV, however, found that Decree 85-072 could not be implemented due its incompatibility with the larger legal framework. As a result, not a single land title has been cleared and awarded to date. Titles to 15,000 plots remain pending.

The various forms of land insecurity translate directly into a disincentive for productive investment, shortening the time horizons for all front-line managers of natural resources and contributing to the failure of markets to promote capital investment and the protection of future potential income.

4.1.3 Externalities

That the social costs of current use of natural resources clearly outweigh private costs in Madagascar is evidence of negative externalities. In the absence of comprehensive inventories and without the benefit of markets to measure the full extent of social costs (in the form of the market "cost" of degradation, waste and overharvesting), externalities cannot be valued precisely.

Nevertheless, externalities can be quantified in physical terms according to the resource in question. In the forest sector, annual deforestation throughout the 1980s (permanent clearing of closed canopy forests--logging and extra-market fuelwood collection is not included) by conservative estimates totals 150,000 hectares per year, or 1.5 percent of the natural forest cover. At least three distinct externalities are evident in a loss this great.[5] The loss in terms of biodiversity will never be known in forests characterized by a vast and uncategorized array of endemic flora and fauna, but a safe assumption is that the economic loss in terms of potential future income is great. Second, the loss of foregone present income represented by the underpricing of those wood products actually sold is considerable and represents a real social cost. The clearest example is in the reliance in urban areas on charcoal for household energy: a sack of charcoal weighing 35 kilos will last a family of six in Antananarivo approximately three weeks. The sack requires a wood harvest of 0.43 m3, or about 14 percent of the annual sustainable yield of a single hectare[6], and wastes at least 80 percent of the energy potential in the conversion process.

Finally, the tavy itself, responsible for an average of 135,000 ha or 90 percent of deforestation annually (Table 4.1), bears associated social costs of atmospheric pollution, loss of watershed capacity and soil erosion.

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[5] Although the rate of deforestation in Madagascar compares favorably with that of other countries (Costa Rica's deforestation over the same period was 6.9 percent), the fact of a far larger base translates into a significant loss of potential income, capital and amenity annually.

[6] UNDP/World Bank Energy Assessment Program, *Madagascar: Issues and Options in the Energy Sector* (Report No. 5700-MAG, January, 1987), 11.

Table 4.1
Estimates of Annual Loss of Natural Forest
to Tavy Agriculture
(ha)

1975	129,420
1976	126,980
1977	135,680
1978	139,590
1979	144,515
1980	140,715
1981	143,695
1982	145,320
1983	144,365
1984	141,015
1985	144,655
1986	93,755
1987	127,302
1988	125,853

Source: Ramamonjisoa, 1990.

Externalities exist in other resource regimes as well. Anecdotal reports of overfishing through trawl net technologies employed by foreign companies (operating within the 200-mile economic zone created by Madagascar's signing of the Convention on the Law of the Sea, without the permission of Malagasy authorities) has decreased breeding grounds and productivity in several offshore locations. In the case of Lac Alaotra, the largest freshwater lake in the country, stocks have decreased by an estimated 60 percent over the past five years, according to local authorities. The yield from Lac Itasy has decreased 80 percent since 1965, due to increasing numbers of fishermen, improved tackle and degradation.

In terms of unforested land, the leading source of social costs emanates from brush fires, set to diminish the breeding grounds for insects and regenerate the first green bite of a highly nutritive grass for cattle grazing. Government estimates, acknowledged to be low given the difficulty in data collection, range in any given year from 0.23 percent of total land area to 5.79 percent (Table 4.2). The region of the high plateau in Antananarivo loses the most area to brush fires annually: in 1983, a peak year, approximately 19.43 percent of the land mass was burned.

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Table 4.2
Estimates of Annual Brush Fires

1983	3,420,150
1984	1,111,114
1985	734,638
1986	958,640
1987	1,274,854
1988	384,452
1989	136,978
1990	342,857

Source: MPAEF, 1991.

This externality takes several forms. The immediate result of the fires is increased erosivity and the washing away in the rainy season that follows of loosened, concentrated topsoil. The soil erosion can have an immediate effect of increased fertility of downstream rice fields and other agricultural lands. This effect is temporary, however, and the annual or semiannual burning of lands not only degrades soil productivity in directly affected areas but also contributes to the silting of rivers and harbors, destroys forest resources and reportedly carries visible airborne pollutants for up to seventy miles in the heaviest months of burning (September to November).

4.1.4 Extent of competition

Structural adjustment policy has permitted considerable liberalization of economic activity and has reestablished the functioning of certain market mechanisms. The success of this policy, which seeks to promote greater economic efficiency relies, however, on a system of incentives within the market economy.

The principle of market efficiency is based on price liberalization, but also assumes market transparency and competitive behavior of economic actors. The problem of transparency is covered below. The non-competitive nature of certain markets in Madagascar can be viewed as a brake on the development of production systems and an obstacle to economic efficiency. The agriculture, transport and industrial sectors provide pertinent examples.

In agriculture, the chief problem seems to lie within the profit margins of commercial crops; the margins are large enough to resemble monopoly rents. Margins so high discourage development of efficient agriculture production and result from a limited access to rural credit for small and medium-sized farmers.[7]

[7] ONUDI, *Rapport Introductif sur la Gestion Stratégique du Processus d'Ajustement Industriel* (Vienna: Atelier sur le Processus d'Ajustement Industriel en Afrique, December 1989).

The transport sector is of vital importance to Madagascar. The lack of competition drives transport prices higher, inhibiting merchants and their goods from buying transport services. The nature of this phenomenon does not necessarily support regulation of prices. Rather, it suggests that policy should be geared to reduce monopoly powers where there is room for multiple services. In the case of transport, the answer lies in implementing a policy of credit for small entrepreneurs. For example, the purchase of a wagon to dispatch merchandise along a principal highway represents an investment through which small entrepreneurs can increase sales. The relatively high level of transport prices in Madagascar is not due as much to the quality of infrastructure as to the non-competitive nature of the industry, and the lack of entrepreneurs is not linked to a problem of price or of profitability.

In the industrial sector, structural adjustment is geared toward privatization, restructuring or removal of a large number of important enterprises (more than one hundred). But privatization does not signify, ipso facto, creation of competition. In effect, given the narrowing of markets, some medium-sized enterprises can benefit, de facto, from a monopoly position.

A recent report of UNIDO[8] stresses that in a country like Madagascar, the industrial markets are imperfect, often disaggregated into micro-markets. The weakness of commercial networks renders them unsuitable to the demands of full-scale industrial production. In this context, liberalization seems to have favored the commercial sector. The prominence of the commercial sector, and the limited capacity for industrial competition, are underscored by the potential for higher profits resulting from the purchase of imports.

4.1.5 Transaction costs

The market failures due to transaction costs emanate from not only the lack of competition, lack of credit and the inability of small and medium-sized entrepreneurs to enter the market, outlined in the previous section, but also poor infrastructure, exacerbated by seasonal climates, and a rule system which promotes inefficiency.

The largest losses due to infrastructure occur in the agricultural sector, by virtue of its relative importance in the economy. Attempts to privatize and export non-traditional agricommodities (including corn, wheat and lychees) have been impeded by poor roads, lack of a sufficient terminal network for storage and refrigeration, and resulting losses in quality control.

Seasonal variables increase transaction costs for all types of commerce. The charcoal market is as directly affected as any industry; throughout the rainy season, from December through May, charcoal prices annually increase by 50 to 70 percent reflecting the difficulty of drying in the carbonization conversion, and the impassibility of roads to urban distribution markets.

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[8] Ibid.

Rules governing enterprise, with the exception of the Investment Code creating "free" zones in which qualified industries may operate, have not acknowledged that transaction costs may be increased or decreased through fiscal policy to favor targeted sectoral growth. The cutting permits required by DEF for loggers and charcoal producers produce minimal marginal costs to production and are not industry-specific. For example, Bertrand notes that the marginal cost of cutting permits per unit of production for charcoal producers supplying the Antananarivo are very variable. The existing tax system clearly emphasizes revenue generation across the economy over selective promotion of natural resource production industries. The tax unique sur les transactions (T.U.T.) applies a 15 percent surcharge on every monetized exchange. A system of prélèvements levies an additional 3 percent of all products on the producers. The market failure stems from the resulting inefficiencies in production of natural resources which generate waste, depletion of the resource, and underpricing of the resource. Supply systems respond to non-market influences or to short-term demand which do not reflect medium- and long-term interests.

Fisheries is the one arena within which there is evidence of a trend toward regulation through planned increases in transaction costs. A national law requires a fishing license of 4,000 FMg for every 100 meters of net employed, (representing, as in the case of cutting permits in the forest sector, a near-zero marginal cost of production). While some inland waters are fished indiscriminately and competitively by independent concerns, other local fokontany are taking matters of management upon themselves. Some fokontany in the Marovoay fivondronana, Mahajanga province, charge between 25,000 and 200,000 FMg for fishing rights, which may then be parceled among the members of a cooperative.

4.1.6 Prices: unpriced and underpriced resources

Market failures are manifest most directly in market prices. Disaggregating the chain of production of various natural resources reveals the distorted pricing of factor inputs.
In the case of firewood, the vast majority of the resource is collected free of charge by individuals in rural areas. Where markets exist, retailers charge a price which reflects transportation costs and other transaction costs of bringing the product to market, but with the exception of wood produced on plantations, largely concentrated in the Antananarivo area, prices do not reflect the costs of replanting, the investment cost of maintaining land security, and the opportunity cost of capital (Table 4.3).

Table 4.3
Prices and Factor Costs, FMg/kg
Firewood Retailers in Antananarivo, 1989

	Manjakandriana	Ambatomiraharay
Purchase of wood	3.7	4.0 FMg
Sizing	1.3	3.7
Transport	13.3	16.6
Wholesale price	34.6	26.6
Profit margin	16.3(1)	2.3

(1) Shared between logger (3) and transporter (13.3)
Source: Bertrand, II, 49.

In contrast to the pricing of firewood, the prices of charcoal in urban markets reflect the growing scarcity of the underlying resource. Prices in Antananarivo have risen in the past three years well beyond the inflation rate. In April 1991, a sac of charcoal weighing 10-12 kilos costs 4,000 to 4,500 FMg. An urban family of six consumes five sacs per month, spending 20-23,000 FMg per month. An article in the daily *Midi*[9] reported on April 17, 1991 that the price had risen to a level commensurate with bottled gas, previously considered a luxury only affordable by the upper-income households of Antananarivo. According to the Bureau des Données de l'Etat (BDE), 45 percent of households use charcoal as the primary energy for cooking in the city of Antananarivo, and annual consumption has risen 21 million kilos. Notwithstanding the fact that the most recent price increase fell at the end of the rainy season, it is clear that the consumer price of charcoal reflects a growing gap between supply and demand.

The charcoal supply shortage is not only an urban phenomenon. Although the proportion of households using charcoal in rural areas is much smaller (0 to 5 percent of households) than in urban areas, charcoal is preferred by those who can afford it for its high, even heat and clean burning. An informal price survey in the province of Antsiranana revealed that "official" prices have increased approximately 100 percent in 3 years and 400 percent in the past 13 years. The average black market price is approximately double the official price, judging from isolated examples. Potential profits have generated a clandestine market; illegal exports of 500 m3 of charcoal from Antsiranana in 1989 (and an unknown quantity in 1990) led to police action in the month of April.

The factor costs in charcoal production reflect the same market failures as firewood. Transport costs to the market in Antananarivo typically account for 33 to 45 percent of factor costs, while the local redevance de collectivité (distinct from the universal transactions tax or "TUT" and the prélèvements on all production) and cutting permits average 1 percent and 0.3 percent, respectively.[10]

Prices of sawnwood range from a high of 761 FMg/m3[11] for the large planks of rosewood - palissandre - (4m X 17cm X 2.8cm) to 30 FMg/m3 for pine (2m X 25m X 20m),[12] a clear indication that relative prices reflect quality and scarcity, but that in absolute terms, market prices do not reflect the capital and replacement value of these species; a mature rosewood tree averages 200 years old. The lack of reliable inventories prevents any quantified analysis of the remaining supply but it is clear that relative underpricing has decimated the stands of rosewood in the north; this species reportedly is found now only in some protected reserves and in the most remote areas of Toamasina province.

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[9] Sammy Rainitovo, "Le Charbon n'Est Pas Moins Cher" *Midi* 17 April 1991, 4.

[10] Bertrand, II, 33-45.

[11] At an exchange rate of 1840 FMg/US dollar, the same plank of palissandre would command a retail price of 41 cents.

[12] Bertrand, II, 62.

Comprehensive price data on fisheries in Madagascar does not exist. Reports of frustration abound, however, as fishing concerns are caught between high equipment prices (in some cases requiring four years to finance and lasting a single season), low market prices for their produce and a persistent lack of credit and infrastructure through which to market their produce beyond local fishing areas.

The price regime governing the cattle industry has reflected scarcity and the costs of production to a greater extent than in the forest sector. The primary cost of production is the purchase of livestock, ranging from 70,000 to 120,000 FMg per head for calves and 200,000 to 450,000 FMg per head for full-grown steer. Feed and veterinary costs are minimal, ranging from 11,400 FMg to 20,400 FMg/year/head, while the cost of rangelands amounts to 10,400 to 19,400 FMg/head/year. Land is free or rendered free by a low marginal cost. Market prices for the meat value range from 200,000 to 250,000 FMg/head in the low season, August to January (when rice is more plentiful) and 350,000 to 450,000 FMg/head during the rice harvest months March through July. Average profits range from 179,600 FMg to 438,600 FMg/head, making for a high profit margin for those who can afford to invest in the industry. The relative price of beef has been constant over the past 18 years, reportedly having risen in step with the price of primary goods since the early 1970s (and in step with the CPI, which rose approximately 1100 percent July 1972 to June 1990), increasing between 1000 and 1500 percent in response to sustained domestic demand. A small and sputtering export market has grown in the last decade through the establishment of a few abattoirs outfitted with refrigeration and packing divisions.

But price stability and sustained demand have not translated into increased production. Certain cultural norms may be partly responsible, including the role which cattle stock plays as a source of wealth, as a symbol of status and as a unit of value through which savings are accumulated; this speculation is reinforced by reports of increased theft of cattle in the most intensive production regions.

These two factors, price stability and lack of a growth in production, have both contributed to and, at least in part, resulted from, a lack of investment in land productivity and technological innovation. Brush fires which gradually degrade pasture lands are set year after year for the sake of the first spurt of growth, and serve to increase the pressure on forests for cultivable pasture.

The result of this myriad of market failures--land insecurity, negative externalities, lack of competition, distorted transaction costs and underpricing--is that resource degradation and lack of investment in intensification of production, technological innovation or human productivity, and all represent economically rational activities. Given the market incentives in place, natural resource managers continue to behave as rational economic actors.

4.2 Policy Failures

4.2.1 Taxes and subsidies on externalities

A fiscal system designed to promote sustainable management of natural resources would tax negative externalities and subsidize positive externalities at levels which would promote production which equilibrates current net income with future potential net income, discounted according to the opportunity cost of capital.
The tax system governing production of natural resources reveals a broad range of small levies, differing according to the resource in question. All products are subject to a 3 percent tax (prélèvement) on producer prices, collected at the level of the local groups (collectivités décentralisées) and distributed in equal 25 percent shares among the faritany, the fivondronana, firaisana and fokontany. In addition, at the point of sale, all products are subject to the T.U.T. (tax unique les transactions) of 15 percent, of which 2 percent is distributed between the fivondronana and the firaisana, with the balance going to the central treasury.

Meat products are subject to additional fees levied on a per carcass basis at the abattoir and payable to the faritany, fivondronana and firaisana (800 to 1,000 FMg for beef, veal, pork and horsemeat and 300 FMg for lamb and goat, for each governmental entity) levied on public facilities, with exactly half as much per carcass payable to the firaisana and fivondronana levied on private facilities. Exported beef is subject to an additional 220 FMg per head before leaving the decentralized collectivity of production, and payable to the fokontany.

Traditional agriculture products (cloves, vanilla, coffee and pepper) are subject to an additional tax of 12.5 to 25 FMg per kilo (115 FMg per kilo for prepared vanilla), collected by the collectivités décentralisées and distributed among the faritany (40 percent), fivondronana(20 percent), firaisana (20 percent) and fokontany (20 percent). Water use is also subject to taxation at the discretion of the collectivités décentralisées and the proceeds are channeled to the fivondrony.

Aside from the T.U.T. and the prélèvements, forest products are not subject to additional tax. Commercial forest producers must purchase cutting permits through DEF; large producers (more than 100 trees) must pay stumpage fees according to a schedule which in no way reflects the relative values of the species cut (Table 4.4). Small-scale commercial producers must pay a nominal fee for a permit or are issued a permit free of charge[13]. Individual Malagasy may take from the public forest the products they need for household use on the basis of a universal user right (droit d'usage); although this free public right is mitigated in many areas by public woodlots with entrance permits required, the universal right applies to all public forests which are not otherwise designated.

[13] Nagle, 27.

Table 4.4
Average stumpage fees (FMg/m3)

Charcoal	900
Fuelwood	1800
Sawlogs:	
Palissandre	3750
Varongy	3250
"Bois Ordinaire"	2750
Pine	4200
Eucalyptus	5000
Bois d'industrie	2400
Bois de feu de pin	890
Bois de service	1800

Source: Bertrand, III, 47.

The dismal collection rate of stumpage fees has been well documented. Although approximately $120 million worth of forest products should be subject to stumpage fees, DEF is estimated to have collected 8 million FMg in 1990, worth $4,348 at the current exchange rate of 1840 (PAIP Economic Annex).

Collection systems in controlled plantations exhibit a better track record. Bertrand recounts the success of the firaisana of Ankazondandy, on the outskirts of Antananarivo, which boasts 14,000 inhabitants. The firaisana established its own revenue sharing system of permits and stumpage fees and generates on the basis of 1000 FMg per cutting permit and 15,000 FMg per exploitation permit (large-scale) total revenue of 4.5 million FMg/year (worth $2,446), more than half of the DEF receipts collected nationally.

