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Region Africa Regional Office

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Borrower(s) GOVERNMENT OF MADAGASCAR

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1. Country and Sector Background

Need to Arrest Downward Spiral of Poverty and Environmental Degradation

The situation in rural Madagascar is characterized by widespread, extreme poverty and significant pressure on its unique biodiversity resources. The country has fallen deeper into poverty, with its GDP per capita falling from US\$383 (in 1995 dollars) in 1960 to US\$246 today. Close to 80% of the poor live in rural areas. Their livelihood almost exclusively depend on agriculture and related activities. Low productivity in combination with a rapidly growing population have generated pressures for agricultural expansion through forest conversion under slash-and burn production systems. Further contributing to this trend are poorly defined property rights and a breakdown in traditional regulatory mechanisms caused by increasing human migration within the country. More productive agricultural practices that could have helped mitigate natural resource destruction have been hampered by lack of: (i) basic infrastructure; (ii)

market integration; (iii) resource inputs; and (iv) adequate access to credit. Poorly regulated commercial exploitation of forests for timber, due to weaknesses in central policies and institutions, and a failure to invoke the cooperation of all stakeholders, particularly those at local and regional levels are other root causes of deforestation. In addition, poor governance in the forestry sector has been conducive in generating a climate under which illegal logging practices could flourish. As a result, more than 80 per cent of the country's original forest cover has disappeared. The area covered by primary forest has decreased to 15 per cent of the country's territory. It is noteworthy that the forest cover would disappear within 25 years if current trends were to continue. While inadequate management continually threatens the existing protected areas, the major part of the country's biodiversity still lies outside statutory protected areas. Hence, biodiversity loss is a direct consequence of forest loss. Consequently, forest destruction and poor land use have eliminated wildlife habitat at an alarming rate, resulting in unknown loss of plant and animal species, many of which are not yet known to science. Furthermore, unique ecosystems have become increasingly fragmented, threatening their ecological integrity and resulting in decreasing levels of genetic variability of unique wildlife populations, a situation that ultimately leads to species extinction. Deforestation and habitat destruction threaten not only biological diversity, but also watershed and soil stability vital to the agrarian economy. Deforestation has caused significant loss of topsoil (up to 150-200 tons per hectare per year on bare land). The economic cost of lower agricultural productivity due to soil loss, siltation and water shortage, damaged infrastructure, and the need to build new infrastructure continues to place a heavy burden on the country's GDP. Total annual costs of environmental degradation, from soil erosion, silting, declining soil fertility and loss of forests has been estimated at 5%-15% of GDP. At the same time, soil erosion has resulted in widespread coastal and marine sedimentation with yet unknown consequences on marine biodiversity as the distribution, status and threats to marine biodiversity as a whole are currently little known and understood.

Effects of 2002 political crisis.

The above mentioned sector challenges are further exacerbated by the political crisis that brought the country to a halt during the first semester of 2002. Terms of trade of the rural sector have been affected negatively by falling producer prices and rising consumer prices of basic life necessities. Consequently, poor rural households face problems in financing maintenance of critical irrigation infrastructure as well as the purchase of necessary input requirements for the next agricultural campaign, thereby generating additional pressures for agricultural expansion through forest conversion. In addition, the political crisis has increased already mounting governance problems surrounding the management of natural resources as evidenced e.g. by illegal exports of endangered species, illegal logging and lack of transparency regarding the allocation of fishing rights.

Government Response

National Environmental Action Plan (NEAP). In light of the above, arresting the downward spiral between poverty and environmental

degradation is therefore of particular relevance in Madagascar. Recognizing this need, the GOM, with support of the international donor community, initiated in the late 1980s what has been perhaps the most ambitious and comprehensive environmental program to date in Africa. The NEAP was given legal power by adopting the National Environment Charter and the National Environmental Policy in 1990 (Law 90-033, December 21, 1990). The Plan, which was put into operation in 1991, recognizes the link between environmental protection and economic development and includes six elements: (i) protecting and managing the national heritage of biodiversity, with a special emphasis on parks, reserves and gazetted natural forests, in conjunction with the sustainable development of their surrounding areas; (ii) improving the living conditions of the population through the protection and management of natural resources in rural areas with emphasis on watershed protection, reforestation and agro-forestry; in urban areas this would involve improving water supply and sanitation, waste management and pollution control in general; (iii) promoting environmental education, training and communication; (iv) developing mapping and remote sensing tools to meet the demand for natural resources and land management; (v) developing environmental research on terrestrial, coastal and marine ecosystems; and (vi) establishing mechanisms for managing and monitoring the environment. As foreseen at its inception, the third phase of the NEAP commenced on July 1, 2002.

While before 1991 environmental protection efforts were almost exclusively driven by the donor community, the NEAP has enabled the GOM to take the environmental agenda more firmly into its own hands. Doing so, has also led to a shift from a strictly conservationist approach to an approach that recognizes the strong linkages between rural poverty and environmental degradation. Investments effectuated under the NEAP from 1991 until to date have led to the establishment of a comprehensive environmental policy and regulatory framework as well as the creation of environmental institutions that have enabled the GOM to effectively start addressing problems of rural poverty and environmental degradation on the ground. There is emerging evidence from NEAP's monitoring and evaluation system that confirms the positive impact of the program on the ground, although the absence of objectively verifiable benchmarks makes it hard to discount inflated expectations fueled by the ambitious targets that the NEAP has set for itself. On the positive side of the equation there is emerging evidence that: (i) the rate of deforestation in protected areas (0.7%/year) and classified forests (1.0%/year) is now significantly lower than in non-classified forests (1.5%); (ii) degradation of critical habitats has slowed down significantly (from 1.66%/year down to 0.62%/year); (iii) quality of biodiversity in protected areas has improved as measured based on a composite endemism index (from 0.61 to 0.74); (iv) a large number of rural households (>370,000) have benefited from soil and water conservation and productivity enhancing investments with a consistent positive effect on income (10%/year during the project period) as compared to control groups; (v) tourist revenues associated with national park visits have grown rapidly (estimated at about US\$50 million in 2000 or 40% of all expenditures effectuated by visiting nonresidents) and increasingly benefit local communities; and (vi) the principle of letting the polluter pay has become internalized into investment decisions through the application of MECIE developed under the NEAP. At the same time, there is agreement that there are numerous areas where the NEAP could improve its track record. As far as policies and regulations are