The overall system of taxation of natural resources reveals an implicit subsidization of production. Whereas meat, agricultural and forest products are explicitly taxed in such a way as to increase the marginal costs of production, the rate of collection, especially with regard to forest products,[14] creates a taxless production regime. The access to land and water for production of all natural resources is either legally open and free, or functionally when logging concessions are able to choose the lands to be exploited in the absence of a forestry management plan. Since the vast majority of land and all of the water is state-owned, the state is subsidizing production of resources implicitly through the costless provision of access to raw materials.

[14] No data is available on collection rates of the prélèvements on meat and agricultural products, but field visits revealed broad anecdotal evidence that collection at levels other than the collectivités décentralisées exhibits similar shortcomings.

4.2.2 Credit systems

The passage of the Banking Law in April 1988 initiated a rapid evolution of the banking sector in Madagascar. The law superseded the monopoly previously held by the State in this sector, and opened participation to private interests, both domestic and foreign.

As a consequence, a commercial banking industry, entirely private, has begun to emerge. The Banque Malgache de l'Océan Indien (BMOI) was the first bank created after the Banking Law as a private enterprise, through affiliation with the Banque Nationale de Paris (BNP). The privatization of the Banque Nationale pour l'Industrie (BNI) was effected in January 1991 through a majority participation in capital by Credit Lyonnais. Finally, the Bankin' ny Fampandrosoana ny Varotra (BFV) has accepted a minority position by an Italian bank. The BTM is also developing cooperative management with foreign banks. This evolution has led to a greater competition among banks through which the financial strength of the banking industry has been improved.

On other fronts, development of the Malagasy financial system is being reinforced by:

- the creation of an inter-bank money market, without the intermediation of the Central Bank;

- the birth of two capital risk groups: the Financière d'Investissement de la Compagnie d'Assurances Ny Aro (FIARO), supported by the International Finance Corporation (IFC) and CCCE, on the one hand, and the Société d'Investissement et de Promotion des Entreprises Malgaches (SIPEM), initiated by the private sector and benefitting from the support of UNDP on the other hand.

These reforms have been accompanied, however, by a continuing restriction on credit. The banks are subjected to multiple control measures, including:

- a national credit ceiling, in addition to credit ceilings on each banking enterprise;

- constraints on liquidity, through reserve obligations;

- control over the rate of interest.

The major consequences are outlined in Table 4.5

Table 4.5
Basic Financial Indicators, 1986-1990

	1986	1987	1988	1989	1990 (est)
Annual % change					
Real GDP	1.4	1.7	1.6	4.0	3.8
Agriculture	2.4	2.2	1.4	5.5	2.4
Industry	2.3	2.8	-0.5	3.0	5.2
Services	0.8	0.8	1.1	3.4	4.7
CPI	14.5	15.5	26.3	9.0	12.0
Domestic credit	10.2	7.9	-0.3	3.5	6.2
M1 and M2	24.0	17.6	20.2	29.8	10.5

Source: IMF, 1991.

In the face of large growth in money and quasi-money during the latter half of the 1980s, and an inflation rate (as measured by the CPI measured against a traditional basket of goods) which peaked in 1988 at 26.3 percent, measures taken in 1989 and 1990 were designed to slow the price increases, restrict demand and support productive growth. Real GDP finally edged ahead of the growth rate of population in 1989, only to fall back to 3.8 percent (estimated) in 1990 due to damaging weather factors affecting growth in the agricultural sector.

In the midst of these developments, credit growth has remained constrained, well below the rate of growth of nominal GDP. Domestic credit actually shrank in 1988, and grew in 1989 and 1990 at a rate lower than real GDP and the agriculture sector, and only slightly ahead of real growth in the industrial and services sectors. The result for seekers of liquidity has been a very high real rate of interest, considered incompatible with the potential return on productive investment. The restriction of demand has not been accompanied by a growth in productive investment, a situation exacerbated by continued controls on access to foreign exchange for imports.

The credit squeeze has generated the opening of some international lines of credit, including the Facilité de Refinancement à Long Terme (FRLT) by the CCCE, and the APEX by the World Bank, and lines of rural credit created under the auspices of UNDP.

Notwithstanding these gestures by the international community, and despite the importance of the agricultural sector, rural credit remains extremely weak. The establishment of the BTM in 1976, a bank intended to support rural farmers, has not met expectations. Rural credit represents less than 3 percent of BTM's total portfolio, and less than 0.5 percent of total outstanding credit of all banks. Those farmers who have accessed credit markets represent less than 1.5 percent of all farmers (including exploiters of other natural resources).

Several factors have contributed to the failure of the BTM: the lack of distinction between the commercial credit and rural credit divisions; the inadequacy of resources; the limited range of banking services offered to rural customers; and the absence of fiscal and judicial support from the central government which exists in other developing and developed countries.

4.2.3 Budgetary Resources

The Government of Madagascar faces severe budgetary constraints, made more serious by the discipline imposed under the structural adjustment process. These constraints affect virtually all government operations relevant to environment, including infrastructure development, training and education, staff hiring, operations budgets, civil service salaries, provision of urban and rural services and capital expenditures.

The growth in donor assistance, rather than easing this budgetary problem, has made it more acute. A basic requirement of most donor assistance is that Government provide 15 percent to 30 percent of project costs in counterpart contributions. According to one senior official in MPAEF, an increasing percentage of the public budget has been drawn away from providing basic services and towards supplying counterpart funds for donor projects. The consequences appear to be twofold:

- o budgetary chaos, as the "fiscal gymnastics" required to meet competing and urgent project demands face increasingly long odds[15];
- o an impasse in absorptive capacity, as the inability to raise counterpart funds limits the ability to use externally-supplied resources which are available for development.

On average, only 50 percent of the project financing available for rural development programs is being used. The World Bank's Gestion et Protection des Forêts project spent only 3 percent of programmed funds over three years. Lack of counterpart funds does not totally explain the inability to access this funding, but it is an important contributor, particularly insofar as the inability to hire and train staff contributes to other institutional obstacles as well.

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[15] this point merits a brief economic digression. Donor funding, while additive to the overall pool of resources available for development, also diverts vital resources (in particular, human resources and counterpart contributions) away from other uses. To the extent that poorly planned, inefficient, uncoordinated and low priority donor projects find their way to implementation, they are not only useless for development, but the diversion of resources from other priority areas creates a very high opportunity cost as well.

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As shown in Table 4.6, operating expenditures (for the total Government budget) have continued to decline in real terms during the entire period from 1980 to 1990. Capital expenditures, which were, quite simply, "sacrificed" between 1980 and 1986 (annual nominal growth rate of minus 1.5%), have shown healthy growth since 1987. Since 1987, nominal operating expenses have barely kept pace with price increases, and reflect a decrease in provision of government services on a per capita basis.

Table 4.6
Annual Growth of Government Revenues and Expenditures
(In Percentage -- Based on Current Prices)

	1980-86	1986-1989
Revenues	17.9 %	18.7 %
Expenses	7.6	23.2
Operating Expenses	11.4	17.5
Capital Expenses	-1.5	33.7
Price Index	18.2	17.3

Source: World Bank Reports

The restriction of operating expenses has primarily affected salaries and commodities ("biens et services"). Civil Service salaries have lost 56 percent of their purchasing power over the nine years. With salaries already at very low levels in 1980, this precipitous decline is thought to be a major contributor to a reduction in civil service productivity, loss of motivation, growth of absenteeism and the taking on of second jobs by one third of civil servants. The shrinkage of commodities budgets has resulted in a drastic reduction in ministries' ability to function in any real way other than providing employment and offices. The policy failure under these conditions amounts to a severe disruption of the functioning of public services.

4.2.4 DEF Budget Resources

DEF has not escaped these restrictions. A total of 91.86 percent of the DEF operating budget goes for paying salaries. In real terms, expenses for "travaux et operations" have decreased ten-fold since 1980. Reforestation expenditures have been reduced, in real terms, twenty-five-fold over the same period. Capital expenses in 1990 are 50 percent of the real levels of 1980, despite the rapid percentage growth of investment budgets since 1987[16].

[16] to some extent, the high annual percentage growth of capital expenses in the period 1986-1989 (shown in Table 5.3) result simply from the extremely low levels reached by the end of the 1980-86 period.

Table 4.7 summarizes some of the key items in the DEF budget. It shows operating expenditures in the order of $1 million per year, financed almost entirely from the GOM budget.

Table 4.7
Analytical Summary of DEF Budget

	FMG (000s)	US Dollars[17]
Total 1990 Expenses	4,410,752	$ 2,397,148
Operating Expenses	1,782,752	$ 968,887
Capital Expenses	2,603,000	$ 1,414,674
Other Expenses[18]	25,000	$ 13,587
Percent Externally-Financed	27 %	27 %
Percent Financed Internally	73 %	73 %
Total Internal Financing	3,240,752	$ 1,761,278

The potential for externally-financed expenditures is greater than shown in the budget because DEF is unable to spend all of the donor assistance available to it and because, as the EAP progresses, increasing donor inputs are becoming available.

Potential budgetary needs of a full DEF deconcentration would require, at a minimum, a doubling of the current operating budget in order to place foresters currently stationed in the capital out in the field. To provide them with the salaries, materials and investment budget support necessary to carry out a credible performance (in the absence of taking on other work to supplement household income), the KEPEM team has estimated broadly an increased cost of $5 million annually.

When these potential costs are coupled with similar requirements for other first-line resource service agencies (Direction des Pêches, Direction d'Elevage, Ministry of Agriculture, and other related support agencies), the costs of a full, effective deconcentration of government services becomes too heavy for this government to bear at this time.

4.2.5 Donor coordination

Lack of coordination among donor programs is not a policy failure which is unique to Madagascar. The EAP itself represents a major and positive step in the direction of developing a coherent multi-donor approach. Significant problems persist, however. One senior donor representative cited the fact that in the Ministry of Agriculture alone, there are

[17] at 1840 FMg/dollar.

[18] primarily "Action en Faveur de l'Arbre

140 separate donor funded projects. He also referred to "300 separate strategies" being applied to rural development in Madagascar[19]. The "projectization" of the development process has been very frequently mentioned as contributing to a compartmentalization and dispersion of development effort. The Governor of the Tananarive Province made an eloquent case for the fact that project-driven approaches typically lack the flexibility to be truly responsive to local needs[20].

The importance of effective donor coordination is greatest with respect to non-project assistance which focusses on policy change. The very tendency of projects to be compartmentalized also means that highly divergent strategies and development philosophies can coexist in separated local settings. But policy and institutional reform which aims towards changes in the generalized system of incentives cannot be effective if separate donor initiatives promote changes which are incompatible with each other. The essence of policy reform is that the public sector must provide consistent, stable and transparent policy signals.

4.2.6 Information/Transparency

Better field information is required in order to develop economically and financially workable resource management strategies in Madagascar. These needs fall into three broad categories:

- Forest and resource inventories. Estimates as to remaining natural forest lands vary from 3-4 million to 12 million hectares (the official figure). More reliable estimates of how much forest remains, where it is, what species and stand volumes remain and what economic functions are served by specific forest areas (extraction of forest products, protection of watersheds, etc.) will be essential to allocating efficient resources and promoting locally appropriate resource management strategies. KEPEM efforts are designed to coordinate these research activities with TFAP (Tropical Forestry Action Plan) and the GPF (World Bank's Gestion et Protection des Forêts).

  Broader resource inventories of agricultural and herding land, of non-forest biomass resources and of population settlement and economic activity around forested areas are also needed.[21]

- Field observation of local resource management practices. The process of encouraging and helping sustain local initiative is fundamentally dependent on feedback from local resource managers. It is a process of trial and error, both on the part of resource managers (local populations) and on the part of policy and decision-

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[19] the comments were not necessarily meant to imply that this is all bad. Simply in statistical terms, given the risks inherent in any rural development activity, the likelihood of failure could be greatest if only one strategy were being tested and applied.

[20] the project is designed, and its principal goals determined, before it reaches the intended beneficiaries.

[21] SAVEM is developing such information for buffer zones around protected areas.

makers. In order for the policy and public support function to be responsive to local needs, it must have on-going mechanisms to observe and learn from field experience. The highly varied ecological, ethnic and economic conditions within Madagascar underscore the need for zone-specific information on what does and does not work.

- Policy research. KEPEM can usefully focus on a set of core policy and institutional reforms which can be begun now. However, the program goal "to assist the GOMto identify, test and implement policy, institutional and management systems changes which support and facilitate local initiatives..." is likely to enhance GOMcapacity to identify critical areas for further policy research. Precisely this capacity which KEPEM helps to build within ONE will give rise to the need for on-going links with research capabilities within Madagascar and elsewhere in the world. Helping DEF, ONE and other GOMenvironmental institutions establish such links should be a program priority.

5. ECONOMIC POLICY TO SUSTAIN BIOLOGICAL RESOURCES

The KEPEM purpose is to help build self-sustaining resource management systems which will help conserve biodiversity in Madagascar. The concept of sustainability is therefore fundamental to program success.

To be meaningful, sustainability must exist at least on three levels:

- public budgetary resources
- economic (macro) benefits
- financial (micro) benefits

5.1 Total Revenue Potential from Natural Resources

5.1.1 Stocks and flows of wood, fish, cows and BTUs

The PAIP estimates that roughly $120 million per year of forest products should be subject to forestry fees. In Madagascar, as in all countries, it is logistically and institutionally difficult to collect such fees on all forest products which should be subject to them. Nevertheless, it is difficult to argue that six thousand dollars per year (approximately one two-hundredth of a percent) represents the upper bound of what is possible.

This report has not undertaken an analysis of how much forestry revenue can reasonably be collected or how. Table 5.1 (reproduced here from PAIP Econ Annex Table 5.10) shows what revenues could be for different levels of fee and levels of coverage (i.e. how much of the eligible wood can effectively be taxed at a given fee level).

Table 5.1

Potential Forestry Revenues

	Revenues in US Dollars
If fees are 5% of value	
20% coverage	1,200,000
30% coverage	1,800,000
40% coverage	2,400,000
If fees are 10% of value	
20% coverage	2,400,000
30% coverage	3,600,000
40% coverage	4,800,000

The estimates in Table 5.1 are purely indicative of the potential levels of fiscal revenues which could be realized. What level is realistic? Another point of reference is provided by the CTFT report (Bertrand. 1989). Based on a much more complete analysis of forestry flows around Antananarivo, and on detailed recommendations for forest products pricing and taxation strategies, that report estimates recoverable fiscal revenues of 1.569 billion FMG ($1.12 million) for the Antananarivo supply zone alone. It is therefore reasonable to conclude that nation-wide fiscal revenues from forest products flows can realistically reach an annual level of $2.5 million.

Detailed data describing the total production of livestock and fisheries was not available at this writing, but Table 5.2 reveals the relative production trends of the primary sector.

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Table 5.2

GDP at current factor cost
Primary sector
(Billions of FMG)

	1984	1985	1986	1987	1988	1989
Agriculture	531	586	686	810	1031	1149
Livestock, Fisheries & Hunting	202	209	245	268	344	395
Forestry	53	60	68	81	111	121

Source: World Bank

The energy flows currently characterizing the Malagasy economy also bear analysis. While the consumption of primary and secondary wood products accounts for more than 95 percent of energy use, hydroelectricity remains a strong source of hope for meeting the energy demands of an expanding economy. Table 5.3 reveals that electricity demand has stagnated, while supply has increased; the lack of investment in required infrastructure clearly lies at the heart of the dilemma facing Malagasy authorities.

Table 5.3

Production and Consumption of Electricity, 1984-89

(millions of kilowatt hours)

	1984	1985	1986	1987	1988	1989
Production	365	390	382	406	430	441
Hydroelectric	255	258	262	289	304	312
Thermal	110	132	120	117	126	129
Consumption	316	329	333	234	313	n/a
Public lighting	5	5	5	4	4	n/a
Household	94	95	101	84	80	n/a
Other	217	229	227	146	229	n/a

Source: Malagasy authorities, World Bank

5.1.2 Options for Market Intervention

Given the implicit subsidization of natural resource production described above, the GOMis missing many opportunities to improve both the provision of services and conservation of the environment and biodiversity by not making use of the fiscal tools at its disposal.

For example, shifting the subsidy from providing free access to forest resources for the supply of energy needs to providing subsidies and incentives for the development of urban electricity grids (and a subsequent increase in the supply of hydroelectricity and thermal power) could well prove to be cost-effective in both the short and long terms. Clearly the government does not bear explicit costs for the provision of "droits d'usage" now (although the implicit costs are clear), but the short-term investment in alternative energy sources might be financed by a levy on charcoal consumption, or a tax on the supply of bottled gas. Clearly, more data is needed on the potential impact of such taxes on the income of the urban poor who rely on charcoal as a primary energy source, as well as on the elasticities of supply and demand of charcoal, or other forest products, and the derived effects of taxation on supply and demand levels.

5.1.3 Tourism

The SAVEM project paper estimates potential revenues from "ecotourism" to contribute $47.5 million to GDP over five years. While the potential revenues to be realized through tourism are significant, they should not be overestimated. First, sound tourism development will require significant investment at a substantial initial cost to both government and the private sector. Second, what makes Madagascar attractive to international tourists is a unique combination of traditional but largely undeveloped amenities (climate, coastline) combined with the opportunity to observe extraordinary natural flora and fauna. The revenue potential therefore relies on recognizing that the market for Madagascar's tourism is limited to high-income, highly motivated ecotourists and that tourism will only be sustainable as an economic resource for the country if the biodiversity which attracts this market is conserved.

The economic benefits from tourism can only be sustained over the long-term, therefore, by the investment of revenues in environmental protection. In 1989, 39,500 foreigners landed on Malagasy soil. The vast majority were European (63 percent), half of whom were French.[22] Arrivals increased in 1989 by 18 percent over 1988 and by 41 percent over 1988. Tourism is a high growth industry.

The hotel capacity of the country is outlined in Table 5.4.

Table 5.4

Hotel capacity in Madagascar, 1989

	Hotels	Beds
Five stars	2	306
Four stars	4	156
Three stars	27	631
Two stars	31	605
One star	47	514

Source: UNDP, I.170

The rate of occupation averages 70 percent annually. If a hotel bed tariff on non-resident foreigners were levied in the form of a graduated fee, corresponding to the level of the hotel, Madagascar could generate significant revenue over the long term in order to finance the protection of the environment, the development of tourism infrastructure and the enforcement

[22] UNDP, *Tourism in Madagascar*.

of development standards in the areas of higher tourist impact. If current occupation rates continue, and if no further facilities are developed, Madagascar could realize 2.27 billion FMg in new revenue in the first year, or $1.23 million.[23] At an average increase of 20 percent annually, revenues by year 5 would total $3.06 million.

Park entrance fees represent another existing source of tourist revenue for support of environmental protection. In 1989, a graduated schedule of entrance and user fees was introduced for special reserves, integrated natural reserves, national parks and forest stations. DEF currently collects all fees and ANGAP is the agency responsible for directing the revenue to park maintenance. At a 20 percent annual rate of increase in the tourism industry, and assuming that 70 percent of visitors visit one area once during their stay (paying the current fee of 20,000 FMg), by 1996 Madagascar could realize 1.3 billion FMg from 98,200 tourists, or approximately $750,000.

5.1.4 Sustainable Financing

The key to sustainable financing in Madagascar is collection of revenues. The central government has remained well within the limits of deficit spending agreed to under structural adjustment, but has done so through a recessionary policy of reduced spending and cuts in services. That the deconcentration of services provided by DEF and other agencies of Agricultural Ministries, if deconcentration is to result in the improved delivery of services, is beyond the means of the current centralized system of financing was demonstrated in Sections 4.2.8 and 4.2.9. What is the alternative ?

The ability of decentralized governmental authorities to tax is an established, but limited, right under existing tax law. Awarding budgetary and service provision responsibilities to local governments at the fivondronana or firaisana levels is not guaranteed to provide a solution, but represents one of several options to be explored and tested. Clearly, some temporary financing of localized efforts is in order from the central government, to cover the

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[23] Assuming a tariff rate of 1000 Fmg (one star), 3000 (2), 5000 (3), 10,000 (4) and 20,000 (5), an average occupancy rate of 70 percent, of which non-resident foreigners make up 50 percent of the clientele in the lower three hotel classes and 80 percent in the higher two. 55 percent of the revenue would come from the five-star hotels, whose actual occupancy averages 90 to 100 percent.

1000 X 514 X 0.7 X 365 X 0.5 = 65,663,500
3000 X 605 X 0.7 X 365 X 0.5 = 231,866,250
5000 X 631 X 0.7 X 365 X 0.5 = 403,051,250
10000 X 156 X 0.7 X 365 X 0.8 = 318,864,000
20000 X 306 X 0.7 X 365 X 0.8 = 1,250,928,000

Total annual revenue, Yr 1: 2,270,373,000 FMg

costs of start-up and testing. The key to success is to transfer the budget-balancing discipline exhibited by the central government in recent years down the chain of authority to those decentralized collectivities which have demonstrated far greater success in tax collection and have the potential to provide more effective provision of services.

5.2 Macroeconomic Sustainability

5.2.1 Potential benefits of halting environmental degradation

A traditional cost-benefit analysis cannot readily be applied to the KEPEM program. Policy change, in and of itself, does not entail significant costs; the costs that emanate from policy change can be significant, but the nature of the KEPEM approach in its final form is to obtain a public commitment to long-term stewardship of natural resources, generate an internal policy dialogue and create momentum toward sound policy formation to support long-term sustainability.

The support provided by KEPEM is designed as much to provide a bridge for Madagascar as it develops from a command and control economy into a liberalized mixed market economy as it is to provide financing in support of policy reform. USAID anticipates that the revenue flows associated with liberalized tax regimes, increased collection of stumpage fees and park fees will be sufficient at the end of the five-year program to offset the actual costs of policy reform to the GOM.

While KEPEM cannot be analyzed from a traditional cost-benefit viewpoint, it is possible to estimate the costs associated with not promoting policy reform. Table 5.4 outlines the general conclusions of a series of projections conducted by USAID, certain GOM ministries and research organizations, with the assistance of the RAPID III population model.

Clearly, the current pressures on Madagascar's natural resources will intensify with the increasing population. The authors of the aforementioned study argue that the implementation of a population policy, in addition to the other necessary policies, would assist the forest resources in stabilizing at 11 million hectares, a projection based on insufficient data at best. With the increased marginalization of lands (and waters) employed for natural resource production, increased costs of production will generate substitution of alternatives automatically as they become economically viable. The point is that the associated costs of forcing such substitution--poverty, loss of biodiversity, increased loss of quality of life--are costs that need not be borne in the presence of rational policy.

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Table 5.5
Projections of the Results of
No Policy Reform on the Economy, Environment
and Population

	1984	2014	2034
Population (m)			
High proj:	9.6	23.0	44.0
Low proj:	9.6	18.0	25.0
Agriculture Demand for rice (m tons)			
High proj:	1.2	3.03	5.7
Low proj:	1.2	2.30	3.3
Cattle-raising (m head required)			
High proj:	11	26	50
Low proj:	11	20	28
Forests (m ha available for energy use)			
High proj:	11.5	0	0
Low proj:	11.5	0	0
Other*:	11.5	8	0

* Assuming the low population projection and implementing policies to encourage, agricultural intensification, crop substitution to prevent deforestation, energy substitution, improved energy efficiency and carbonization. Forests are depleted to functionally zero in 2020.

Source: Madagascar: Population, Economie, Environnement

5.2.2 The larger macro perspective: Decreasing uncertainty

The key to the policies promoted under KEPEM is decreasing the uncertainty under which first-line managers of natural resources currently operate. Through policy coordination, decentralization and greater direct control over resources, managers will have an incentive to invest for the long-term in maintaining the income potential of resource production.

5.3 Microeconomic Sustainability

5.3.1 Validity of the KEPEM hypothesis

The KEPEM strategy rests on an underlying hypothesis: that sustainable resource management is a decentralized process which must be responsive to local needs and driven by local initiative. The hypothesis does not arise from a desire to affirm the rights of local populations, but rather from the recognition that central authority does not exercise effective day-to-day control over locally dispersed and locally accessible natural resources.

If the hypothesis is correct, then the policy and institutional reforms supported by the program (if successful) will prove essential to implementing any viable sector strategy. Indeed, this is the final element in the economic justification of the program: it is impossible to justify undertaking environmental protection in Madagascar in the first place if steps are not taken to establish the preconditions which are judged essential to success.

What remains to be analyzed is the degree to which microeconomic incentives will initiate potential resource management activities. Through the tests to be undertaken in the KEPEM pilot zones, specific data must be gathered on whether the financial potential of resource enhancing investments outweighs the financial benefits of resource-destructive exploitation in the short, medium or long run. The answer is likely to vary for different regions and for different management options.

5.4 Recommendations for further study

1. Research the most efficient and effective method of collection of stumpage fees in order to ascertain a reasonable rate of growth of revenue directed to the National Forestry Fund.

2. Conduct a full analysis of national forest resources, including species, volume, rates of growth, potential profit maximization and rates of degradation. Coordinate with TFAP, GPF and other inventory efforts underway.

3. Research the potential effects on forest degradation, personal income, and government revenue of a tax on charcoal, or forest products in general, through analysis of the elasticities of supply and demand in the markets for forest products.

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ANNEX XI

INSTITUTIONAL ANALYSIS

1. Introduction - Mapping the Institutional Landscape

Madagascar's Environmental Action Plan (EAP), the product of a half-decade of major donor-Malagasy analysis and dialogue, is a complex and far-reaching undertaking. It was urged upon the Government by the donors as an essential framework for safeguarding Madagascar's shrinking, yet world-renowned treasure in biodiversity. The ravages of unsustainable natural resource exploitation had taken their toll. The risks of ill-guided or rapacious economic development and rent-seeking loomed on the horizon. The scope of the plan requires the orchestration of a host of institutional actors: Governments - national, provincial and local; international donor agencies; national and international Non-Governmental Organizations; and of course, the private sector. It is in the arena of private behavior that new incentives will have to be created to adopt sustainable regimes for exploiting the natural resource base while conserving the treasured biodiversity of this "Great Island" nation. The action institutions will have to reach the local impact level: the first-line natural resource users - communities, farmers, herders, wood-cutters, forest squatters, and individual firms and enterprises.

Persuaded of this, the Government of Madagascar has set about reordering national priorities for an environmentally sound national development strategy. Working with the donors, it is setting in place a complex, cooperative institutional framework for action. The rules of the game are still being defined and the institutions which will shape those rules and guide the play are either new and untried or established and in need of major redirection.

2. At the center - The National Level Institutions and the EAP

2.1. L'Office National de l'Environnement (ONE)

Under the Environmental Charter adopted by the National Popular Assembly and signed into law by the President in December 1990, the Office National de l' Environnement was created. The Charter and its detailed narrative annex (a summary of the Environmental Action Plan - EAP) charged ONE with the following key responsibilities:

- environmental policy analysis, formation, and coordination;
- coordinating executing agencies and operating ministry activities in biodiversity, natural resource management and conservation;
- coordinating the development, negotiation and execution of donor projects and programs in support of Madagascar's EAP;
- overseeing and coordinating the adoption of appropriate environmental impact standards for industry, commerce, tourism and general urban development, and assuring their enforcement through operating agencies of government.
- monitoring and evaluating the execution of the EAP, including the new environmental impact standards, so as to correct, improve and up-date the EAP as an evolving statement of policy and program;
- overseeing the information management system that guides the expanding environmental data bank components;

- o preparing and maintaining the strategy for human resources development in environmental fields, as well as a broad citizen education and information program to build national commitment to sustainable natural resource use and conservation.

In May 1991 ONE's Director General, the former General Secretary of the former Ministry of Plan and Economy, took office on a full-time basis. Some of the seven professionals on the staff had been working for nearly a year as members of a shadow ONE, within the Ministry of Plan, preparing for its formal authorization. From the start, the Director General affirmed his determination to keep the ONE staff very small, highly competent and motivated, and sharply focused on program coordination and policy analysis while eschewing the temptation to take on the role of an executing or command agency in the environmental sector.

2.2. ONE and the Executing Agencies and Operating Ministries

The complexity of the sector is in itself a central problem for the EAP. There are five principal Executing Agencies associated with ONE in the first phase of the EAP - Environmental Project I (EP-I). The first two of these listed below, like ONE, are new institutions, created in late-1990 to take on key functions as operating and coordinating bodies.

(1) ANGAP, the Association for the Management of Protected Areas, is a mixed public/private body charged with overseeing the special system of management contracts with the Non-Governmental Organizations (NGOs) which are undertaking the administration of Madagascar's national parks and protected areas. A Grants Management Unit will provide funding to NGOs working with communities around the protected areas. A Biodiversity Planning Unit will assist in drawing up strategic plans for protecting and documenting Madagascar's unique biodiversity. AID - through the SAVEM project - is providing financial and technical support to the new institution.

(2) ANAE, the National Association for Environmental Action, is also a public-private body charged to promote, fund and guide small projects in rural communities aimed at watershed improvement, reforestation and other environmentally oriented development efforts - mostly in cooperation with national and international NGOs.

(3) DEF, is the old line Department of Water and Forests in the Ministry of Water and Forests. It is the subject of a major "strengthening" project in forestry (Management and Protection of Forests - GPF) led by the World Bank. DEF retains final responsibility for Madagascar's protected areas. It, therefore, signs the agreements with ANGAP and the associated NGOs which are carrying out the management plans for these areas. The World Wide Fund for Nature, under a large AID supported debt-swap program, supports DEF through a program to recruit, train and hire special forestry extension agents (Agents for the Protection of Nature - APNs). The Swiss have a large reforestation program with DEF as part of the national ZODAFARB (Zones of Action in Favor of Trees) program.

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(4) DDRA, the Department of Lands and Agrarian Reform in the Ministry of Agriculture, is also the subject of an evolving program for a national cadaster, under discussion with the World Bank, the French and the EEC. Its responsibilities for the land registry and transfer process also involve it in the parallel discussions on land-reform, revised tenure law, and problems associated with use-rights in the vast open-access areas in the public domain. For example, under the ZODAFARB scheme, it is responsible for titling land to peasants, after three years of successful tree planting and maintenance.

(5) FTM, the National Cartographic Institute, in the Ministry of Public Works, is also engaged in the task of charting and inventorying the natural-resources and biological assets of the island. Once the premier mapping agency of Africa, its data base has fallen behind after decades of neglect. It is now the subject of a World Bank/French initiative to rebuild its professional capacity and to undertake a major cartographic up-date.

2.3. ONE and the Main-line Operating Ministries

The institutional actors in the overall EAP include all of the major operating ministries such as Transportation and Meteorology, Urban Development and Tourism, Mines and Energy, Scientific Research, Public Instruction and Universities. For the duration of the transitional government (currently planned to the end of 1992) ONE will be directly attached to the Ministry of State of Agriculture and Rural Development, which oversees the Ministries of Agriculture, Water and Forests, and Livestock. The membership of ONE's council is still to be finally decided, in the light of ministerial and other changes made by the transitional government, but will probably include the Ministry of Budget and Plan, several operating ministries as well as representation from the private sector (including banking and NGO communities). The Ministry of Water and Forests chairs ANGAP's mixed public agency/NGO council.

2.4. Donor Coordination - Le Comite de Orientation et Suivi (COS)

The formal Steering and Oversight Committee (COS) for the Environmental Action Plan, which meets each December to discuss policy, program progress, problems and future action including funding, is made up of all the major donors and the key Executing Agencies and ministries. A professional in ONE is responsible for donor coordination in Madagascar. In addition a secretariat for coordinating donor funding for the EAP is maintained in the World Bank's Washington offices with a financial contribution from USAID.

2.5. The Scientific Committee - Coordinating Research

ONE also has a Scientific Committee whose tasks are to coordinate environmental research among the various institutes, both public and private, national and international, engaged in research into Madagascar's rich environment and to assist in shaping the overall environmental research agenda, and in contributing to the expanding data bank.

2.6. Non-Governmental Organizations (NGOs) as Partners at the Central or National Level in the Government's Environmental/Natural Resource Management Strategy

Growing out of an increasingly activist church community with concern over pernicious poverty and social misery, a variety of Non-Governmental Organizations have been formed to finance and promote programs of socio-economic development. In the decade 1972-82, they were officially viewed with suspicion by the Government as potential agents of political opposition. In the 1980-85 period, as economic conditions worsened and the Government found it necessary to call upon major donors for food aid and other relief, the church related NGOs, national and international, became acceptable channels for assistance.

(1) NGOs and Development:

Emergency aid NGOs, like Catholic Relief Services, the Red Cross, Medicins Sans Frontières, and the church groups, began to expand into general community development. Some specialized groups, like FIKRIFMA - which concentrates exclusively on gravity-fed, community potable water systems - have developed genuine expertise in a defined area of need.

(2) The Environmental NGOs:

During this same period, the activist international environmental NGOs, such as the World Wildlife Fund (WWF) and Conservation International, made Madagascar's environmental crisis a global issue. Environmental action and research NGOs, such as WWF, the Jersey Islands Foundation, the Missouri Botanical Gardens, Yale and Duke Universities, entered Madagascar under special agreements with government agencies to undertake conservation programs.

(3) The EAP and the Role of NGOs:

As the Environmental Action Plan began to unfold during the last half decade, the donors were able to convince the Government that this growing community of experienced activist organizations had a vital role to play in any operational strategy for conserving Madagascar's biodiversity and for managing natural resources in sustainable regimes for social and economic development. Therefore it was agreed to form two new NGO oriented institutions - ANGAP and ANAE - for mobilizing and coordinating NGO activities in the sector. Thus the Government began a major new policy - acknowledged in fact in the Environmental Charter - recognizing NGOs as full partners in this arena and in development in general. NGOs have become, therefore, alternative delivery systems for public goods and services at both a national and local level. The Government's survey of registered NGOs numbers them at nearly 300. This impressive number is still a modest start toward filling the service vacuum in villages throughout the country.

(4) USAID and the Environmentally Oriented NGOs:

AID's SAVEM project directly supports this institutional structure to deliver a broad range of services to conserve Madagascar's biodiversity and to mobilize local communities. The objective is to build sustainable natural-resource use-regimes that will contribute to local economic and social development while building new incentives for environmental stewardship. ANGAP and ANAE, as institutions, are described in detail in other recent AID reports and in the SAVEM project. For this analysis suffice it to say that they are both new and untried. AID has operating program grants (OPGs) with several international conservation groups, some of which will be incorporated into SAVEM. And it contributed to the large debt-swap with WWF, mentioned above.

(5) NGOs Are Willing but Wary:

The NGOs (though represented in a minority on the ANGAP board and in a majority on the ANAE board) are approaching the new order with guarded optimism. ANGAP is headed by an energetic career civil servant (the former director of the DEF's Nature Protection Service) who appears to be fully supportive of the public-private partnership for managing protected areas and for encouraging community activities around these areas, through NGO action. But the NGOs are wary of the long history of **dirigisme** from government and how this may surface again when their necessarily grass-roots based programs require great latitude, experimental freedom, and diversity. They also want greater latitude under existing law - Ordinance 60-133 - to receive and dispense funds, to form local cooperative structures around productive ventures for profit, and to enter into property ownership regimes with their members.

(6) Funding NGO Projects in the Environmental Arena:

ANAE, as a central funding agency for local NGO action is as untried as ANGAP. How the grants to action NGOs are structured and how the NGOs themselves respond to project guidance from the center will determine the success or failure of the scheme. It is indeed a grand experiment and consistency in the Government's liberalization policy, applied to this sector, will be essential in energizing entrepreneurial approaches to self-managed, locally driven, sustainable renewable natural resource projects.

2.7. ONE and the Strategy for Institutional Orchestration

A major objective of the KEPEM Program is to reinforce the Government's commitment to make the ONE - and the institutional framework it is charged to coordinate at the national level- efficient and effective in carrying out the grand EAP mandate. The problems lie in setting the rules of the game early on with clear role definitions among all of the principle institutional actors, in developing clear and responsive processes for monitoring and evaluating the program so that experience can feed a transparent and dynamic policy formulation process and through it, form better laws and finally change

behaviors. In the sum, the ultimate challenge is orchestrating an ensemble of incentives, rules, and actions that will result in a people-based system of sustainable natural resource use for national development that nurtures and conserves the dramatic and unique biodiversity of Madagascar. Major problems in the national public agencies are analyzed in Section 3 following.