concerned, application remains a challenge due to weak institutional capacity and serious governance problems, particularly in the forestry sector. At the institutional front, there is a need to more clearly define the division of responsibilities at the national level among the Ministry of the Environment, National Environmental Office, and environmental units in the sector ministries, as well as the division of responsibilities between the central and decentralized levels. Mainstreaming of the environmental agenda has turned out to be difficult as reflected in: (i) the relatively modest budget allocations for the sector; (ii) the existing limited knowledge and awareness of the Malagasy population concerning environmental issues; and (iii) the slow development of market mechanisms for the valuation of environmental services. These factors subsequently raise questions about the sustainability of the NEAP.

PADR. Parallel to the NEAP and following a participatory preparation process, an Action Plan for Rural Development (PADR) was launched in 2001. This Action Plan provides the framework for the implementation of the country's rural development policy and coordinates policies and public investment programs as pursued by the participating sector ministries under the Plan, including: Agriculture and Livestock, Fisheries, Water and Forests, Environment, Research and Transport. The PADR includes five major orientations: (i) ensure good management of the rural world by defining and implementing institutional reforms and the regulatory framework; (ii) promote the emergence of partners in rural development; (iii) increase and promote agricultural production in an optimal manner, including sustainable management of resources and infrastructure; (iv) ensure sufficient food availability in each region; and (v) develop social infrastructure to improve access to basic services. The new GOM is committed to pursue implementation of the PADR as, among other, reflected by its intention to strengthen the role of Regional Working Groups for Rural Development (GTDRs). These Groups, which include representatives from grassroots membership organizations, ONGs, private sector, local government and regional offices of the sector ministries, have been set-up as regional champions to translate the overall orientations of the Plan into concrete actions that are adjusted to the specific agro-ecological conditions of each of the distinguished 23 agro-ecological regions in the country. The major orientations of the PADR are in line with current good practice in rural development and poverty reduction, but lack specificity in particular on the priorities and modalities of the implementation, and on the role of the private sector and producer organizations. It is expected that these issues would be addressed in the envisaged annual updates of the Plan. It is also recognized that there exists a certain overlap between the PADR and NEAP, particularly as far as sustainable soil and water management is concerned. It has been agreed during the most recent joint GoM-donor review of the third phase of the NEAP, that a protocol would be agreed between the Ministry of Agriculture and Livestock and the Ministry of the Environment. This protocol would define more precisely the mandates of the two Plans. Under the protocol, there could be an increased role for the GTDRs to coordinate rural development and environmental protection efforts.

PRSP. The notion of explicitly addressing the downward spiral of poverty and environmental degradation through dedicated Action Plans is reinforced by the fact that the benefits of relatively high economic growth between 1997-2002, induced by liberalization of prices and markets in the 1990s

and fueled by significant FDI in the dynamic export processing zones, have not (yet) trickled down to the rural poor. To attain the Millennium objectives of cutting absolute poverty in half by 2015, the draft full-PRSP, which was presented in November 2001, rightly singles out the importance of generating enabling conditions for more inclusive economic growth that particularly benefits the rural poor, while protecting the environment. As far as the rural economy is concerned, this implies addressing three sector-specific challenges: (i) getting policies and level and composition of public investments right so as to provide the most enabling environment to achieve 4% annual growth of the rural sector as envisaged in the PSRP; this growth rate is more than double the long-term historic trend; (ii) ensuring environmental sustainability as specified under the Millennium goals so as to consolidate Madagascar's unique position as a mega-biodiversity country; and (iii) improving the effectiveness and efficiency of public service delivery through consolidation of the currently fragmented rural sector institutional framework at the central level and appropriate strengthening of the decentralized levels, while ensuring adequate mechanisms for participation of rural communities, producer organizations, NGOs and private sector.

Protected Areas

The network of Madagascar's protected area system is composed of 18 National Parks, five "Integral" Nature Reserves and 23 Special Reserves. In addition, two marine areas have been brought under protection with four more identified that are currently being created. In addition, around 15 per cent of the land surface area is covered by biodiversity-rich native forest. Of the 46 terrestrial protected areas 23 are actively managed by ANGAP, which is the designated institution responsible for the management of the country's protected areas. Six other protected areas are managed by WWF, one by Conservation International (CI), and one by the Wildlife Conservation Society (WCS) under a Memorandum of Understanding with ANGAP. Twenty three terrestrial PAs and marine parks are currently not being managed, leaving them largely unprotected. The following table shows how large an area within each ecoregion is currently protected by statutory PAs. This may serve as a tentative indicator of how representative the system of current PAs is and which ecosystems are currently being under-represented by PAs. In this context it is noteworthy that less than 3 per cent of Madagascar's total land surface area is protected by statutory conservation areas compared to a world average of 8-12 per cent of a country's land surface.