(1) Program Monitoring and Evaluation:

ONE's primary tool for accomplishing these daunting tasks will be a system of program monitoring and evaluation. KEPEM will support ONE to develop this system, notably through linking program evaluation to its policy analysis role and thence to its task of revising the EAP through coordinated adjustments in program planning, financing, and environmentally oriented law.

(2) Private Firms and Environmental Standards:

The executing and operating agencies must start immediately, with ONE's assistance to develop a body of environmental law, including reasoned and appropriate environmental standards for commerce, industry and tourism. To be successful, it will have to be an interactive process with the private sector in setting standards and in their successful enforcement. Should voluntary compliance fail and criminal action occur, the Ministry of Justice will have to intervene with legal remedies.

(3) Linking National and Local Institutions:

Policy Challenges: In section 4 the institutional landscape at sub-national levels is described in some detail. The capacities of these institutions is briefly assessed. A major challenge for ONE will be to stimulate and coordinate the national inquiry into how local capacity for environmental stewardship and sustainable natural resource management can be increased. (See section 6.)

Table 1
The Environmental Action Plan

NATIONAL INSTITUTIONS

Administrative Council
Chair: Minister of State for Agriculture and Rural Development
ONE
Director General
Professional Staff of 7+
o coordinates all EAP actors nationally
o monitors and evaluates EAP program
o develops policy/program redesign
~~o oversees information system: EAP Data Banks~~
o facilitates training/public information
plan and action programs with agencies
o monitors flow of funds with donors/agencies

Coordinating and Oversight Committees

Comite de Orientation et Suivi(COS)
Meets annually in December
Chair: MinState ARD
Secretariat: DG ONE
- o Executing/Operating Agencies
- o All Major International Donors
- o Invited Experts

Scientific Committee
Meets on call
Chair: ONE DG or Staff
- o Min Sci Research
- o Independ Resch Instns
- o Research NGOs & Universities-Ntnl/Intrntl
- o Invited Researchers/special projects

EXECUTING AGENCIES
- o ANGAP (protected areas - NGOs)
- o ANAE (NGO local RNR projects)
- o DEF (Forests/Biodiversity)
- o DPRA (Lands: tenure, titles)
- o FTM (Cartography)

OPERATING AGENCIES
- o Ministries of:
- - Agriculture
- - Water & Forests
- - Budget & Plan
- - Transp & Meteor
- - Mines & Energy
- - Public Instruction
- - Urban Dev & Tourism
- - Interior & Justice
- o State Enterprises/Corps

LOCAL GOVERNMENTS & RNR USERS
- o Special Regimes for Common or Open Access Resources
- o Mobilizing RNR Users to Sustain/Conserve for gain
- o Rules enforcement/conflict resolution.

PRIVATE INDUSTRY & COMMERCIAL FIRMS
- o Participating in Setting Environmental Standards
- o Make Environmental Impact Analyses on Investments
- o Voluntary Compliance/Law Enforcement/Conflict Resolution

3. Central Government Agencies - the Crisis in Public Service Institutions

Over the last decade, the Government of Madagascar has moved from Marxist **dirigisme** toward liberalism. It is privatizing banking and a number of state enterprises. It has radically reduced its role in the market either as price setter or through state production schemes and commodity boards. At the same time, faced with falling per capita production, pernicious inflation and rising public debts, it has implemented an IMF/World Bank led program of fiscal austerity and structural adjustment. Both liberalization and structural adjustment have profoundly affected all elements of the public service agencies.

3.1. New Missions - New Philosophies but Old Expectations

A recent Coopers and Lybrand audit of the former Ministry of Animal Production, Water and Forests (MPAEF) underscored how the elements of that Ministry, as throughout the Government, have not absorbed the implications of liberalization. The traditional bureaucracy, used to over a decade of thinking of the unitary state as central planner and prime actor for the economy, and themselves as its controllers, operators and arbiters, is not prepared for the new mission of the state agencies. Turning over to the private sector the initiative in the economy, especially in agriculture, has been unnatural to them. The veterinary service, due to be privatized this year, clung to its residual functions in the MPAEF. The policy of privately managed small irrigation perimeters is honored in the breach by the water engineers in MINAGRI who are used to directing the peasant farmer, not to helping him manage water systems on his own. Clearly the national psychology is undergoing major adjustment. The KEPEM design team found people at the local level, fully aware of a reduced government budget and the new philosophy of government, still expecting the state to do for them rather than to do for themselves: mend their irrigation canals, vaccinate their cattle, and to provide all manner of services.

3.2. Impact on the Civil Service:

(1) Falling Morale: In a recent Aide-Memoire to the World Bank, ("Etude Diagnostique de la Gestion des Personnels de l'Etat -Mission Principale -15 Janvier-8 Fevrier 1991," Jean-Clade Bosse and Jean-Marie Bruno, The World Bank), the impact of these measures on the civil service was characterized as having the following results:

> "a general feeling of ineffectiveness in the administration regarding the execution of the policy of the State, growing distance between the public services and the population, slow and ponderous bureaucracies, inadequate service delivery in response to expressed needs, insufficient operating resources for the services, demoralization of personnel, reduced sense of professionalism and the increase in reprehensible practices, continuous erosion of the civil servants' standard of living, loss of confidence of the general population in the administration, etc."

(2) Falling Incomes: Since the initiation of the first round of IMF-Bank negotiated fiscal austerity in 1982/83 through the structural adjustment program of 1985-onward, the civil service in Madagascar has suffered from a constantly falling real income. The following chart suggests the impact this has had on three illustrative levels of civil service employees:

Table 2
Illustrative Civil Service Salary Levels 1982 - 1991

	1982 Monthly Salary	1991 Monthly Salary
Adminst. Employee (2ndry Ed. 10/yrs Svc)	60,000fmg = $150	100,000fmg = $ 60
Techn. Employee (2ndry + Tech School 10 years Service)	100,000fmg = 250	180,000 = 100
Engineer (Economist etc) Univ. Degree 10yrs Svc)	200,000fmg = 500	300,000 = 180

1982 Exchange 400 fmg = $ 1.00; 1991 1800 fmg = $ 1.00

In 1982 a Government Technical Employee, head of household bought a large bag of rice, enough to feed a family of five for a month, for FMG 7,000 or 7% of his salary. Today that bag costs FMG 25,000, 15% of his salary. His house rental in 1982 was about FMG 40,000 or $100, 40% of salary. By 1991, moved to even more modest quarters or sharing quarters, he may be paying FMG 90,000 or $ 50 in rent, half his salary. If he has not moved, his 1982 house may still rent for $ 100, and he is in serious debt, or is concentrating on a second income. Other items in the minimum survival basket have risen proportionately.

For those employees who have not been able to survive on one government salary, second jobs are now the rule, not the exception: absenteeism and short days a norm. Moreover, in the shrinkage of the national budget, operating funds have nearly disappeared. In most agencies personnel expenses exceed 90% of budget. In the absence of supplies, equipment, vehicles, and tools, the most dedicated staff is demoralized; the hangers on enjoy enforced idleness. When there is transport, those whose work requires travel resist. There are the second jobs to keep them at home. But equally or even more important in all cases, the official per diem is FMG 1,700 - 2,000 per day ($1.00 US) - enough for one meal in the public market with none left for lodging. Moreover, reimbursement of per diem runs three to six months late. As one extension agent said to us in the field, "I go to work with the peasants and pay the government for the honor to do my job!"

Table 3

The Civil Service Census - a Few Indicators: A World Bank sponsored census of the Civil Service was completed in late 1989. All of the results have not been published. A few of its findings are summarized below*:

PROFILE OF THE MADAGASCAR CIVIL SERVICE

92,000	career and equivalent employees (does not include State Enterprises, Defense Ministry - military or civilians, or contractuals) (If included, total estimated at 130,000) Averages 1 public employee per 123 inhabitants;
3,692	"phantom" payroll entries - now subject to judicial action for fraud;
26,000	of total non-fraudulent but subject to further review before end of 1991;
44%	of employees work in urban areas where 14% of the population resides: 1 public employee per 45 urban inhabitants;
27%	work in Antananarivo (with only 7-9% of national population);
56%	in more rural areas (places less than 100,000) serve 86% of the population 1 employee per 188 inhabitants;
43,123	work in the Ministry of Basic Education;
=47%	of all public employees.

Table 4
Distribution of Personnel By Broad Class or Grade in Service*

Senior Executives	764	0.8%
Top Managers	2,670	2.9
Middle Managers	6,756	7.4
Prof./tech./admin	55,834	61.0
Line oper	25,504	27.9
Total	91,528	100.0

Note: 275 employees were not placed into these categories: Grand Total = 91,803

*(Extracted from "Recensement du Personnel de l'Etat et l' Apurement du Fichier de la Solde," December 1989-May 1990 report dated June 1990 by the consulting firm, SOATEG. World Bank files.)

3.3. Diagnosing Problems in the Malagasy Civil Service

Interviews throughout Madagascar with line personnel and supervisors, the field reports from donor technical teams, and internal government documents consistently confirm that there is a grave institutional crisis in the Malagasy public service.

(1) The lack of technical support personnel at the service level:

Very few Ministry of Agriculture extension agents, DEF water engineers and forestry technicians, livestock/range-management technicians, MTP (public works) staff, etc. - are available and working with peasant producers and natural resource users. A cursory examination of Ministry budgets shows that an excessive proportion of staff is located in the capital, Antananarivo (25 to 30%) or in the urban provincial capitals (in all 40-50%). Although all the major agencies do have technical bureaus at the level of the six Provinces or Faritany, far too few of their technical people are located at the lowest service level: in the 20 or so former prefectures, now called circonscriptions or in more rural field offices ("Secteurs" at Fivondronana and "cellules" at Firaisana, as they are called in the Ministry of Agriculture - or the "triage" level in DEF.) Moreover, at least 50% of these field positions are administrative staff, not hands-on technicians and extensionists. Because of concentration of higher paid staff at headquarters, along the agencies' few vehicles and operating budgets, the share of resources actually going into field operations is only in the range of 25 to 30%.

(2) The absence of field authority over personnel, resources and program operations:

Routine activities of field offices are subjected to antiquated, multilevel, a priori review and centralized approval procedures. In numerous field interviews, technical extensionists complain that they cannot use the scant resources - transport, travel funds, equipment, and supplies - that they are budgeted, nor can they buy basic repair parts, seeds, etc. locally. Even when trying to draw on donor funds, all such decisions must await central approval and central procurement authority, case by case. Delays in moving requisitions are numbered in months. In a field office of the DDRA (land titling agency), we were told that a land transfer or new title took sat least 21 discrete steps, up and down the decision ladder, and that applications for titles were back-logged in their offices for over a year.

(3) Little or no interagency coordination, collaboration and interdisciplinary assistance at the community level:

The Ministries and the departments within them operate as individual fiefdoms. Their field offices are separated from one another by technical cadres, even when located in the same town: animal husbandry (elevage), water services, forestry services, agriculture, etc. There appears to be little encouragement of horizontal coordination and cooperation among them.

(4) Projectization of activities under donor funding:

The project mode of resource management tends to fragment rural reality. As one World Bank field advisor with a wealth of field experience in Madagascar pointed out, within one agency - the Ministry of Agriculture - he found as many as 10 to 15 individual project sites, operating separately from one another along a five kilometer stretch of rural road. In nearly all cases they responded to the administrative order established under a separate donor project at headquarters. Each had its separate service and management structure. Each its target task or community. Each was visited by a different supervisor and expatriate advisor from the capital. None worked with adjacent projects and staff on an area-wide, or even community oriented basis of overall needs. Another resident World Bank official commented on how extensive this project based system had penetrated agency operations, noting that in the Ministry of Agriculture alone there were now 140 discrete donor funded projects, each insulated by special agreement from the others and each taking on a life of its own. Little, if any effort is made to pool talents and resources at the rural community level for greatest combined impact and economies in operations.

(5) Staff rewards are not based on services rendered:

Technical personnel incentives are oriented toward satisfying the next level up in the hierarchy. Most supervisors maintain old-school values that the public services are there to control, direct, and exhort the peasant masses. Line personnel are measured against these values. Advancement is by seniority and promotion is by cohort group. The technical services are central supply and command driven - not field demand and service driven. Staff incentives are all oriented toward the center, not toward field results and the client. Bureaucratic paternalism seeks control and direction of the peasantry rather than mutual learning, local empowerment and group motivation. In a November meeting with AID officers and consultants, the Prime Minister commented that "these agency field people do not know how to listen to the peasant farmer, to walk behind him and learn. They only know to impose, preach and direct. Most of the time they don't understand the local system." If the present bureaucracy is to become a means of vitalizing community action, the Prime Minister opined, it will have to he radically reoriented. It was the Prime Minister's view that the real hope for effective field services to the rural masses lay with the non-governmental, private agencies because bureaucratic reform, being a mind-set problem, would take too long, if it could ever be achieved.

3.4. Constitutional Questions: Searching for the New Order

Madagascar is undergoing rapid political change. After seven months of street demonstations and paralysing strikes, the coalition of opposition parties and the Ratsiraka regime came to an accord on 31 October, 1991 on a new State structure and a process for arriving at a new Constitution. The Presidency was stripped of most of its powers, these being transferred to a newly-created High State Authority (HAE), supported by a consultative body, the Committee for Economic and Social Redressment (CRES) and a transitional Government of 36 ministries. This transitional structure has given itself 18 months to arrive at a new Constitution and a Third Republic. The process began with regional forums in February, 1992 to canvas local opinion and select delegates for a

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National Forum held in late March, 1992. This will be followed by a referendum on the text of the Constitution in June, legislative elections in August and presidential elections in November, 1992. The situation is complicated by the emergence of powerful federalist forces who are advocating the proposition of a second, federalist text alongside the unitary state text on the referendum ballot.

Major Considerations for Constitutional Revision:

It is unclear how this drama will play out. But it has had, and will continue to have, far reaching impact on the institutional structure that relates to environmental affairs. These include:

- The shifting Government structure has clear implications for the environment. In a period of a few months, a Ministry of the Environment, Water and Forests, to which ONE was briefly attached, has come and gone. It is currently attached to the Ministry of State for Agriculture and Rural Development (a non-executive Ministry overseeing the Ministries of Agriculture, Water and Forests and Livestock). The composition of the Government following the transition period is uncertain, creating further difficulties for ONE. The other executing agencies have been much less effective, either because of their non-governmental status, or because their parent ministries have remained relatively intact.

- Continued liberalization and emphasis on the private sector. This has been reflected by changes in the administrative council of ONE, from an entirely Government and executing agency composition to a greater representation by banks and commercial firms. Private sector growth could conceivably include firms specializing in environmental impact analysis.

- A more devolved power structure, mandating more public services at the local level. Several proposals would involve major grants of real authority for resource management and regulation, taxation of production and commerce, and discretion to organize services related to use and conservation of water, land, and forest reserves as well as general public services. Such a reform would require a significant shift toward local governments and a decentralized policy regime. Federalist tendencies however also risk coopting of resources by local elites and potential replication of already cumbersome bureaucracies;

- The opportunity for environmental groups and environmentally inclined organizations, as well as (theoretically) local populations to participate in the development of the new Constitution. Environmentally involved NGOs are represented among the 130-member CRES as well as being involved in the National Forum process.

- A change in the legislative process, with a substantial shift in initiative and the capacity to legislate from the Executive to a more empowered Assembly. A major change in these relations could significantly affect the processes by which all law is made and specifically the way in which environmental policy is debated and translated into public regulation, agency mandates, and law.

- A major reform in the weak and ineffective justice system. The judicial branch of government is antiquated, mired in procedural complexity, suspected of corruption, ponderous and slow. A major reform through the constitution could dramatically affect its legitimate role as protector of the legal order, human and property rights, and the guardian of basic social values. In natural resource conflict resolution, its power to serve as arbiter under new environmental impact legislation, and its capacity to resolve jurisdictional disputes over resource domains, could become crucial in the implementation of the EAP;

In sum, these measures towards a new constitution, and others that may arise during the current debate, can have very substantial impact on the institutional context in which environmental policies are made, translated into law, and executed. KEPEM will have to take into account and accommodate to these changes as they occur. To the extent that environmental policy, especially regarding natural resource use-rights raise constitutional issues, the policy dialogue may have to be raised to the constitutional level.

(For a more detailed discussion of the KEPEM program and the Governance or Constitutional issues, the reader is referred to the PAIP Annex on Governance.)

4. Sub-National Institutions: The Local and Regional Level

[Note: Since this annex was written, all of the "decentralized collectivities" above the fokontany level have been "suspended", pending the new constitution.]

4.1. **Local Government - the "Decentralized Collectivities"**

Madagascar has a weak local government system. The "suspended" Constitution of 1975 sanctifies a concept of decentralized, community self-management but in reality, through implementing law, it assures firm guidance and control by the central state. The structure is that of pyramidal republicanism: direct democracy at the community level and indirect election of officials at each successive tier of government thereafter. Each higher level of local government has oversight and review authority over the one below. Though elected by local constituencies, the Presidents of each local collectivity are charged by law to represent the direction and authority of the National Executive.

(1) **The Fokontany:** Starting at the rural village level and with urban neighborhoods - a General Assembly composed of all eligible voters (citizens 18 years and over) meets every five years to elect, from slates of candidates prepared by the parties, a President and an Executive Committee as its continuing government. The General Assembly must be called for special legislative actions, but otherwise it meets only periodically. The Executive Committee, under the President, forms working committees - voluntary citizen

action groups - along special lines, for the school, for community health and sanitation, for local security, etc. There are approximately 13,000 **Fokontany**, covering all the national territory, averaging slightly less than 1,000 persons apiece. Fokontany's, as a rule, have no permanent employees.

(2) **The Firaisana:** The next in the hierarchy of "decentralized" governments is the **Firaisana**. There are some 1,250 - each composed, on average, of ten **Fokontany**. The representatives to the popular council of the **Firaisana** are elected in the general assemblies of the **Fokotany** of which it is composed, from candidates proposed by the legal parties. This body then elects its Executive Committee and its President, again from party slates. Firaisana normally have a full-time clerk, responsible to the Ministry of Interior for providing civil registry and voter inscription services to all citizens in that jurisdiction. Some Firaisana have retained the status of urban communes from the colonial period.

(3) **The Fivondronana:** There are 113 such jurisdications at this important level: the first at which substantive local services are administered. Many Fivondronana are former urban communes which were granted special self-governing authorities under French colonial law and have retained them to date. Its Popular Council is elected from party lists submitted to the Popular Councils in the 10 or so **Firaisana** in its jurisdiction. It in turn elects the executive committee and the **Fivondronana** President, also from party slates. All Fivondronana have full-time employees providing direct municipal services plus delegates of central ministries supporting administrative functions. The Fivondonana also constituted the electoral districts for representatives to the now-abolished National Popular Assembly. (See section 3.3 following).

(4) **The Faritany:** Finally we arrive at the provincial level. There are 6 **Faritany** and like the immediate levels below, their popular councils are elected by the assembly delegates at immediately lower level. They in turn elect an executive committee and a President. The Faritany have rather large staffs charged with regional coordination and the provision of public services in cooperation with the provincially located national agencies.

Table 2

Local Government - The "Decentralized Collectivities"
(before the Convention of 31 October, 1991)

Level	Number	Internal organization Officials & Election*	Central Government Oversight/Support
Faritany	6	Pres & Exec Comte Elected by Popular Council formed from reps. from Fivondronana PCs-ea 5yrs	Admin. Committee MinIntr names the Sec. Gnrl. Other Mins. name reps. to key technical jobs.
Fivondronana	113	Pres, & Exec Committee -Elected by Popular Council formed from reps. ea Firaisana PC	Admin Committee Min Intr Rep Heads Small tech. staff from other Mins.
Firaisana	1,250	Pres. & Exec Committee -Elected by Popular Council formed from reps. ea Fokontany PC	Occasionally a Min Interior Ofcr
Fokontany	13,000+	Pres. & Exec Committee -Elected by Peoples Assembly formed by Direct Popular Vote	None

*All Local Officials must be selected from official party slates.

4.2 Characteristics of Local Governments:

(1) Unclear Mandates and Permissive Authorities:

Jurisdictional authorities both for mandated and permissive functions are far from clear. Local taxing authorities are limited and promised subventions from the national government budget rarely arrive below the Fivondronana level. What is done now at each level, in terms of providing public goods and services varies greatly by locality. A UNDP study of local finances shows that a major recodification of law relating to local government finance is badly needed. There are strong advocates in the Government, especially the Ministry of Interior which is charged with local government oversight, as well as among other national agencies, for far-reaching reform. Recent proposals suggest varying degrees of devolution of authorities, and new definitions of jurisdiction between local and central government. Several argue for liberalizing the regime and injecting a

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concept of retained powers at the local levels, as well as other "constitutional" level matters. Some of these include eliminating the power of oversight of lower jurisdictions by higher ones in setting local revenues and in initiating services. It is also argued that candidates should be able to stand for local office without party endorsement and that once elected they should be, under law, responsible to the electorates not the Central Government for their service. These issues frame a part of the constitutional debate now in full course.

(2) **Local Revenues:**

By and large the limited local revenues are undercollected due, in part, to weak or non-existent local staffs. One recent study has suggested that annual per-capital local revenues average from a low of about $ 10 cents to a high of $ 1.00 at the lower levels of government. Although the discretionary tax base is very small, collection efforts on the existing tax base are very weak. Most rural Fokontany collect only 10 % to 20% of the potential. Even in urban Antantanarivo, one of the more efficient Provincial governments, it is estimated that only 20% of the property tax values are collected. There are strong political disincentives in this poor country for anything like a major tax and fee enforcement effort, especially without a visible link to direct, tangible, and valuable services.

(3) **Current Services Capacities:**

Only the larger jurisdictions - primarily in urban areas - have permanent employees except in administrative positions. These are the former urban communes at the Fivondronana level and the provincial capitals - the Faritanys. But some obligations are mandated at each level:

- Each **Fokontany** is enjoined to build and maintain its primary school. Larger jurisdictions provide market places, some sanitation services, occasionally a slaughterhouse, a public transport terminal, and other minimal services. Usually the localities depend upon central government agencies for public works construction and major street, drainage and sewerage, and other works. Maintenance as a rule is totally neglected. Only a very few engage is such critical services as potable water systems.

- Larger jurisdictions have "delegués" - representatives - of the Ministry of Interior to "counsel and guide" their actions. Informed sources indicate that in the vast majority of localities, these "delegués" actually run the local order as they did as prefectures and subprefectures before the constitutional reform of 1975 that created the new "decentralized" order.

- All central government agencies have substantial administrative offices and technical service centers at the six provincial - **Faritany** - capitals. Representatives of former key ministries, Finance, Plan, Public Works, with

Interior's representative as Secretary General were on the Administrative Committees of all Faritany. Most Fivondronana, especially those where ministries have operational offices, also had these services as well as the Ministry of Interior officer.

- In localities with Administrative Committees, and even in the smaller ones with only a "delegué from the former Ministry of Interior," it is these career civil servants who actually guide the elected authorities. Many of the elected local authorities are actually career civil servants who have been selected by the party for candidacy. They serve their terms on administrative leave, losing none of their career benefits. Since they expect to return to their career base in time, their loyalty to central authority often prevails over their sense of the local common good.

4.3 Localities and Natural Resources Management - The Issues:

In interviews with local government officials throughout Madagascar, there was great interest in improved natural resources management. They were concerned about poorly maintained irrigation systems, lack of flood control measures, lack of local nurseries for wood lots and orchards, brush fires, etc. Many complained of the rising thefts of cattle and even of standing crops. But few saw any concrete way that they could deal with their problems given their resources, the formal division of labor among governments, and the unavailability of technical help from national agencies. Some pointed to local NGO efforts in their jurisdiction and others argued that the central government agencies should undertake their duties to provide technical services to the local people - but that they had come to despair of much help from that quarter. Larger towns and urban centers were engaged in efforts to cope with problems of general sanitation, municipal market administration, commercial code enforcement, and the maintenance of a rapidly deteriorating transport and public service infrastructure. But these direct services seldom reached into the realm of improving natural resource conservation through local community action.

4.4. Informal Local Institutions

(1) The Tangalamena (Council of the Wise) and the Fokonola

Essentially every rural Malagasy village, or group of hamlets has a Tangalamena. It is a self-selecting body with combines traditional religious responsibilities with every day affairs of the community. The community, or **Fokonolona**, is its jurisdiction and the boundaries of each is set, not by the state, but by traditional clan and ethnic affinities and the features of nature. In its religious aspect, the **Tangalamena** - with its **Lapa** or congregation -has freedom to act as any "church" under Malagasy law. Perhaps as many as 60% of Malagasy are religious adherents exclusively to the traditional faith. They honor the "keeper of the relics" or the "priest" who mediates between the world-apparent the world of spirit (no neat division between them as in most Western religion). Many practitioners of the Christian faiths maintain a parallel respect for if not full participation in the traditional religion. In rural areas, the Council of the Wise is honored, to some degree, by all.

In its secular role, the Tangalamena has no formal legal standing. Yet it is through the Tangalamena that much of the use-rights to public domain lands are brokered. It determines the annual zones for tavy - slash-and-burn or swidden agriculture. And it has special authority over pastoralism because of the spiritual importance of the Zebu in the faith. Moreover, for rural Malagasy, the pronouncement of the Council on questions of fady (or taboos) are taken in dead seriousness. Sometime the Councils will declare certain forests, streams, or other elements of local environments to be fady - untouchable for personal use, of spiritual importance to the ancestors, and worthy of special stewardship.

The KEPEM design team found in interviews with both local Council members and field technicians from operating agencies that the Tangalamena are seldom consulted before central agency plans are drawn up regarding irrigation systems, the forest reserves or other protected areas, or agricultural and livestock extension services. At the Fokontany level, however, we found considerable interaction between some elected officials and the traditional authorities. In some cases, the elected officials were themselves members of the Tangalamena.

(2) The Dina - Local Conventions for Domain Management

Another Malagasy institution at the local level, is the **dina**. It is a traditional form of contracting among local people to solve a management problem regarding a specific domain. Not unlike what we might call an action committee, it can take the character of a self-governing special district to manage a common property resource or to share labor and other costs, such as in an agreement among users to maintain a small irrigation perimeter. Most of the informal **dinas** have, in recent years, been subordinated to government oversight, and some agencies of government use the tradition of **dina** in a dirigiste manner - thus blunting their self-generating and self-governance character. This tendency has somewhat reduced spontaneous formation of **dinas** in recent years. But it is the sense of many that the NGO movement is working to revive the institution as an organizing principle in their local self-help programs.

(3) The Local NGOs

As mentioned above, the church-related as well as an increasing number of non- or inter-denominational NGOs, are generating more and more community based action programs. They are engaged in a great variety of productive activities dealing with natural resource management in agriculture, water systems (both for consumption and for irrigation) cooperative processing of products including forest products, animal husbandry and marketing (especially in dairy products, poultry and rabbit raising, and similar endeavors), and in other rural community enterprises. Some such activities are spontaneous, associated with local congregations rather than emanating from a national organization's outreach. Many of these small NGO efforts are not formally recognized among the 300 state registered organizations. They usually have in common an external change agent who works with the local people to assist them with organization processes as well as with some degree of technical and material assistance.

These mobilization efforts vary greatly in style and in "self-help" philosophy, some being more paternalistic than others; some carry a heavy load of sectarian evangelism with them but others none; and some are single purpose (health, education, agriculture, or water). Others are more general purpose community development in their orientation. In many ways they compensate for the lack of government services in areas that by tradition are the domain of the agents of the state. Not infrequently public agency personnel resent these NGOs for that reason.

5. Reaching the Malagasy Majority - The Frontlines of Local Natural Resource Use

Rural natural resources users - farmers, pastoralists, forest gleaners, fishermen, fire-wood cutters and charcoal makers, artisan carpenters and woodsmen - have limited or no access to technical, financial and organizational assistance to make their productive systems more profitable and sustainable. Yet these rural people constitute 80% of the population. They produce 60-75% of the gross national product, and about 80% of foreign exchange earnings. Their production systems, such as those listed here, are often wasteful of resources and threatening of biodiversity:

- o Tavy/slash-and-burn cropping,
- o Seasonal burn-off of prairie grasses for pasture management,
- o extensive grazing on open-access, public domain lands without regular fallowing,
- o erosive annual crop planting on hillsides,
- o high siltation and water inefficient irrigation schemes, and,
- o unmanaged, non-renewing timber and forest product mining practices.

The central coordinating institutions (discussed in Section 2 above) may become highly efficient. However the EAP will not succeed, unless the masses of first-line resource users become practical stewards of the natural environment. They must use that environment to survive. Yet the sustainability of this use requires an improved institutional context.

5.2 The Institutional Constraints to Improving Resource Use

(1) The First Constraint: Technical Assistance for Improving Resource Use

As the analysis in section 3 above demonstrates, the central technical agencies in the Ministries of Agriculture, Livestock, and Water & Forests do not now meet this need. Civil Service personnel are demoralized. They are concentrated in national and provincial headquarters; those in field posts lack resources (transport, travel budgets and technical inputs) and incentives (adequate pay, performance rewards, and expense allowances) to serve the "peasant masses." Numerous evaluation reports suggest that without retraining and regrouping in interdisciplinary work teams, even if available, many of these technical people can not make the appropriate technologies acceptable and applicable to current users. On the other hand, many technologies for more productive, resource-conserving, more profitable systems already exist. They could be made available in the near term if the delivery system were changed. The changes would have to provide for improved interservice collaboration for the kind of interdisciplinary work needed to address prevailing mixed-production systems. Technical service must be extensively available, beyond the bounds of donor-defined projects.

(2) The Second Constraint: Permission to Organize for Better Resource Use

Perhaps even more important than the absence of effective technical assistance is the lack of organizational (institutional) options for managing the resources. Current law does not permit the range of experimentation with innovative resource use and management regimes that could respond to the need. The examples are plentiful. A few are cited following:

- o There are over 10,000,000 cattle in Madagascar, ranging on 60% of the land. Yet groups of pastoralists cannot now gain title or legal group use-rights to a given area of the now open access (public domain) grazing lands. If they could, known methods could be applied for rotating herds for intensified-grazing to allow sustainable regrowth in fallowed areas. The destruction of woodlands and animal

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life from uncontrolled prairie-firing could be essentially eliminated with the natural revitalization of nutritious vegetation. Herds, drawn to managed salt-licks in eroded areas (**lavaka** zones), could help reverse the effects of erosion as hundreds of hoove· reak through hard pan, ridges, gullies and ravine embankments to encourage regrowth.

- After seven years of assistance from the Swiss in the ZODAFARB program, highland peasants have been unable to obtain titles to the public domain properties - as promised by the Government - which they have reforested for individual and group woodlot management.

- Of nearly a million hectares of land under irrigation, over 700,000 is in small perimeter systems of less than 200 hectares. Yet the governments' small perimeter strategy (PPI) does not give the farmers full freedom to organize self-managed water-user associations, with enforcement authority for fees and labor contribution rates.

- Natural forests in rural villages cannot be reverted to local ownership for managing take-off by the local community most affected by current open access and a lack of sustainable-use management.

5.3 Removing the Constraints: An Institutional Issue

(1) Extending Technical and Supporting Assistance:

Although the current funding for and the organization of technical agencies is unresponsive to demonstrated need, it could be reorganized in the near term to reach the peasant producer. The common prescription to do so is called "decentralization." This general prescription is found in nearly every technical report from donor agencies who have looked at the present organization of agriculture related agencies. The KEPEM PAAD design team has concluded that "decentralization," although indisputably a necessary condition for meeting the technical needs of the rural population, cannot be achieved without greater specificity in the prescription. In other words, what are the specific ways in which the decentralization of services could be achieved and at what calculable cost and in what time frame? A range of options is discussed below.

(2) Permission to Form Appropriate Organizations:

Neither local governments, as now constituted, nor field offices of national agencies, have either the legal authority or the resources to respond to the organizational and technical needs of first-line natural resource users. They are not permitted to form practical common property or limited-access regimes (such as a group managed pasturege domain or a village forest) under their authority, nor can they legalize self-designated user-groups within their jurisdiction to operate (such as a water-user's association with fee-setting power). But such legal authority could be given. And with it, local public economies could begin to flourish to replace the governmental control-oriented, centralized systems that now inhibit experimentation and appropriate local organization. Such an adjustment in legal capacity would require a more responsive and flexible land

tenure order, with greater ease in effecting individual and group titling and use-rights. The transaction costs under the present system are far too high. The public domain is far too extensive and impenetrable. With only 5% of all land in Madagascar titled, ownership incentives for improving resources under use are denied while the "tragedy of the commons" continues. Ownership and clear use-rights incentives are among the least tried and most important means for stimulating resource nurturing behavior among producers. As part of a scheme to decentralize service, could not authorities be devolved for creating self-governing resource-user regimes? An approach to doing so is suggested following.

6. Toward New Legal Authorities for User-managed Natural Resource Regimes and Decentralized Systems of Technical Assistance

6.1. A Government Commitment to Test New User-Management Regimes

The issues involved in improving the framework for management and governance of natural resources by first-line users are multiple and complex. They include resource property rights, whether they are assigned to individuals, families, lineages or communities. They involve the problems of establishing the boundaries of specific natural ecosystems, of defining authorized and non-authorized users, of controlling use patterns to ensure sustainability, providing for investments to regenerate and protect natural resources, raising the means to govern, manage, and upgrade renewables, and finally, to resolve disputes relating to property, access, use and investment rules.

This complex of issues has no easy solution, and undoubtedly has no single solution in a country with as diverse a range of environments, production systems, socio-economic organization and local politico-legal arrangements. Research to clarify these issues is necessary. The following approach, developed in a collaborative fashion with Malagasy team members, represents an approach to testing various solutions to the problems of sustainable natural resource governance and management in Madagascar.

(1) The GOM should agree to the implementation of a small number of short preliminary investigations organized in different regions under the aegis of ONE. These will result in a series of propositions to deal with problems confronting local natural resource users, as listed below. These propositions should be tested in experimental sites. Propositions must indicate how existing legislation and formal rules, properly publicized, or special exceptions to these rules as necessary, will transfer effective authority with regard to the following problems to local natural resource users in the test sites:

- LAND AND NATURAL RESOURCES: the GOM will transfer clear title to lands and to natural resources utilized in local production systems, whether these systems are based on agriculture, stock-raising, forest, fisheries exploitation, or some combination thereof, to individuals, families, lineages, decentralized collectivities or other communal groups as appropriate, depending on the nature of the resource and its exploitation;

- RULE-MAKING AND MODIFICATION AUTHORITY: the GOM will authorize and publicize in the test sites the authority of local people, through their own decision making mechanisms (Popular Councils, irrigation, pastoral, fisheries and forestry associations), to make binding rules concerning access to, protection and terms of use of, and investment in target natural resources; formulated as **dina**, these rules can be modified on the sole initiative of the local people who formulate them; these rules will however be defined and limited, through negotiation before they are finalized, so that they do not interfere with existing GOM criminal legislation;

- RULE-APPLICATION AUTHORITY: the GOM will authorize officials of local governmental units ("collectivités décentralisées,") to apply these rules themselves and, in cases of difficulty, to obtain assistance from state administrative and police authorities to ensure that rules are respected;

- RULE-BASED CONFLICT RESOLUTION: the test zone local governmental units will be authorized to resolve disputes concerning natural resource rules, often formulated as **dina**, through conflict resolution procedures that will be specified before local rules become effective; appeals procedures will also be specified before local rules become effective;

- MOBILIZATION OF RESOURCES (LABOR, CASH AND IN-KIND CONTRIBUTION) NECESSARY TO GOVERN AND MANAGE NATURAL RESOURCES: the test zone local government units will be authorized, at their sole initiative, to lay and collect taxes, mobilize labor and require in-kind contributions within defined geographic domains and specified taxing limits.