ANGAP has prepared a five-year action plan for the management and expansion of the existing Protected Area System, ("Plan GRAP"), to be implemented between 2001 and 2006. The action plan provides a comprehensive overview of the existing PA network, and the proposed expansion program. The expansion program is organized by priorities specified for each of the six ecoregions and the three transitional zones characterizing the country. Taking into account the mostly small size of the country's protected areas, the need for ecological connectivity and expansion of existing PAs is fully recognized by the Plan GRAP and has been addressed in great detail in the expansion program.

Ecoregion	Total Area of Ecoregion in km2	Area covered by PAs in km2	% of Ecoregion covered by PAs
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Northern Highlands	20,094.3	1,604.2	8.0
Ecoregion East	116,062.2	6,292.4	5.4
Central Ecoregion	169,567.0	3,051.1	1.8
High Mountains	3,353.8	113.8	3.4
Ecoregion West	207,541.0	5,224.1	2.5
Ecoregion South	61,225.7	1,114.5	1.8
Transition North	11,341.1	91.2	0.8
TOTAL	589,185.10	17,491.30	3.0

Besides its importance for conserving unique biodiversity, Madagascar's protected areas system has also become a critical asset for the development of its tourist industry. It is estimated that travel and tourism contributed to about 8% of GDP in 2000. A visitor survey conducted in 2000 demonstrates that Madagascar is primarily an ecotourism destination as determined by the percentage of different activities on which tourists had spent their time in the country: (i) ecotourism: 55%; (ii) sun, sea and sand resort tourism: 19%; (iii) cultural: 15%; (iv) sporting/adventure 8%; and (v) other: 3%. The principal travel motive is to see lemurs in the wild. Birders travel to view the 106 endemic birds out of the 250 on the island. Scuba divers consider the coral reefs on a par with the Red Sea and other diving areas worldwide. The statistics for the national parks indicate that 86,964 visitors entered 22 sites in 2000, based on ticket stubs. Of these, 54,440 were foreigners, 218 researchers and film producers, and 32,306 were local people. The numbers of visitors have grown steadily in all categories from a total of 5898 in 1992. Five parks attracted over 88% of the visitors. In descending order these were: (i) Andasibe-Mantadia (also known as Perinet), the nearest park to Antananarivo; (ii) Isalo in the south central region; (iii) Ranomafana in the southwest; (iv) Montagne d'Ambre in the northwest; and (v) Ankarana in the northwest. These figures indicate that tourism is an economic activity that currently benefits different regions and communities all over the island. Given the range of assets and the relatively small number of tourists currently visiting Madagascar, tourism still has considerable potential to boost economic growth in a number of regions and to benefit more communities throughout the island.

Visitors to Madagascar's National Parks and Reserves, 1992 - 2000

	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Foreigners		4619	10985	12702	20747	25366	31072	41573	51720	54440
Nationals		1260	3930	4615	15408	16484	19209	28297	29138	32306
Researchers/ Film producers		19	47	101	81	84	52	111	200	218
Total	5898	14962	17418	36236	41934	50333	69981	81058	86964	

Tourism, carefully managed, can become a tool for environmental protection and for financing conservation. By law, ANGAP already provides 50% of park entrance fees to local communities in the vicinity for economic development. This creates incentives for the local people to protect both the habitat and the animals in the national parks and can create a disincentive for deforestation. Tourism in or (preferably) in the vicinity of National Parks is helping to reduce a serious financial gap in funding for the parks by accommodating visitors to the parks and by environmental taxes on those visitors. Many "willingness to pay" studies indicate that tourists can be tapped to support environmental or cultural protection either through entrance fees, departure or other taxes, and voluntary

contributions. To elicit voluntary contributions and increased entrance fees, tourists always require assurances that their contribution will be earmarked for the specific use for which it was given and will not become a part of general budgetary revenues. Park entrance fees in Madagascar, for example, are low by international standards. If an increase were presented to the tourist as a means of supporting local communities and conserving the park, it should be possible to raise the fees, especially since their incidence on the total tourism package cost will be slight. A recent survey of visitors to national parks in Madagascar suggests that tourists would be willing to pay a daily entrance fee to the parks of US\$13 -18 (compared to roughly US\$6 currently for foreigners and US\$0.50 for nationals for three days). Some 10% of visitors indicated a willingness to pay a daily fee of \$31.

The NEAP has been the primary vehicle for channelling support to the management of protected areas, other forest areas, wetlands and coral reefs in Madagascar. Because of the country's low GDP per capita, high level of indebtedness and widespread poverty, government resources for the environment are very limited. Financial and technical support has therefore come in the past principally from the international donor community. ANGAP has been an relatively effective manager of the national parks and reserves and has built a solid reputation, but faces a number of challenges. First, given the critical role of the national parks for conservation and for tourism, ANGAP urgently requires resources to enable it to continue its operations. Currently, ANGAP's budget is provided by donors (70-80%), government (15-20%) and park fees (about 7%). With the support of GEF, ANGAP is moving to the concept of a trust fund to give it more independence and to increasing the share of park fees in its overall budget. Second, not all ecosystems are currently represented in the national protected areas system, particularly coastal zone and marine ecosystems. Consequently, there is a need to improve the representativeness of the system under the next phase of the NEAP. Third, although the management of protected areas is relatively effective, there is room for improvement in view of ANGAP's current IUCN-based index for effective management which stand at 41%. Areas that specifically require attention include the need to: (i) strenghten management and implementation capacity at the field level; (ii) establish more effective measures to reduce encroachment; and (iii) develop tourism potential. Fourth, relations between ANGAP and neighboring communities are generally good. However, they tend to be maintained at the level of consultation, thereby falling short of providing some sort of decision-making power to local stakeholders whose life one way or the other are affected by the creation of a protected area in their backyard. Consequently, there is a need to lift participation of local stakeholders up to a higher level by exploring and strengthening mechanisms for joint decision-making between communities and ANGAP as far as the management of protected areas is concerned.