The GOM will then move to modify rules concerning the above set of problems in a series of test sites, the precise location and number of which remains to be determined. Sites will be generally located in the vicinity of protected areas where the SAVEM project is active. The sites will also be selected in light of ongoing local natural resource management initiatives around four types of resources: forests (woodstocks), irrigation systems, pastures and fisheries.

In those sites the GOM will agree to modify resource tenure, governance and management rules on a permanent basis to test the impact of rule changes on the behavior of first-line users. The working hypothesis underlying these changes is that they will, by improving first-line users' incentives, induce them to change behavior and adopt natural resource management and governance patterns that will increase the sustainability of existing production systems. This should in turn, lay the groundwork for moderating or even reducing the growing pressure on remaining forest and marine areas where biodiversity remains substantial. These changes will be broadly publicized in the test sites to make sure that users understand how the rules have changed, and the initial implications of these changes. To provide a full test of the impact of rule changes, it will be necessary to examine them in context. For this reason, efforts will be made to ensure that first-line users in the test sites have access to assistance from NGOs and to appropriate technical information when and as they wish it.

(4) Malagasy and expatriate researchers and technicians will operate as action research teams in the sites. They will collect baseline data, particularly on the organization of production systems and on existing local natural resource management rules in the context of the organization of local and overlapping governance arrangements. They will then work with local users in a participant observer mode, recording changes as they do so. They will pay particular attention to local values, the process by which **dina** (local legal covenants, designed and accepted by those to whom they will apply, to achieve some purpose).

Finally, the GOM will decide on appropriate rule changes necessary to facilitate better local natural resource governance and management by first-line users, including new authorities for local governments. These rules will be adopted, and widely publicized. These rule changes may well take the form of enabling legislation that users can invoke at their own initiative to establish resource management activities when they conclude management and governance of natural resources is appropriate.

6.2. Institutional Changes through the KEPEM Program

(1) Counting the Costs and the Benefits of Change

During the course of PAAD design fieldwork, GOM officials indicated readiness to consider major changes. This included the possibility of shifting positions from central and provincial headquarters to field service locations. The key agencies involved, that provide local resource users with these services, are:

- MPAEF: Directorate of Water and Forests (DEF)
  Directorate of Fisheries (DPA)
  Directorate of Livestock (DEL)
  MINAGRI: Directorate of Agricultural Extension (DVA)
  Directorate of Irrigation (DIR)
  Directorate of Patrimony and Agrarian Reform (DPRA)

- Now reorganized under separate Ministries of Water Forests, and Livestock

Members of the team examined the possible costs of a simple deconcentration initiative (see separate Institutional Financial Analysis Annex for detailed calculations and tables). Their estimates assumed that 50% of existing positions at central and provincial headquarters in these agencies would have to be reassigned to first-line service units. They also assumed that these units would have to be equipped with transportation (4X4 all-purpose vehicles and all-terrain motor bikes) and adequate support supplies and experimental inputs.

Hypothesis 1: if the above actions were taken, but no change in civil service salaries and allowances were made the additional costs to the GOM of simple "deconcentration" would be:

Year One: $ 26,550,000 (nearly $ 26,000,000 in initial investments in vehicles and supplies)
Year Two and Thereafter: $ 421,000 per year.

Hypothesis 2: if at the same time that the above deconcentration was carried out the GOM also implemented a new civil service salary and allowance schedule that brought them up to the current cost-of-living guidelines, the additional costs to the GOM of simple deconcentration would be:

Year One: $ 33,600,000
Year Two and thereafter: $ 10,110,000 per year.

Many of our interlocutors believe that deconcentration of staff without a change in the civil service financial incentive structure would produce little benefit. It was argued, therefore, that for the scheme to have significant impact, only hypothesis two should be considered. (It was argued that the GOM could ease into the scheme implementing over 3 to 5 years. Even so, the cost in a five year period would be over $ 80,000,000).

Examining these costs, it was concluded that a simple deconcentration scheme should not be recommended in KEPEM.

On the other hand, our analysis demonstrates that an appropriate form of decentralization of the service system must be accomplished. A model that was examined would have recommended abolishing about 50% of existing positions, including all field agent jobs and one-third of the administrative cadre. These positions would be reallocated to new 10 to 15 member interdisciplinary service units in 100 of the 113 Fivondronana. (The 13 or so urban jurisdications were excluded). Salaries and allowances would be raised to cost of living standards. They would be highly mobile with adequate vehicles to cover their territory and well supplied with support budget, equipment and experimental inputs. After estimating salary savings for the nearly 4,000 positions that would be saved, the gross cost estimate for maintaining the new system was no more than the savings. However, the start up costs for vehicles, equipment and stocks would have been nearly $ 15,000,000.

But given the other options that can be pursued - using NGO service bureaus at the Fivondronana level, turning the function over to Fivondronana governments, or privatizing much of the system, we concluded that further detailed financial analysis by the team was inappropriate. Factors other than cost alone would have to weigh heavily in the GOM calculations of the benefits to be received from each alternative.

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SUMMARY AND CONCLUSION

This institutional analysis has been a combination of information about the complexity of the institutional mix participating in Madagascar's Environmental Action Plan, of problems associated with that mix in political and operational and policy terms, and of the opportunities for strengthening the emerging institutions and creating new ones to serve the goals of the KEPEM program.

At the national level the focus has been on ONE, and the key collaborating agencies. ONE's central task is policy formation including the generation of appropriate rules, laws and regulatory systems. However it cannot fulfill this task without effectively coordinating, monitoring and evaluating all activities within the EAP. The plan of action to support ONE and the institutional structure at the center is sound. The necessary conditions to its success have been identified and included within the KEPEM strategy. In the end, however, it is suggested that it is ONE's role as institutional innovator - a part of the policy analysis task - that will result in the greatest impact on the future of Madagascar's environment. No blue-printed program design should try to replace that creative and important function.

However, the most pressing institutional issues are local. If the first-line natural resource users do not change their behavior, Madagascar's biodiversity is at grave risk. The goal is to achieve a voluntary, self-interested shift from resource destructive production systems to new forms of natural resource management that are sustainable and will contribute to tangible and fairly rapid returns. The technologies, it is believed, are known, but they must be made available: more intensive, less extensive agriculture and pastoral systems; reduce tavy - slash-and-burn - agriculture in and around forests and on hillsides; reduce or eliminate the use of bush fires as a regrowth management system by pastoralists; contain pasture encroachment into forested areas; manage forest product take-off; encourage labor intensive agro-pastoral industry, product commercialization, and employment generating eco-tourism enterprises; undergird these and other initiatives with local socio-economic self help measures such as better schools, potable water systems, hygiene and health, etc.

To that end, ONE will have to take the lead in studying how the institutional rules can be changed to provide local natural resource users with the incentives to take this path. The process for doing that is also provided for in the KEPEM strategy. If these studies result in the anticipated changes, then sufficient conditions will be met for the success of the program. The challenge is great. This analysis could not produce a prescription for a final institutional design that is best for Madagascar to achieve its environmental goals. But it has laid out a process by which, with timely and appropriate assistance, technical and financial, those who have the most at stake - the Malagasys themselves - can indeed find the institutional solutions that will work for them.

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ANNEX XII

FOREST RESOURCES ANALYSIS

FORESTRY ANALYSIS

1. Introduction

The purpose of this Annex is to highlight the principal problems concerning the protection, management and development of forest resources in Madagascar, and to indicate areas where some of these problems might be solved or alleviated by means of policy and other interventions. The Annex does not analyze the entire forest sector as previous documentation exists for that purpose (Green and Sussman, 1990; MPAEF/DDA, 1990; Pellek, 1990; PNUD/BM, 1987; World Bank, 1988). It is clear that NPA such as KEPEM cannot address directly some major threats to the forests of Madagascar such as shifting cultivation (tavy) or demographic pressure and related expansion of cultivated areas. Nor can it address questions such as the intensification of agriculture and livestock husbandry which, together with the development of the secondary and tertiary sectors of the economy, are of strategic importance for the long-term maintenance of forests and other biodiversity. These issues are not, therefore, raised systematically in this Annex. The Annex does, however, discuss tavy at some length because this immediate threat, which has long defied fundamental technical and social solution, must remain at the top of the policy agenda, whether or not policy interventions are feasible today.

2. Problem Areas in the Forestry Sector

Knowledge of the resource

Effective management of a resource starts with a sound knowledge of the quantity, quality and dynamics of that resource. In the case of Madagascar forests, information is missing, incomplete, outdated or inaccurate. Statistics from the 1950s are still being used although they are so obsolete as to be irrelevant. The last reconnaissance inventory is now 11 years old. Sylvicultural knowledge (species composition, growth rates, etc.) of the humid forests (some 6.4 mill. ha according to DEF estimates; only 3.8 mill. ha according to recent satellite imagery) is fragmentary at best. Critical information concerning valuable indigenous hardwoods (a resource of national importance) is largely unavailable: volumes, age classes, regeneration, dispersal, etc.

Steps are, however, being taken to remedy the poor data base. Analysis of satellite imagery is beginning to provide accurate and up-to-date data on forested areas and rates of deforestation (Green and Sussman, 1990). The national forest inventory called for under the Forest Policy of 1987 has now been started as part of the Forests Management and Protection Project (GPF; IBRD, Swiss and Norwegian co-financing; 1988-94; mid-term review in March 1992; GPF is the broadly-based successor to the second. Forestry Development Project). The initial phase focuses on the Moramanga region (supply of Tana) and on the Ankarafantsika Reserve in the NW. Completion of the national inventory will probably take more than 10 years. According to the Head of DEF's

inefficient collection. In general, DEF is marked by bureaucratic inertia (it usually takes 6 to 24 months to obtain a cutting permit even though permits are hardly checked against quotas or management plans), and is not acting as the monitor and manager of a substantial national resource.

The proposals for restructuring have been in the direction of streamline HQ (fewer sections; more emphasis on monitoring, evaluation and planning) and of more emphasis on direct field operations (more professional foresters in the field). DEF has also been urged to stress extension, and to deal more directly with farmers through local projects. Cost recovery is discussed below under its own title. DEF has been advised to devolve more managerial authority to the SPEF and CIREF levels; such a decentralization has already taken place to some extent in Faritany Antsiranana but largely at the initiative of the Provincial Forest Officer.

Above all, DEF should be assisted in making the transition from pro forma administrative "responsibility" for the national forest estate to true "stewardship" of this resource, which entails fundamental changes in outlook and attitudes and not simply institutional restructuring. The hallmarks of this stewardship are a reasonably complete knowledge and understanding of the resource for which DEF is responsible, the availability of means to monitor the status of the resource, a grasp of the sustainable yield (admittedly difficult in the humid tropics), application of realistic market and societal values to the resource, and the means (knowledge, information systems, professional commitment, manpower, etc.) and willingness to manage the forests purposefully. Stewardship also implies the willingness and ability to generate revenue from a resource, and to invest in the maintenance or even expansion of that resource. Stewardship is a form of institutional completeness for the maintenance of a particular resource.

DEF has been assisted primarily by the GPF project in its restructuring efforts but it remains a weak organization, in large part because of a managerial gap and because the problems of inadequate salaries and operating budgets remains unresolved. The gap is due in part to the interruption in forestry training in the early 1980s, which means few middle-level managers today.

Training is now being supported under two Swiss- and one French-financed projects. As in all countries, DEF has also had difficulty making the transition from a conventional service devoted to industrial plantations and policing functions to a more service-oriented agency. Since 1984 DEF has also been faced with many new responsibilities related to nature protection, to the point where some of these responsibilities were hived off to ANGAP in 1990. This move has been seen as a mixed blessing as it has perhaps weakened (or at least not strengthened) DEF.

Given the status of DEF and of existing donor support of this organization, the appropriate role of a program such as KEPEM is to support directly or indirectly reforms that are already underway, and to encourage other reforms in close consultation with DEF and the other donors in the forestry sector. Among these reforms are:

The obstacles to rural afforestation include lack of motivation among farmers (which may or may not be "perverse"; resistance to rural tree planting is often economically rational in the near term), insecure land tenure, ineffective forestry extension, lack of critical inputs such as seed or seedlings, brush fires, labor competition at tree-planting time, land-use conflicts, and inappropriate rules (e.g., inability to dispose freely of planted trees on private land), etc.

Conversely, rural afforestation is usually promoted, in a rough order of decreasing importance, by:

- the existence of cash markets for tree products that can be produced on short rotations (eg., poles, fruit, firewood) (products that require longer rotations such as timber and sustained charcoal production are more problematic for the small farmer);

- secure land tenure, as well as ability to acquire additional land of marginal agricultural value;

- the need to mark property boundaries;

- the need to meet immediate and clearly perceived needs (shade, fruit, windbreak, dry-season fodder, etc.; firewood is a special case, cf. below);

- effective extension (timely and persuasive messages and inputs in response to felt needs; use of multiplier mechanisms to reach a wide audience; understanding of roles of trees in entire productive systems; promotion of on-farm seed collection and tree nurseries as opposed to centralized nurseries; technical competence and trust of the people, etc.);

- firewood scarcity; however, even acute scarcity is often a weak incentive so long as substitutes (e.g., crop residues) are available.

It should be added that appeals to environmental protection or improvement, especially of an abstract nature, are usually ineffective in forestry extension. Environmental improvement should be aimed for indirectly as a by-product of tree planting in response to more immediate needs.

Given these attributes of rural tree planting, promising areas of programmatic (as opposed to project) support lie with the reform of the land-tenure system (cf. ZODAFARB procedure), with fiscal and legislative reforms designed to favor the tree farmer (especially the woodlot owner who produces woodfuels on a sustainable basis), and with the better integration of all field technical services that, in turn, promotes multipurpose tree planting. In this respect, the experience with the Programme Forêt et Développement Paysans (FDP) (Faritany Antananarivo), which follows six years of experience with village forestry and land-titling at Ambatofotsy (PARV/DDA), will be relevant to the aims of KEPEM, and may provide principles for wider diffusion. The

total revenue, but this seldom occurs in practice; on the other hand, some local governments (notably in a region marked by private woodlots near the capital) have instituted effective taxation systems for wood products (Bertrand, 1989, Vol. II).

Against this background, institutional and policy reform should address the following issues:

- revision and publication of a schedule of stumpage fees based on true market values and replacement costs of the various categories of forest products; further studies are needed to provide the necessary economic and other data required to calculate the stumpage fees and their economic repercussions; in the meantime, however, the present fees could be arbitrarily adjusted so as to remove the most flagrant distortions;

- the financial controls on the present collection system should be tightened; these controls include numbered, carbon-copied receipt books used by all CIREF forest officers; all forest officers should report monthly on receipts used, amounts, and loggers' identification numbers; centralize reporting on collected stumpage fees on a monthly basis; reconcile every month the amounts due in the National Forestry Fund as represented by totals of CIREF's billings, and the amounts made available in the National Forestry Fund;

- the National Forestry Fund should be made operational as revenue begins to be generated; it should be used to introduce or improve forest management (preparation of management plans, by private consultants if feasible; to execute certain forest operations (eg. thinning, pruning, etc.), by private contractors if necessary; the Fund could also be used to supplement travel allowances if the mobility of DEF staff is impaired by budgetary constraints;

- the entire system of revenue sharing among the various levels of government should be reviewed; proposals for revenue sharing in the forestry sector already exist (Bertrand, 1989, Vol. III).

cope with reality. One result was an acceleration of tavy in the 1940s, which in turn caused another ineffective phase of repression after 1950 (Coulaud, 1973; Ratovoson, 1979). In the 1960s, in the Provinces of Toamasina and Fianarantsoa, which include humid forest, the number of detected illegal clearances fluctuated between 150 and 600 per year, involving between 400 and more than 1,000 ha. One reason for this increase in tavy was the cyclones of 1959 which destroyed rice paddies and forced people back up on the forested slopes. This problem was to dog later projects, as described below.

Tavy remains subject to prior authorization, as any other forest clearance, but it is inevitable that in remote areas this rule is unenforceable. Theoretically there is only one DEF forester per 150 km2 of forest. On the other hand, the rule that tavy can only take up one-third of any one slope seems to be generally respected, probably because infractions are more visible and, more importantly, because tavy farmers recognize the wisdom of this rule.

The efforts to find "technical" solutions to tavy have a history not as long as that of repression, but long enough to reflect the difficulties involved. The efforts have generally been in the direction of:

- concentration and sedentarization of the forest dwellers, with the provision of health and other services as incentives;
- establishment of permanent rice paddies on valley bottoms;
- introduction of perennial crops such as coffee on slopes;
- extending and improving tavy by means of legumes and agroforestry systems; and
- forced resettlement out of the forests.

The last "solution" can be dismissed first. It was mooted in the 1950s and 1960s, at the time of the great acceleration of tavy after the cyclones of 1959 and the demographic explosion after 1950 (Coulaud, 1973). As nearly as can be determined, it was never put into practice. Since then, the prevailing view has been that "the suppression of tavy cannot be considered an objective but as a result of changed circumstances" (Coulaud, 1973, citing F. Vicariot, 1969).

The concentration and sedenterization of forest dwellers are now goals to be achieved indirectly through land-use changes, although other means (e.g., the "test-villages" of Andranomody and Ambohimitombo associated with "improved tavy"; roads; provision of services [Coulaud, 1973]) have been used as well.

It is too early to tell whether AIVF will succeed where the other approaches have failed or failed to be adopted widely. Other projects have dealt with tavy. Thus the UNDP/FAO Savoka project (1978-88) has emphasized improved land use on degraded forest land, as the name implies. The Savoka project has been critized as having "precise integrated activities" which require close monitoring and training and which are, therefore, expensive and unsustainable (World Bank, 1988). Elements of the Savoka project have since been merged into AIVF and into FAO's Watershed project (cf. below). At Mananara-Nord, the UNESCO/MAB protected-area project is experimenting with the revival, improvement and diffusion of traditional agroforestry systems as alternatives to tavy, but progress is likely to be slow, mainly because of mistrust of change and the continuing attraction of upland rice cultivation (R. Albignac, oral comm., 1991). Finally, FAO's Watershed project ("Bassins versants") focuses more on certain environmental effects (erosion, excessive runoff, etc.) of improper land use, including tavy, in forested regions.