Forestry Sector

The forestry sector in Madagascar represent 5% of GDP and 17% of the primary sector. Recent surveys conducted by PAGE (a US-funded program) show that out of the total US\$240 average annual household agricultural income, over \$110 comes from forests products, especially non timber products. Forest-related activities provide the primary source of cash

income in rural areas, primarily through employment (over 16 million workdays per year paid in cash). The value of forest and forest-based products traded annually in Madagascar is estimated at FMG 497 billion (roughly US\$70 million). An analysis of the sector conducted by the Bank in August 2002, shows that: (i) most of the forest revenues accruing to the state come from export taxes of relatively small amounts products, especially of non-wood products; (ii) forest revenues in the form of fees paid to the local population are negligible; (iii) the largest benefit to rural people comes in the form of employment; (iv) one third of the sector's economy is driven by the growing markets for animal , vegetate and pharmaceutical products, tourism other non-wood products (excluding the charcoal business); (v) more than 60% of the total sector's value is captured by fragmented chains of transport, processing, retail and value added; there is no significant concentration of business with large dominant companies and groups; and (vi) the vast majority of wood products are for the internal market. The value of standing timber for the internal market is close to zero and export prices are at least 40% below international levels.

Most of Madagascar's biodiversity occurs in forest areas. While 13% of the area of these forests is located within a relatively well-managed protected area network, the vast majority of forests (national gazetted forests, and a mosaic of non gazetted forests in the rural landscape) are poorly managed, de-facto a free access resource. Overall, these forests are being lost or degraded more rapidly than forests in the rest of Africa. While the Government is unfit to protect or manage these forests by itself, current incentive frameworks are not sufficiently conducive to long-term forest management efforts or conservation by local communities and international investors: (i) property rights are poorly defined and provide de-facto open-access to forest resources, while traditional land tenure systems accord rights to those who clear the forest for agriculture; (ii) at best, the permitting systems for commercial use of natural resources is a system for exploiting natural resources - not for managing natural resources; (iii) emphasis has been on transfer of access rights and of noncommercial usufruct rights with the obligation to protect; very little emphasis on the development of sustainable use/management systems that ensure the regeneration of the resources harvests and of the productivity of the ecosystem; and (iv) transfer of management rights to local communities have rarely been associated with commercially oriented natural resources management.

With a total budget equivalent to US\$450,000 per year, the Forest Department is called on to represent the state and capitalize on the actions of donor assisted programs fifty times bigger (over US\$20million/year), which are independently executed by international NGOs and new parastatal organizations. Poor governance and law enforcement is increasingly recognized to undermine costly ongoing environmental management programs, and discourage most qualified long-term investors from doing business with Madagascar in the field of biodiversity and environmental services. Some of the drivers for poor governance include the following: (i) lack of political commitment for enforcement of laws and regulations for the past three decades; (ii) lack of transparency and accountability; (iii) very poorly paid government agents are placed in charge of high value natural resources; (iv) lack of internal incentives that would reward government agents for sound NRM and respect of laws and

regulations; (v) government agents and political parties use their control over natural resources to enrich themselves; (vi) people of wealth and power use their influence over government to access natural resources.

To obtain a better handle on the governance problems in the forestry sector, a Forest Observatory (OSF) was established in 2001 under Ministerial Decision No. 6682/2001. The mission of the OSF is to facilitate good governance in the sector by carrying-out permanent monitoring of the allocation of permits, forest logging activities, the receipt and use of permit fees, the transfer of forest resources to communities under GELOSE/GCF contracts; and forest cover based on satellite imagery. Although its institutional capacity is still rather limited, the OSF has turned out to be a useful watchdog by providing independent information and putting the spotlight on selected cases of corruption.

Marine and Coastal Resources

Madagascar has some of the most extensive and richest coral reefs in the world. Scuba divers consider the extensive coral reefs on a par with the Red Sea and other diving areas worldwide. However, overfishing is a widespread and growing threat to these ecosystems. Traditional access to most terrestrial ecosystems used to be controlled locally. Over time, local control was replaced by state control and state control has degenerated towards open access. For coastal resources, the tradition is one of open access - this came out strongly in the participatory workshops that EMC conducted for the development of the national policy on marine and coastal zone development. Coastal fishermen in Madagascar have the reputation of being highly individualistic and reluctant to form structured groups. However, transfer of management rights to communities begun during EP II has often been very successful in empowering community structures to develop and to enforce local rules that govern the types of fishing techniques and equipment that can be used. With the support of local authorities, they have been able to impose these rules on fishermen who migrate along the coast. In the northeast, community control has developed rapidly - all of the villages on the island of Nosy Be have been organized into 25 community management structures. In the Tulear area, community empowerment has progressed much more slowly. Community control of mangrove stands has been successful in putting an end to highly destructive clearcutting for charcoal and other wood products that recently begun to develop in some areas. The recent review found that much of the potential for local management has not even been tested. Techniques developed on the east coast of Africa have shown that mangrove stands can be quite easily commercially harvested and regenerated on a sustainable basis, but this has yet to be tested in Madagascar. The coral reef "no take zone" management tests in Madagascar to date has involved the creation of miniscule no-take zones that only cover a fraction of one percent of the coral reef area - experience elsewhere indicates the optimum effects on catch may come from setting aside over 10% of the reef as no take zones. And almost nothing little has been done to work with the newly created community management structures to assist them in managing their resource as a business including the processing, conservation and marketing of seafood products. Most coastal communities are at the mercy of collectors who often collude amongst themselves to impose their low prices on local fishermen.

2. Objectives

The proposed project supports financing the third phase of the National Environmental Action Plan (NEAP). The NEAP was adopted by the Government of Madagascar in 1989, while implementation started in 1991 with the support of a broad coalition of bilateral donors (Germany, France, Switzerland, USA), international agencies (GEF, IDA, UNDP) and NGOs (WWF, Conservation International). Ahead of its time, the NEAP was designed from its inception as a fifteen year investment program divided into three five-year phases. The first five year phase aimed at creating a proper policy, regulatory and institutional framework so as to generate the conditions for genuine country ownership of the environmental agenda which prior to the NEAP used to be set and driven by the donor community. The second phase of the NEAP aimed at consolidating the programs initiated under the first phase by putting the established national institutions firmly in the driver's seat.

The third phase aims to achieve the mainstreaming of environment into macroeconomic management and sector programs as well as putting into place sustainable financing mechanisms for the environment.

The project financed by the World Bank and GEF is geared towards assisting the GoM in the implementation of selective elements of the third phase of the NEAP. It is against this background that the development objective of the project is specified as: setting natural resources management and biodiversity protection in critical ecological regions on an effective and sustainable footing with active participation from local populations and other relevant stakeholders, while at the same time incorporating environmental dimensions in public policy making and investment decisions.

3. Rationale for Bank's Involvement

The Bank possesses considerable experience in Madagascar through its participation in EP1 and EP2. Also through policy conditionality in SAC-2, the Bank has been able address issues of environmental concern as they related to fisheries, forestry and mining. By being the lender of last resort, the Bank has facilitated involvement of other financiers in the environmental program, while at the same time assuming a key role in donor coordination, among other through its substantial support to the Multi-Donor Secretariat that was established under EP2. Although its role as residual financier would be substantially reduced under EP3, the Bank would be able to continue to provide value-added, particularly in view of its envisaged contribution as global financial institution to the stated objective of developing sustainable financing mechanisms for the environment and in view of the potential leverage it can provide as a global development institution in moving forward the governance agenda in the environment sector.

The value added by the GEF stems from the fact that GEF funds can be committed toward permanent endowment funds and can catalyze the mobilization of additional resources. Without GEF and Bank involvement it would be very difficult to consolidate the protected areas system in Madagascar and bring in lessons from other countries and regions.

4. Description

The project would support the third phase of the NEAP (EP3) of which a logical framework is presented in Annex 11. The goal of EP3 is stated as

follows: "The importance and the quality of natural resources are conserved and developed in support of sustainable economic growth and a better quality of life". It distinguishes seven results that are stated as: (1) sustainable development activities are developed; (2) forest ecosystems and water resources are sustainably managed; (3) sensitive ecosystems are conserved and made valuable as protected areas and "conservation sites"; (4) the potential of coastal and marine ecosystems is sustainably managed; (5) a positive change in behavior vis à vis the environment is observed; (6) the financial basis for sustainable financing of rational management of natural resources and the environment is established; and (7) better environmental policies and governance are developed.

The proposed project to be financed by IDA and GEF would support selected elements EP3 by focusing on results (2), (3), and a number of activities under (5), (6) and (7). Based on this orientation, the project would be organized into three components, (i) protected areas management; (ii) forest ecosystems management; and (iii) environmental mainstreaming. GEF financing administered by the Bank would be concentrated under component (i): protected areas management. The IDA/GEF project would not focus on result (1) as it is felt that the on-going IDA-financed Rural Development Support Project could assist the EP3 in this field. The IAD/GEF project would not cover result (4) as it has been agreed that GEF financing administered by UNDP would be concentrated in this area.

Protected areas management

(i) Alignment and representativeness of the Protected Area System: GEF and IDA resources will finance the implementation of the COAP and the Plan "GRAP" (see Annex C) aimed at ensuring the representativeness of ecosystems under the national protected area system. Implementation of the plan would include creating a limited number of new protected areas as well as re-delineating boundaries of a number of existing protected areas. The contribution to implementation of EP3 will also support research activities aimed at developing a better understanding of practices for biodiversity conservation and management.

(ii) Conservation, surveillance, monitoring and investments to consolidate the emerging PA System: IDA/GEF would also finance consolidation of monitoring and surveillance activities as well as conservation practices and infrastructure. IDA/GEF would finance the establishment of critical visitor infrastructure and services so as to increase revenues from park entrance fees as well as to stimulate the local (eco)-tourist industry.

(iii) Community participation and capacity building: IDA/GEF would aim to increase participation of local communities in the management of protected areas by strengthening and expanding the mandate of the Regional Orientation Committees, partnerships with NGOs, and community-driven initiatives. IDA/GEF would also help developing the establishment of so-called voluntary private and communal protected areas. Last but not least, IDA/GEF would finance participatory biodiversity conservation training and investment program for communities located in the buffer zones of protected areas.

(iv) Long-term financial sustainability of the PA system: IDA/GEF would support the emergence of a Foundation to be tasked with the financial management of the protected area system. A Trust Fund Steering Committee (TFSC) appointed by the Minister of the Environment in 2001 is

currently working on the establishment of a trust fund for protected areas in Madagascar. This prospective trust fund will be managed by a Madagascar Protected Areas Foundation to be set up by the end of 2002 and will represent a pillar to the larger sustainable finance agenda. The Foundation is expected to lead to mobilization of substantial funding necessary to gradually cover the core costs of the protected area network and its expansion, selected projects in support zones, and the sustainable development of priority ecological corridors. The proposed "Madagascar Protected Areas Foundation", would be established as a foundation under the Malagasy Foundation Law No. 95-028. It is expected that the proposed Madagascar Protected Areas Foundation would be established initially with pledged seed money from WWF and CI.