Given the history of tavy and unsuccessful attempts to control the practice in Madagascar, it is unrealistic to expect policy and other institutional interventions will have a major impact on this problem in the near future. A program such as KEPEM can, however,

- monitor technical progress under AIVF and related projects, and assist with the diffusion of promising results by means of publications, workshops, etc.;
- assist with the acceleration of the land-titling process, as some forest dwellers are beginning to show a preference for the food and land-tenure security provided by paddy rice and other more permanent forms of land use on valley bottoms;
- support NGOs and other organizations that are trying to reach forest dwellers, especially with multipurpose local development centers (primary health care; nutrition; agricultural and forestry extension, etc.).

Efficiency of Resource Use

The four main issues under this topic are:

- low recovery rates in charcoal-making;
- low recovery rates in sawmilling;
- poor management of private woodlots, mainly of coppiced eucalypts;
- the diffusion of improved household and institutional stoves.

prevention, obligation to reforest, etc.), and the logging contractor must post a bond in addition to paying stumpage fees. In most cases, however, loggers tell DEF where they want to log, stumpage fees are negotiable between the loggers and the CIREFs, and post-logging inspections and bond-refunding are perfunctory and routine. The obligation to replant is apparently seldom, if ever, met.

An ideal procedure for granting logging permits should include the following elements:

- DEF grants logging permits (i.e., "exploitations forestières" exceeding 10 ha) only in areas for which there are at least reconnaissance inventories, and a rough definition of priority felling blocks (full-fledged management plans for most of the public forests are unrealistic within the foreseeable future);

- logging permits should only be granted to bonded or certified logging contractors; DEF has recently introduced a policy to this effect;

- the logging permit is a detailed form that gives a precise location of the felling block, if necessary marked by DEF staff; the permit includes details on volume, minimum sizes and other characteristics by key species, logging, skidding etc. methods, and on environmental conditions (e.g., streambank protection) to be observed;

- a bond of at least 100,000 FMG (more if the forest is particularly valuable or fragile) is posted and is refundable in full only if the conditions of the permit have been substantially met; the Provincial Bureaux du contentieux forestier rules in case of disagreement, and not the local forester;

- if necessary, loggers may cut only trees marked by a CIREF forest officer;

- a prior inspection of the felling block by the Nature Protection Service (SPNRN/DEF) or other duly delegated environmental agency may be a condition attached to a logging permit granted in areas where rare or endangered species are suspected, and a salvage operation may be necessary;

- logging permits are obtained against payment of stumpage fees as published in the J.O., and loggers are identified by number on all invoices and fund transfers; rebated fees are only possible for "bois ordinaire" in areas of difficult access, and then only on approval by SPEF;

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ANNEX XIII

ENDOWMENT FUND FEASIBILITY ANALYSIS

Endowment Fund Analysis

I. Summary: Madagascar Endowment for Environment, Nature & Society

II. Framework of analysis

1. Conclusions and recommendations of KEPEM PAIP
2. History of local currency programming in Madagascar
3. Summary of current AID authority to create endowments
4. Purpose and need - analysis of PAAD team
5. Constraints
   a. timeframe
   b. the local NGO sector
   c. programs and plans of international NGOs
   d. policies and laws of GOM affecting endowments
   e. IMF policy on local currency funds and disbursements

III. Rationale for the endowment

1. Need for endowment
   a. sustaining funding
   b. increasing participation opportunities
   c. decentralization and local resource management
   d. local NGO strengthening
   e. innovative partnerships

2. Comparison of major options
   a. limited life
   b. indefinite life

3. Issues
   a. mandate
   b. accountability
   c. fund-raising

IV. Description of endowment and a development plan

1. Agreement between AID and the GOM
   a. memorandum of understanding
   b. previous local currency accounts
   c. changes in legal framework for NGOs

2. Development plan
   a. recruitment of Board
   b. replacement of Board
   c. drafting and approving a charter
   d. secretariat

To provide perpetual financial support, the endowment would function much as a foundation which invests its capital and spends interest income for charitable purposes. The endowment would manage its assets to preserve the value of the endowment's capital from domestic price inflation.

The endowment would function as a "democratic" foundation which, because its Board membership incorporates a cross section of Madagascar society, would be able to forge a broad based consensus on wise stewardship of Madagascar's resources. Because the endowment would foster the growth of a national philosophy on resource management, it would work to prevent environmentalism from being characterized as an agenda of foreign donors and NGOs. Once mature, the endowment should achieve an equal voice in a dialogue which includes donors, international NGOs, and the GOM. As an institution rooted in Madagascar society, the endowment would be able to marshal local support, both political and financial, for efforts to preserve as appropriate, protect where necessary, and sustainably develop when possible, Madagascar's natural resources.

The endowment's success would depend on achieving credibility in the eyes of the Madagascar community of NGOs and the international donor and foundation community. Credibility in the NGO community would require from the start that the process of establishment allow for all members of that community to participate - especially in selecting a Board of Directors for the endowment.

The process of establishment would be governed by an agreement between AID and the GOM via a "Memorandum of Understanding" (MOU). The MOU would outline the stages of a three year process for selecting a Board and creating a secretariat. In effect the MOU would set the terms under which the GOM would invite the Madagascar community of NGOs to cooperate to form the endowment's Board and the administrative secretariat. In giving guidance for the process the MOU would: define the broad goals of the endowment; lay out the conditions under which the GOM would fund the endowment; set the terms of the funding instruments; and, specify percentage composition and powers of Board. The MOU would be the vehicle through which AID would outline the overall goals of the endowment's first program areas for grant making and describe the technical assistance it would provide during the period of establishment.

The GOM would fund the endowment from local currency "freed up" as a consequence of AID's making a Non-Project Assistance (NPA) grant to the GOM, i.e. the KEPEM program. Because NPA dollars would be used to pay foreign debt service, the local currency which the GOM had set aside to purchase foreign exchange to pay that debt service could be reallocated to another purpose which is mutually agreeable to the GOM and AID. In this case the GOM would agree to put the reallocated local currency into a special Central Bank account. When the endowment has met the requirements of the MOU, the Central Bank would grant notes or obligations to the endowment drawn against that account. The notes would be assignable to ensure that the Central Bank would honor them.

II. Framework of analysis

1. Conclusions and recommendations of KEPEM PAIP

The KEPEM PAIP states a goal of "developing institutions and resources at the national and local level to ensure the sustainability of natural resource protection and economic growth." A key thrust of KEPEM is creating an endowment which acts to strengthen the influence and effectiveness of the local NGO sector in both policy dialogue and in project implementation as well as to provide a long term sustaining source of financial resources.

The PAIP states that the "GOM would be required to establish a separate account into which local currency would be deposited. A portion of these funds would be used to finance interventions at the local level and the rest would be used to sustain local development and the public/NGO support systems necessary to mobilize and sustain local initiatives." The creation of an endowment would provide both a mechanism to provide these resources as well as a resource to strengthen the "NGO support systems."

The KEPEM PAIP also calls for a review and reform of the legal framework of the GOM which guides the formation, funding and project activity of locally incorporated NGOs. The PAAD proposes that this review take place concurrently with, and as an integral part of, the process of dialogue between the GOM and the Madagascar community of NGOs. This process is described in a later section of this appendix.

2. History of local currency programming in Madagascar

The creation of a local currency endowment marks a turning point in the method by which local currency is programmed. There are two factors which give impetus to this change. One is the fact that the local currency associated with KEPEM is not "generated" as in the past with PL-480 or other programs which have involved the collection of local currency from the sale of commodities. The other factor is AID's new authority to create local currency endowments which can be managed so as to use the interest rather than the principal for funding programs in furtherance of the endowment's purpose.

Traditionally, local currency funds have been deposited in a special account of the Central Bank. As AID and the appropriate agency of the GOM have agreed, funds have been dispersed from these accounts to a project implementing agent, almost always a private voluntary organization (PVO) which has been recognized by both the GOM and AID. In the environmental field, PVOs which have received funds or which plan shortly to do so include the Missouri Botanical Garden (MBG), Duke University, and the World Wildlife Fund (WWF).

3. Summary of current AID authority to create endowments

The FAA now allows AID to create local currency endowments with grant money from either development assistance (DA) or economic support funds (ESF), preferably through a debt swap mechanism. This authorization, as stated in the Global Environmental Protection Act of 1989 and the FY 1990 Appropriations, and as interpreted in policy

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The need for credit delivery is based on the following program design parameters estimated by the KEPEM PAAD team. They estimate that there would be a need to make grants of an average size of $2000 worth of local currency to twenty local communities (of the lowest size - averaging 1500 persons) in the second year of KEPEM; to 40 local communities in the third year; to 80 in the fourth year; to 100 in the fifth year; and to 50 per year from fund recoveries after that.

The need for strengthening local NGOs would be partially met through the grants program of SAVEM; however, there is a need for a second channel of money which can be used upon application for grant money assistance by local NGOs to the endowment.

5. Constraints

The design for the endowment must meet several constraints which derive from the nature of the needs to be addressed by the endowment as well as restrictions on the way local currency monies are created, managed and accounted for under the rules and legal frameworks which govern each stage of fund transfer.

a. timeframe

Each tranche of KEPEM will free up local currency. The amount to be placed in a special account for the endowment would be determined as all conditionality is reviewed at the time of the tranche. The amount of local currency set aside for the endowment would remain in the special account until the special set of conditions are met for the transfer of this money to the endowment. It is anticipated that the first and possibly the second tranche's worth of local currency would remain in the special account until the special endowment conditionalities have been met. Subsequent tranches can be deposited and transferred at the same time. The delay between deposit in the special account and transfer to the endowment reflects the time it would take to organize a proper Board of Directors and a competent and reliable system of management for the endowment's programs and finances.

b. the local NGO sector

SAVEM contains a program for small grants in support of the local and international NGOs operating in Madagascar in environmental and biodiversity programs. KEPEM would extend and enhance the support planned under SAVEM in two ways. The first way is by making KEPEM grants conditional on a review and reform of the legal and policy framework controlling the actions of local NGOs. The second is via the endowment. The endowment would extend the spectrum of eligibility to include the entire range of national and local level NGOs which are capable of working to strengthen the capacity of local communities to assume more responsibility for their natural resource base. Additionally the endowment Board would be dominated by local NGOs, thus giving them a continuing strong position from which to participate in the national policy dialogue.

III. Rationale for the endowment

1. Need for endowment

If AID seeks the participation of a broad representation of the Madagascar community of NGOs in the process of designing an endowment, then AID needs to offer general, but clear, guidance about what AID expects of the endowment. The KEPEM PAIP and AID's legislative authority for creating endowments offer general statements of purpose which can be offered to the Madagascar NGO community as guidelines for building a consensus about the endowment. These statements may be summarized as the following:

- **provide a long-term source of funds** for sustainable development and the renewable natural resource conservation activities of NGOs and local communities;

- **increase participation** by as broad a range as possible of Madagascar NGOs in the facilitation and implementation of sustainable development and resource conservation activities;

- **create innovative mechanisms** for supporting sustainable development and renewable natural resource conservation through decentralization, stronger NGOs, and innovative partnerships among NGOs, government agencies, and the private sector; and,

- **develop a sound management structure** which, because of its effectiveness, would attract financial support from other donors, including bilateral, multilateral and private foundations.

This list of endowment purposes is explored further in the following sections, which are intended as a statement of the needs to be addressed by an endowment. In section IV, the way an endowment might meet these needs is discussed more fully.

a. sustaining funding

Whatever the process for design of an endowment, the end result should contain a detailed strategy of how to provide adequate financial and program management. This need is particularly important for two reasons: 1) long term security of funding requires sound management of the endowment's principal to ensure a steady income; and, 2) unlike existing local currency accounts over which AID has a continuing management role, this endowment would, once established, not be subject to AID oversight.

The endowment mechanism is an opportunity to "forward fund" activities taking advantage of the recent (1990) changes in AID's authorizing legislation (the Foreign Assistance Act or FAA) which now allows for the creation of endowment funds which can retain earnings from investments. These legislative changes were made to allow the use of an endowment to "park" funds so as to provide for the long-term needs of

While the local currency funds generated from a debt-for-nature swap may be used to create an endowment, direction of project activities funded by the interest from these funds remains with the intermediary organization chosen to arrange the debt swap. The direct endowment option would allow for a broader range of NGOs to participate in the setting of priorities for endowment funding areas as well as to receive the benefits of sustaining funding support from the endowment.

The process of forming a Board for the endowment is crucial to the participation question. If the process is open to all local NGOs which represent constituencies within Madagascar society, then participation by a broad range of NGOs would be much more likely to happen. On the other hand, if the formation process is limited to a few and conducted in secret, then it would be difficult for other NGOs to view the result as an institution dedicated to broad participation.

The Philippine case example offers a lesson on the value of a transparent process. At a crucial stage, the Philippines NGO community reacted strongly to what they perceived as AID's unilateral action. The Philippine NGO community in effect demanded that all decisions affecting the shape of the endowment be taken in consultation with a broad representation of that community. AID and the WWF have responded positively to the NGOs' declaration by announcing that the process of developing a structure for the endowment would be truly collaborative.

c. incentives for local resource management

A central component of the KEPEM program addresses incentives to encourage more local initiative and responsibility for management of renewable natural resources. The endowment design process would need to incorporate as much input as possible from local NGOs which have ideas to offer based on their experience in working with local communities. The endowment design process would need to focus on a statement of goals which would allow the endowment to support the growth of the capacity of local communities to plan and carry initiatives aimed at improving resource use, increasing income, and marketing of products.

The endowment could support local initiatives in several ways: it could fund NGOs which are able to work with local communities in identifying resource problems and opportunities, provide technical assistance, and help to form cooperatives for credit, inputs, and marketing. Since many of these strategies would involve closer collaboration between NGOs and governmental extension agents, the endowment's support would create an indirect incentive for governmental agencies to strengthen their field presence in order to fulfill their role in partnerships with local NGOs.

d. local NGO strengthening

The endowment should have a broad goal of identifying and supporting NGO-based activities which contribute to sustainable use of renewable natural resources. Presumably the endowment would support NGOs in these efforts through long-term institutional development, training, information gathering, and planning. This strengthening needs to occur at two levels. At the grassroots, the NGOs which serve local communities' needs

ii. The U.S. non-profit negotiates in advance with the Central Bank of country X for a swap "quota" (say $5,000,000 in face value of debt) which would allow the non-profit to swap notes it would purchase for local currency obligations of the Central Bank at a set exchange rate. Note that this swap may occur in several tranches up to the total of face value agreed to by the Central Bank.

iii. The U.S. non-profit then goes to the secondary market in the debt of country X to purchase Central Bank obligations from U.S. commercial banks at the prevailing **market discount** of 60% in country X (i.e. buys notes with a face value of $2,500,000-note that the market discount is different in different countries and varies over time in each country as a result of many factors, including political change, shifts in international commodity prices, debt restructuring plans, as well as the supply of money from donors for the purchase of debt instruments in the secondary market).

iv. The U.S. non-profit then swaps the notes for local currency obligations of the Central Bank, usually at a **redemption discount** on the official exchange rate, say 20%, and often with staggered dates of maturity and interest (thus the U.S. non-profit in country X would get a package of obligations worth $2,000,000 in the local currency of country X).

v. The U.S. non-profit then turns over the local currency proceeds of the swap, whether in cash or **Central Bank bonds** to its counterpart local NGO which may or may not be an affiliate of the U.S.NGO for funding of a program of conservation activities, typically including some or all of the following: surveying biological resources of particular note, determining what land is worthy of status as a national park or protected area, buying land found to be prime habitat for endangered species, setting up park management plans, sponsoring research into endangered species and their habitat, paying for the services of park rangers and guards, educating the public about conservation, training park staff, employing local residents, etc.

Each of the participants in a "debt-for-nature" gains a benefit: the donor gains a bigger impact from its grant through the leverage of the secondary market discount; the international NGO gains funding and the considerable value of free publicity from arranging a swap; the Central Bank of country X retires debt; and, the local NGO partner (or affiliate) of the international NGO gains support.

b. Use of debt-for-nature swaps in Madagascar

The first debt-for-nature swap in Madagascar followed the pattern just described. The WWF negotiated a swap quota ceiling of $3,000,000 of face value with the Central Bank. Up to now () there have been two transactions under this quota ceiling; the first "tranche" was for $2,100,00 face value of Central Bank debt owed to seven private commercial banks which WWF purchased at a cost of $950,000 from these banks at a 55% discount

d. CONs of debt-for-nature swaps

- **Top-down** - the debt-for-nature swap option follows an approach which does not require that affected communities participate in the planning of conservation efforts. There is no guarantee that the intermediary NGO would consult local communities prior to finalizing project plans. Ideally, it should be possible for a local community and/or its Madagascar NGO partner to apply to the debt swapping NGO intermediary for support for their own development plans, such as livelihood and community reforestation project as long as these are sustainable and not in conflict with conservation plans. However, this would require that the intermediary NGO act as a funding agency. Such a role is not a typical activity of "debt-for-nature" swaps, nor would such a role foster the growth of locally directed institutions capable of providing financial support for local communities.

- **Exclusive** - The debt-for-nature option is limited to one U.S. NGO from the U.S. community of NGOs involved in conservation. Hence this option does not automatically bring into play new ideas, either from within or without Madagascar.

- **Inflationary impact** - A debt-for-nature swap can work to increase inflation in two ways: 1) if the Central Bank pays off the debt with unbudgeted local currency; or, 2) if the intermediary NGO injects the entire sum of local currency into the local economy either by spending it or depositing it in a account in a private bank

- **No sustaining support for local institutions** - Typically debt-for-nature swaps are used to pay for a combination of project expenses over the life of a conservation project. They can, as WWF is now doing in Madagascar, be also used as a form of interest earning endowment to pay for long term costs of park management. However, there is no linkage of endowment income to local institutions which are important elements of any national conservation strategy. Examples are research centers, botanical and zoological parks, etc.

3. Locally managed endowment: the "home-grown" option

The concept of a locally managed endowment derives from three bodies of experience, which are: the community foundation concept; AID's local currency endowment; and the Enterprise for the Americas mandate to create local environmentally oriented foundations in Latin American countries. In all of these cases the fundamental concept is to give local communities a long lived institution which is managed by and for the people of those communities, whether at the level of the nation, a region, or a local community. This concept may be termed a "democratic" foundation. This notion is known in the U.S. as a "community" foundation which is meant to imply that the foundation's Board is drawn from the community it is intended to serve.