Forest ecosystems management

Under this component, the project would address the mounting governance problems of the sector by: (i) setting the concession rights allocation and fee collection system on a more competitive and transparent footing; (ii) institutional capacity building; and (iii) improving the mandate and capacity of the forest sector observatory. The project would finance the formulation and implementation of forest zoning and management plans, including the set-up of a viable eco-certification scheme. An important activity under this component, would be the transfer of forestry management rights to local communities under GELOSE/GCF contracts. The project would also pursue the creation of conservation sites, reforestation reserves (Réserve Foncières pour le Reboisement, RFRs) and support reforestation and forestry management activities for carbon sequestration purposes. To reduce pressure on forest ecosystems, the project would also support introducing improved fuel wood management utilization practices as well as communication and extension activities aimed inducing local populations to discontinue ecologically harmful slash-and burn practices. These activities would be accompanied with the development and establishment of alternative energy sources (other than rural electrification) to reduce pressure on forest resources and lower green house gas emissions. Specific energy issues to be covered include among other: (i) fuelwood supply policy and "filier" management; (ii) charcoal supply policy, technology and "filier" management; (iii) improved stoves; (iv) inter-fuel substitution options to (a) woodfuels and (b) imported petroleum-based household fuels; and, (v) other demand side management support activities. To allow for improved detection of forest fires, the project would set-up surveillance capacity based on satellite imagery. The project would stimulate diversification of revenue-generating opportunities in critical eco-regions by launching a research and development program for non-wood forestry products. Finally, the project would support activities aimed at protecting and improving the management of wetlands under this component.

Environmental Mainstreaming

Under this component, the project would finance a series of strategic EIAs aimed at improving the consistency of environmental legislation and procedures across sectors and in line with international conventions. To improve application of and compliance with environmental impact legislation and procedures (MECIE), the project would strengthen existing environmental units in the sector ministries. To enhance monitoring of

environmental quality at the field level, the project would finance the establishment of a comprehensive environmental management information system and support "greening" of the national accounts. To ensure improved public support for the environment, the project would finance a program of environmental education and communication. Under this component, the project would also support numerous initiatives to put financing for the environment on a more sustainable footing. First, the project would help establishing a trust fund for the national parks system. Second, the project would develop and help setting-up markets for environmental services, covering areas such as bioprospecting, carbon sequestration and the like. Third, the project would support a program aimed at improving cost-efficiency of environmental institutions by streamlining and realigning existing structures. Fourth, the project would pursue initiatives aimed at "greening" the tax system so as to respectively maximize positive and minimize negative external effects of taxation on the environment. Fifth, the project would support the establishment of autoregulation mechanisms for environmental management through eco-certification/labeling schemes, ISO certification etc.

5. Financing

Total (US\$m)

BORROWER \$10.00

IBRD

IDA \$35.00

US: AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID) \$35.00

GLOBAL ENVIRONMENT FACILITY \$8.00

FRANCE, GOV. OF (EXCEPT FOR MIN. OF FOREIGN AFFAIRS-MOFA) \$4.50

GERMANY: KREDITANSTALT FUR WIEDERAUFBAU (KFW) \$20.00

UN DEVELOPMENT PROGRAMME \$4.00

BILATERAL AGENCIES (UNIDENTIFIED) \$2.00

Total Project Cost \$150.00

6. Implementation

Borrower and Executing Agencies

The Borrower of the Credit to finance the project would be the Republic of Madagascar represented by the Ministry of Finance and Budget. The Executing Agencies would be the Ministry of the Environment and the Ministry of Water and Forests. The Ministry of the Environment through the National Environment Office would take responsibility for the Protected Areas Management component and the Environmental Mainstreaming Component. The Ministry of Water and Forests would execute the Forest Ecosystems Management component. The National Association for the Management of Protected Areas (ANGAP) would implement the Protected Areas Management component under a performance-based subsidiary agreements with the Ministry of the Environment

Protected Areas Trust Fund

A Trust Fund Steering Committee (TFSC) appointed by the Minister of the Environment in 2001 is currently working on the establishment of a trust fund for protected areas in Madagascar. This prospective trust fund will be managed by a Madagascar Protected Areas Foundation to be set up by the end of 2002 and will represent one of the pillars of the larger sustainable financing agenda. The Foundation is expected to lead to mobilization of substantial funding necessary to gradually cover the core costs of the protected areas network and its expansion, selected projects

in support zones, and the sustainable development of priority ecological corridors. The proposed "Madagascar Protected Areas Foundation", would be established as a foundation under the Malagasy Foundation Law No. 95-028. Although the Foundation would be legally registered in Madagascar, most of its assets would be invested offshore. It is expected that the proposed Madagascar Protected Areas Foundation would be established initially with pledged seed money from WWF and CI. This provides the basis for specific fund-raising activities that address the public and private sector. GEF funds would be used as a major contribution to a sinking fund (i.e., to cover recurring costs of selected priority protected areas, capacity building, activities in support zones and establishment of ecological corridors), whereas private sector funding and bilateral donor funding would focus on target-specific investments mostly (through the same or additional sinking funds).

Policy Guidance and Project Oversight

Overall policy coordination of the NEAP would be provided by the existing Interministerial Environment Committee (IEC), chaired by the Minister of the Environment. The IEC is guided by independent advice from a consultative National Environment Council. A Steering Committee, consisting of relevant government agencies and donors, would be responsible to coordinate program activities under the third phase of the NEAP. Rather than a joint program, as was the case under the second phase of the NEAP, the third phase would be supported by a series of parallel projects financed by IDA/GEF, UNDP/GEF, USAID, AfD, WWF and CI. Doing so would enable a more direct linkage between financing source and results on the ground, while avoiding the need for coordination among donors at the activity level.

Project Management

A Project Coordination Team would be responsible for project execution at the operational level. It would report to the Ministry of the Environment and to the Ministry of Water and Forest. The PCT would consist of a team of dedicated professionals with relevant disciplinary backgrounds for the purposes of the Project. They would include procurement and financial management specialists, internal auditors, as well as technical subject matter specialists who would provide advisory services to the respective executing agencies. The PCT would be decentralized at the level of the executing agencies (Ministry of Water and Forests, National Parks Service and National Office of the Environment) under the responsibility of a chief operating officer. Based on agreed annual operative plans, the chief operating officers would have full authority to execute these plans in collaboration with staff from the respective executing agencies. The chief operating officers would for project consolidating purposes respond to an executive director in the Ministry of the Environment. The PCT would have the following functions: (i) elaborate annual operating plans and ensure their execution once approved; (ii) elaborate semestral monitoring reports with approved annual operating plans as reference; (iii) elaborate and propose modifications to project manuals and guidelines; (iv) coordinate execution of approved procurement plans; (v) arrange for the contracting of the external auditors of the project; (vi) ensure compliance with agreed norms and procedures specified in the Loan Agreement; and (vii) interact with the World Bank regarding all project related themes, including the preparation and presentation of reports and no-objection requests and the coordination of all supervision missions.

Procurement

The Ministry of the Environment and the Ministry of Water and Forests would be responsible for procurement concerning their respective Project components with assistance from the PCT.

Accounting, Financial Reporting and Auditing Arrangements

The Ministry of the Environment and the Ministry of Water and Forests would be responsible for all financial management aspects of the Project with assistance from the PCT. During the project preparation process a financial management assessment would be conducted in accordance with OP/BP 10.02 and Financial Management Sector Board Guidelines in order to:

- i) determine whether these entities have acceptable financial management arrangements (accounting and budgeting systems, internal controls, reporting and auditing);
- ii) define the required support to the Ministry of the Environment and the Ministry of Water and Forests to effectively assume all required financial management functions.

Based on this assessment an action plan would be agreed that would bring the financial management capacity of the Ministry of the Environment and the Ministry of Water and Forests in line with Bank requirements.

Monitoring and Evaluation

Operational responsibility of monitoring and evaluation arrangements of project activities would be delegated to the the Executing Agencies. The National Environment Office would be responsible to integrate M&E results at the EP3 program level and differentiate according to financing source. For this purpose, a M&E system would be developed as part of the project preparation process with available PHRD resources.

7. Sustainability

EP2 has made a start in moving towards financial and environmental sustainability. Park entrance revenues, although still modest in absolute terms, have shown steady growth and are increasingly important for ANGAP as well as communities located in buffer zones of protected areas. As far as environmental sustainability is concerned, there is emerging evidence that environmental degradation in areas covered by EP2 is notably slower than elsewhere. According to the most recent figures provided by Conservation International, with input from NASA satellite imagery, the area under natural forests in 2000 was 8.7 million ha or 9.3% less than in 1990. Deforestation in national parks (1.9%) was however significantly lower than in ordinary forest reserves (12.9%).

EP3 aims to accelerate and broaden the move towards financial sustainability through the following measures. First, a trust fund, to be managed by the Madagascar Protected Areas Foundation, would be established which would provide assured and long-term financing for protected areas in Madagascar. The Foundation is expected to lead to mobilization of substantial funding necessary to gradually cover the core costs of the to-be-expanded protected area network and its expansion, selected projects in support zones, and the sustainable development of priority ecological corridors. It is proposed that the "Madagascar Protected Areas Foundation", be established as a foundation under the Malagasy Foundation Law N 95-028. Establishment of the Foundation is currently being implemented by a Trust Fund Steering Committee (TFSC) appointed by the Minister of Environment and composed of nongovernmental members serving in an individual capacity and representing expertise in different sectors, including conservation, banking, private sector, legal and nonprofit management. Second, revenues from the tourist sector are also considered an important source of sustainable financing. In this context, it is

envisaged that under EP3, ANGAP would develop and implement a marketing and business plan aimed at the diversified international tourism industry. Third, the Ministry of Water and Forests (MEF) aims to complete restructuring of the concession fee system under which most of the revenues would be channeled to communities, thereby providing greater incentives for collection of concession fees. Fourth, the National Office of the Environment would implement a strategy for higher cost recovery of its environmental impact assessment review fund. Fifth, the development of new sustainable financing mechanisms would be explored under EP3, covering, among other, the potential of green taxes, carbon sequestration, bioprospecting rights, non-wood forest products.

It is recognized that the prospect to effectively put sustainable financing mechanisms for the environment in place depends strongly on EP3's ability: (i) to generate success on the ground; (ii) to address existing governance problems; and (iii) to communicate its results and achievements to relevant stakeholders and the general public. It is expected that EP3's emphasis on participatory implementation mechanisms and community empowerment, its aim to put in place an improved M&E system, its intent to address governance issues in the forestry sector heads-on, and its support for environmental education and dissemination of environmental information, would generate an enabling environment to achieve sustainability.