In the U.S. the community foundation concept is widespread and offers many examples of purpose and ways to establish and operate. There are community foundations dedicated to public education, local arts, community services, poverty alleviation, civil rights, as well as local environmental problems. Many community foundations were established by local philanthropists, others by church councils and social service organizations as

In either case, there would be a need for technical assistance from persons experienced in the management of foundation and grant making programs. If a decision is taken to create a new administrative structure to be housed in a new NGO, the process of developing accounting and grant administration procedure can be an occasion for continuing dialogue with the community of Madagascar NGOs which would be the clients of the endowment about the most useful and appropriate methods. This dialogue would contribute to building credibility within the community.

b. the Board of Directors of the endowment

The process of selection of the Board of Directors is the most crucial step in establishing the endowment. This process must have the full participation of the Madagascar NGO community in order to ensure that this community views the Board as a legitimate body representing a broad spectrum of Madagascar society. Consequently, a suggested way to conduct this process is described in detail in a later section.

The endowment Board would be responsible for reviewing proposals for endowment grants and loans from local NGOs, local community organizations, private sector entrepreneurs, and others declared eligible by mutual agreement of AID and the GOM. However, once assets have been transferred to the control of the endowment, neither AID not the GOM have further oversight. The endowment Board would have the responsibility of choosing among proposal submitted to it for funding as well as the responsibility to monitor and evaluate the effectiveness of its grants and loans. Subject to certain limitations described in a later section, the Board would also be able to amend the endowment's charter.

c. funding of the endowment

The endowment would funded from a special local currency account in the Central Bank. AID and the GOM would, via a memorandum of understanding, agree on how transfers from this Central Bank account would be made to the endowment. The MOU would set out the terms and conditions for each transfer, the first of which would take place only after the process of selecting a Board and setting up an administrative capacity is complete.

d. PROs of a locally managed endowment

- **More representative** - a locally managed endowment would be able to reach the entire Madagascar community of NGOs. Consequently the endowment would be able to identify and support various approaches to conservation/sustainable development. The endowment would involve the Madagascar NGO community both in the setting of funding priorities and in the implementation of sustainable development and conservation efforts. Different Madagascar NGOs could each be encouraged to develop different methodologies, such as livelihood creation, reforestation, restoration of secondary forest, wildlife management and park preservation, and "ecotourism" are just a few examples of approaches which need to be included to round out a complete national picture.

sustainable development. The advantage of an endowment for a national foundation is that a portion of the endowment income can be allocated for long periods of time as budgetary support for development and maintenance of Malagasy institutions necessary for sustaining conservation efforts.

e. CONs of a locally managed endowment

- **A slow starter** - it would take two to three years to establish; the "debt-for-nature" mechanism is a quicker way to do new projects. It would be impossible to shorten the period of time it would take to establish an endowment because of the deliberate method of choosing a Board. If the Board were appointed outright, then the period of time could be shortened to a few months. However, an Board appointed arbitrarily would lose credibility in Madagascar because there would always be considerable doubt as to the reasons why particular individuals were put on the Board. In addition having the Board selection process open to public participation would increase the sense of ownership that key Madagascar institutions would feel toward the new foundation. An offshore trust fund could be formed much more quickly, but it would not be able to easily achieve this level of credibility, much less the sense of ownership.

- **Incubation difficult** - Founding the endowment would require a relatively long period of conscientious and public spirited incubation. The success of the incubation would require the services of a few individuals who are dedicated to the task and committed to the philosophical view that Madagascar society needs a creditable foundation and that conservation and sustainable development need a new institution which has resources to promote new approaches. Neither AID nor a foreign NGO can take on this incubation role directly. The process of selecting the Board members is the most critical phase. Therefore the selection and composition of the nominating committee must be done very carefully. AID's role in making certain that the nominating committee consists of persons with these characteristics of dedication and public mindfulness is AID's most critical input. And, once selected AID must be willing to refrain from direct or indirect pressure on the committee.

- **Credibility requires work** - The effectiveness of the foundation depends on its credibility, which in turn depends on building checks and balances into the charter. These checks are: (i) maintenance of 501(c)(3) equivalency status with the U.S IRS; (ii) charter provisions for a fixed term for Board members; (iii) charter provisions for representation on the Board from other countries; and, (iv) public awareness from the outset of the purposes and program of the endowment as well as the views of each Board member.

- **Requires special approval by GOM** - since the endowment is a non-governmental body, the GOM must accept that funds can be reallocated to endow the fund.

- **No guarantee of conservation priorities** - the endowment would offer less assurance than the debt-for-nature swap option that its priorities would stay constant. Instead the point of having an endowment is that it provides a mechanism for evolution of a societal consensus about not just conservation priorities, but also about other

The GOM would, under the terms of the MOU, make a grant to the endowment of the entire amount of money in the special account at the time when all of the conditions of the MOU have been fulfilled. This grant could be made by a combination of cash and notes of the Central Bank according to terms set out in the MOU. Note that if the GOM makes this grant of cash and notes, that neither it nor its agents can revoke the notes.

The GOM could issue notes which have a staggered series of maturities lasting several years. In order to protect the endowment from loss of value of the notes, the Central Bank would pay interest at a rate several points over the rate of domestic price inflation as published by the World Bank annually. This rate, called the "indexed rate," would be set in the MOU and in the notes themselves. The notes would be assignable in order that the endowment may be able to sell them or deposit them with a local private commercial bank as loan collateral in order to raise cash if needed in advance of the maturity dates of note. Being assignable also affords more protection against default in payments. The question of notes and their conditions is something that should be negotiated between the GOM, USAID and the endowment's board of directors within the context of drafting the charter.

c. changes in legal framework for NGOs

The endowment would have to be incorporated under GOM law as an NGO or "association" as the GOM terms NGOs. At the moment the GOM recognizes no other type of non-profit. However, the endowment would function not as a typical Madagascar NGO, but rather as a foundation.

One of the performance criteria of KEPEM is that the GOM and the community of Madagascar NGOs review the legal and policy framework which governs the activities of associations. Among the issues which this review should cover is the present legal framework for an endowment which functions as a grant-making foundation. One component of the technical assistance should include research and analysis of this issue. This technical assistance should also provide proposals for changes to address reforms identified during the review.

2. Development plan

a. recruitment of Board

Perhaps the most crucial step in the establishment of the endowment is the recruitment of a Board of Directors. This process must satisfy several requirements: 1) the Madagascar community of NGOs must have substantial control of how it is conducted; 2) the process must allow ample opportunity for Board candidates to demonstrate their commitment to the goals of the endowment and to the work needed; and, 3) the Board must be workable in the eyes of the GOM and AID.

skills and experience relevant to the function of a large foundation/endowment. Since the Board would have to deal with three different kinds of responsibility, i.e. personnel, finance, and programs, persons with administrative and management skills, with investment and banking experience, and with social and natural science knowledge, would be highly desirable as Board members. The committee should also consider persons from outside of Madagascar to serve on the Board.

Once a list of names is selected, then one way to proceed would be to invite all to a series of public meetings at which each person is given ample opportunity to present his views and to participate in a structured discussion about the endowment, its purpose and method of operation. Having a series of these meeting would allow for considerable private discussion of ideas presented during the open sessions. Such discussions would then have time to surface reactions to the ideas of nominated persons.

The members of the selection committees would be expected to organize the public meetings, or whatever process is proposed, with the help of technical assistance. The expectation is that the committee would be able to determine on the basis of the work and thought each nominee has displayed those who would most likely be willing to work for the success of the endowment. It is vitally important to the process of creating legitimacy for the endowment that the Board selection process be viewed as based on: the person's reputation, knowledge and experience, and his or her willingness to work for the endowment. The nominees' forum is the opportunity for the selection committee to judge qualifications of nominees side by side in the milieu of their communities.

b. replacement of Board

The method of replacing Board members at the end of their term could either be self-perpetuating or representational. There are arguments in favor of each. The self-perpetuating Board is more likely to be freer of obligations to specific groups than a representational Board whose members are selected by constituent organizations. A Board which is freer of such obligations is more likely to support innovation as well as joint activities between different institutions, e.g. an NGO - private sector partnership.

On the other hand a self-perpetuating Board is less subject to checks from other institutions. One way to inhibit a "run-away" Board is to require that its members, as their terms of office expire, have defined qualifications which replacement members would have to meet. Thus, the Board would have qualifications for each seat - one senior academic, one NGO leader from each province, one entrepreneur whose businesses were environmentally beneficial, two religious NGO leaders, etc. The Board would be required to select new members who met such specific qualifications. A representational Board could have a similar mix; however, the members would be selected by the groups they represent.

The secretariat would also have responsibility for overseeing the accounts of the endowment, including the management of deposits in private commercial banks and possibly the collection of note payments of both principal and interest from the Central Bank as these are due under terms of the MOU. The secretariat would be required to maintain the endowment's capital at yearly levels set by the MOU.

The secretariat would also, with appropriate advice, manage the endowment's investments. Such management should be prudent and serve to increase the value of the endowment's assets while providing income sufficient to meet program needs. The expenses of operation (i.e. "overhead") should not exceed a level set by the MOU.

c. conflict of interest

The MOU should call for an explicit policy regarding conflict of interest, whether this be at the level of the Board or the secretariat. For example, the MOU may call for any Board member to abstain from participating in a decision concerning an NGO or private company (including selection of one or more private commercial banks) in which the Board member has a financial interest.

d. evolution of structure in response to donor interest

As one of the purposes of creating a national level endowment is to provide a strong and long lived institution capable of supporting very long term efforts to preserve and sustainably develop the renewable natural resources of Madagascar, it is to be expected that the endowment would seek to increase its capital holdings through contributions from other donors. The MOU should anticipate that if substantial funds are contributed, the endowment could respond in several ways: enlarge the Board membership without changing the nongovernmental character of the endowment; enlarge the secretariat to manage additional funding; and, add new program areas which were consistent with the general purposes of the endowment.

Note that the endowment can also seek funding to match its program grants. This kind of donor support would not provide a reason to alter the Board makeup nor to create a new area of programming. On the other hand, such "matching" funds could through an overhead fee be used to support the hiring of additional staff and the purchase of additional equipment for the use of the secretariat in administering such funds.

4. Tranche conditionality

The GOM would release cash and/or notes against its special account according to a timetable and in accordance with conditions set forth in the MOU. Recommendations for these conditions are given in this section. Note that these conditions are separate from the performance criteria of KEPEM which pertain to the endowment. The KEPEM performance criteria would require only that the GOM and AID have signed a MOU and that the GOM and the Madagascar community of NGOs have started a process of legal and policy reform as well as a process of forming a Board for the endowment.

- local legal advisor - three years retainer at $1000 per month for a total of **$36,000** for advice on:

  - rewriting laws
  - resource to the process of selecting a Board
  - drafting of charter and by-laws
  - legal implications of the MOU with AID and the GOM under local law
  - terms of the Central Bank notes transferred to the endowment
  - fiscal control procedures for the secretariat
  - agreements with other donors

- local institutional development person - 60 person days per year for three years at $100 per day for a total of **$18,000** for:

  - staffing meetings of NGOs to discuss Board membership, charter, etc.
  - writing reports of the Board meetings

- foreign foundation expert resident in Madagascar - three years at $200,000 per year (salary and all expenses) or **$600,000** total for:

  - advising on the process of forming a balanced, effective Board
  - advising on the development of an effective, accountable secretariat
  - advising on the development and management of grant programs
  - advising on monitoring of grantees

- foreign foundation expert (nonresident) - six trips over three years at $18,000 per trip (salary and all expenses included) for **$108,000**

  - advising on the process of selecting a Board
  - advising on management of assets
  - advising on fund raising

- expenses for twenty persons from outside Antananarivo for six meetings of two days each per year for three years at $100 per person per day for a total of **$72,000** to meet for

  - discussion of endowment goals and purposes
  - exchange of views and ideas among prospective Board members
  - drafting of charter
  - development of plans for a secretariat
  - review of agreements with the GOM
  - review of plans for management of financial assets

~~b. after first funding~~

b. support for local NGOs

The area of second importance in the KEPEM PAAD analysis is the strengthening of Madagascar NGOs. The KEPEM PAAD calls for a process of dialogue with the GOM about the legal and policy framework which governs the activities of NGOs in Madagascar. If this process is conducted in tandem with the process of recruiting a Board, then one result would be a much clearer view of the present strengths and weaknesses of the community of NGOs. This view would be clearest in the area of natural resource management and development. Therefore, from the outset of endowment operations, the size and scope of the need for strengthening would be apparent. It is estimated that this activity would continue to be an important priority of the endowment.

c. collaboration with GOM agencies and programs

The KEPEM PAAD design team emphasizes the need for decentralization in its analysis. One component of the KEPEM team's approach to this is to provide as much incentive as possible to GOM agencies to move more of their personnel to remote areas. One way to increase the incentives for this is to provide a special fund which is only available to partnerships between NGOs and GOM agencies for work in rural areas. The Board, with advice from TA, would have to explore how best to do this.

d. support for the private sector

With a similar analysis, the Madagascar private sector needs to become more involved in efforts to manage renewable natural resources sustainably. There are a number of Madagascar entrepreneurs who have proposed ides or actually invested in businesses which would link economic growth and sustainable use of renewable natural resources. Among the ideas are: ecotourism, crocodile farming, chameleon farming, and nursery production of endemic plants. These ideas can in many cases benefit from a partnership between the entrepreneur and local NGOs. An NGO active in community development would see its constituency get more employment opportunities. And, the entrepreneur would gain from having an NGO work to improve relations with local communities. In some cases the local NGO could serve to monitor the activities of the entrepreneur to ensure that sustainable practices are being followed. Such partnerships have little precedent in Madagascar, hence the need for the endowment to support the exploration and building of such partnerships.

After several years of successful programming and after the endowment has built up substantial cash reserves, the endowment Board could consider investing a portion of its capital in enterprises which contribute to sustainable use of renewable natural resources. Such investments need to be made in the context of a long term strategy for the management of the endowment's steadily increasing reserves of cash. An investment strategy would have to meet several criteria, among which are: maintenance of cash income to meet grant making budgets, preserving value of capital from inflation, managing risk, and insuring that investments were socially responsible.

use of the gift; (iv) reasonable limits on the powers of the agent having custody of the gift for the endowment. If a donor places a restriction on a donation which the endowment Board, with advice of counsel, deems to be inconsistent with the endowment's purpose provision, then the donation should not be accepted

V. Financial analysis

Because the endowment would be a new institution, there is no operational history to use as a basis for projections of financial flows. On the other hand, it is prudent that the endowment begin with a realistic and sound approach to managing its assets. The projections in Table 1 outline an illustrative scenario. The actual scenario may differ in many respects. However, the illustrative scenario is explored to understand what implications it (or any other scenario) have for the way the endowment manages its assets and expenditures. This scenario is illustrated for initial deposits of $1,000, $2,000, $5,000, $10,000 and $20,000.

1. Projected income

The scenario assumes that the MOU between the GOM and AID is negotiated in 1991, the first NPA grant is made in 1992, and that the endowment begins funding three years later after the process of selecting a Board and establishing an administrative secretariat is complete. The first assumption is that the total amount of local currency deposited in the special account in the Central Bank (which is the account where reallocated local currency freed up by KEPEM, or another NPA grant, is held) is equivalent to $20 million (other options for initial deposit amounts are also shown in Table 1). Note that all amounts in this scenario are in 1992 dollars - the actual amounts would reflect the exchange rate at the time of the KEPEM transfer and the inflation rates prevailing after 1992).

Note further, that the actual scenario would have to be much more complicated than this as the local currency would go into the Central Bank special account over a period of five years, 1992 through 1996. Since not all of the dollar equivalent would be in the special account until 1995, there would have to be at least three, and perhaps five, separate series of notes issued by the Central Bank, each series tied to a different tranche of NPA foreign exchange.

However, at some point, in this scenario in 1994, both AID and the GOM certify that the endowment is ready and the GOM gives local currency in cash the equivalent of $2,575,000 plus seven notes or obligations for the remainder of the $20,000,000. Each of these notes would become due in turn one per year until 2001. The value of each note represents the initial amount of $2,500,000 plus interest at 3% over inflation compounded annually since 1992.

The endowment is assumed to have programs of grant making at a level of $750,000 per year beginning in 1994. A more likely scenario is that it would take the endowment several years to achieve that level. If this is the case, then the excess income can be put back into the capital pool. In either case, this scenario shows that until 2001, the endowment would need to spend part of the annual cash value of the maturing Central

TABLE 1

Financial Projections for MEENS (in thousands of 1992 US$'s)

INCOME	1993	1994	1995	1996	1997	1998	1999	2000	2001
Income from Central Bank notes this year	258	265	273	281	290	299	307	317	
Interest income from PB from previous year		10	18	27	36	46	57	69	81
Expenditures this year (see below)		75	75	75	75	75	75	75	75
Deficit—CB income expended		65	57	48	39	29	18	6	0
Surplus—income from interest reinvested		0	0	0	0	0	0	0	6
ENDOWMENT PRINCIPAL									
Net flow into principal this year (deposit in PB)	258	201	217	233	251	270	290	310	6
Size of deposit in private bank(s) at years end	258	458	675	908	1,159	1,429	1,719	2,029	2,035
EXPENDITURES									
Local communities support		24	24	24	24	24	24	24	24
Local NGO strengthening		20	20	20	20	20	20	20	20
Collaboration with GDRM		12	12	12	12	12	12	12	12
Private sector support		8	8	8	8	8	8	8	8
Policy analysis		5	5	5	5	5	5	5	5
Monitoring & evaluation		3	3	3	3	3	3	3	3
Administrative overhead		3	3	3	3	3	3	3	3
Total expenditures		75	75	75	75	75	75	75	75

Assumed parameters of Central Bank (CB) notes

total value of CB notes in 1992:	$2,000
value of note as paid each year:	$250
years over which CB notes mature:	8
CB pays interest @ inflation plus:	3.0%

Assumed parameters of Private Bank (PB) account

PB pays interest @ inflation plus:	4.0%

Note: CB interest is compounded annually