Replicability: As a last phase in a highly innovative model of programmatic assistance to national environmental sectors, the project would be in a position to draw useful lessons learnt for other countries in Africa and elsewhere. The emphasis on commercially oriented management systems would make the sustainable natural resource management models qualify also as rural development activities, thus facilitating mainstreaming by governments, private sector and civil society. Strong partnerships with other donors and with rural development programs (such as PSDR) will be developed to ensure that the models developed are readily and widely replicated in Madagascar.

8. Lessons learned from past operations in the country/sector Streamlined Program Approach. Under EP1 the implementation of the NEAP had taken the form of a number of separate donor-driven projects without obvious linkages between each other. EP2 instead was largely based on the proposals developed initially by the implementing agencies (AGEX) of EP1, on a multi-donor appraisal and negotiations process, and on the establishment of a donor coordination mechanism in the form of a Multi-Donor Secretariat. The key mechanisms of the program were: (i) an annual consolidated programming and budgeting process, through periodic multi-donor meetings; and (ii) a consolidated monitoring and evaluation system. In retrospect, the system had the benefit of promoting close collaboration between AGEX and between donors, but also proved overly time consuming, as well as ill-adapted to the way of working of bilateral donors. A possible solution to this problem could have been to structure EP3 according to the more recently established Rural Development Action Plan (PADR). The PADR is a reference framework, which permits grouping of different interventions that share a common focus and common intervention principles. However, it lacks an explicit coordination mechanism that would enable linking the contribution of different interventions to explicitly defined program results and outcomes. In light of this, EP3

would continue to be based on a program approach, but aims to take lessons learned into account by: (i) replacing the programming and budgeting model of EP2 by a much lighter and qualitative annual planning and coordination exercise; and (ii) designing a result-based monitoring and evaluation system and organize information flows to capture the outputs and outcomes of the various projects that together will make up EP3.

Improved Coordination with other Programs. In order to better integrate the environmental program with the country's overall development and for the sake of pursuing environmental mainstreaming, EP3 would seek to enhance coordination with other programs, in particular with the large Bank-funded rural development operation (PSDR), but also with similar programs or projects in the areas of rural roads (PST), rural infrastructure (FID), energy, mining and tourism. At national level, it has been agreed to seek formal agreements with such operations, starting with PSDR. The agreements would cover five domains: (i) division of responsibilities: this could be based on the type of activity (e.g. regarding energy, EP3 would deal with fuelwood, charcoal and the like, while rural electrification should be left to the Energy program) on or the geographical location (EP3 has identified priority areas of intervention corresponding to some of the key objectives); (ii) complementarity: when several operations deal with the same activity (e.g. supporting the formulation of Communal Development Plans), they should make sure that their coverage will complement each other; (iii) synergy: crop intensification in an area might decrease pressure on a nearby Park; (iv) duplication: avoiding having several major operations undertaking very similar activities in support of the same beneficiaries; and (v) conflict management: e.g. credit versus grant, varying levels of beneficiary participation.

Emphasis on Performance-based Implementation Mechanisms. The EP2 has been implemented by the environment agencies established by the program (ONE, the National Environment Office; ANGAP, the National Association for the Management of Protected Areas; and ANAE, the National Association for Environmental Action) and by ministry departments (Water and Forests, Land Registration) and other public agencies (FTM, the Geographic Institute; CFSIGE, a training institute), under the coordination of ONE and the overseeing of the Environment Ministry. During the restructuring of 2001, the number of AGEX has been reduced from seven to four (ONE, ANGAP, ANAE and the Water and Forests Department), the others becoming service contractors, and ONE has been re-structured to focus it on its core functions, while the ONE staff that used to implement some EP2 components have left ONE to create a NGO called SAGE (Environment Management Support Service). Based on the lessons of EP2 and the call for more flexibility and for the participation of more agencies, it is envisioned that EP3 would be implemented by a larger number of entities (AGEX, local governments, communities, NGOs, service providers, etc.) under a system of performance-based or result-based contracts. In line with this, efforts would be launched to ensure the establishment of a comprehensive M&E system as part of the EP3 preparation process for which PHRD financing is available.

9. Environment Aspects (including any public consultation)

Issues : Being a stand-alone environmental operation, the project, like EP2, is specifically geared towards achieving a positive

impact on the environment compared to the without situation, as reflected in the stated development objectives.

Protected Areas Management. The project would actively pursue the conservation of natural habitats under the proposed protected areas component. There are no major environmental issues anticipated. Field activities are small scale, involving the construction of guard posts, small buildings and trails in protected areas. There may be impacts from induced activities related to tourism development in buffer zones. Sustainable economic activities planned within buffer zones (e.g. agro-ecological production, sustainable harvesting of non-timber products, bioprospecting activities, etc.) may also generate minor impacts. The issue of modifying protected areas' boundaries for the sake of improving the representativeness of the system in terms of ecosystems coverage as proposed under the project would trigger OP4.04 concerning Natural Habitats.

Forest Ecosystems Management. As far as the forest ecosystems management component is concerned, the project is considered exclusively environmentally protective in that it seeks the conservation and sustainable management of natural forests with the active participation of communities through among other the transfer of management rights under GELOSE/GCF contracts. The latter is expected to induce expansion of village and community-based plantation efforts and the rehabilitation of woodlands. The project aims at bringing logging activities under strict forest management rules, full law enforcement, transparent procedures and active participation of local populations. The project would not directly or indirectly stimulate, promote, encourage or finance activities leading to increased levels of logging in Madagascar. The project would actively work to stop all commercial forest use activities that are conducted outside the framework of approved forest management plans.

10. Contact Point:

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Note: This is information on an evolving project. Certain components may not be necessarily included in the final project.

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