

FINAL PROJECT COMPLETION REPORT

I. BASIC DATA

Organization Name: The Peregrine Fund

Project Title: Madagascar Community-Based Wetlands Conservation Project

II. OPENING REMARKS

Provide any opening remarks that may assist in the review of this report.

Based on the Malagasy governmental decree #96/025, established on September 30th, 1996, the two associations have a 3-year probationary period to prove they can manage their renewable natural resources. Upon approval by the Malagasy government, the associations will be given a 10 years to continue with their resource management and renewable again. The two associations FIZAMI and FIFAMA have completed their 3-year probationary period, which ends this month. They have had 3 successful years and are in the process of receiving a 10-year management period. For the next 10 years, the Associations will: (1) continue community awareness talks, (2) develop environmental education within the local communities, (3) plan to develop eco-tourism, (4) establishing a peripheral zone for traditional resource use (this is required by the Department of Water and Forest, and (5) develop educational and health benefits in the local communities with funds derived from resource activities.

In September 2004, the Liz Claiborne and Art Ortenberg Foundation conducted an evaluation of The Peregrine Fund's Madagascar Fish Eagle and community-based wetlands conservation project. The evaluator gave The Peregrine Fund's project very positive remarks on their accomplishments in a difficult area to work in, and where resources were disappearing rapidly. The Claiborne and Ortenberg evaluator was astounded on how we were able to do work with the associations and assist them in their success of controlling their natural resources.

III. ACHIEVEMENT OF PROJECT PURPOSE

***Project Purpose:** Enter project purpose from the Logical Framework worksheet of the approved project proposal.*

Planned vs. Actual Performance

Indicator	Planned	Actual at Completion
Purpose-level: To ensure the conservation and wise use of wetland biodiversity through local community-based action and management.		

<p><i>Control fishing rates at (or below) maximum sustainable yields.</i></p>	<p><u><i>Fish catch data provided by fisherman was used to determine if fishing rates are at or below maximum sustainable yields.</i></u></p>	<p>The fishing season for the FIZAMI association, Befotoka and Soamalipo Lakes, was opened on June 8th, 2004. For the FIFAMA association, the death of "keeper of the lakes" (<i>Tompondrano</i>) at Ankerika Lake, the fish season was postponed until an opening of August 6th, 2004. At Befotoka and Soamalipo Lakes, 254 fishermen obtained fishing permits and Ankerika Lake, 81 fishermen were registered by September 2004.</p>
<p><i>Control tree cutting and firewood use at (or below) maximum sustainable yields.</i></p>	<p><u><i>Annually measure the impact of wood collecting in replicated fixed plots and count the number of permits for collection of tree greater than 10 centimeters diameter-at-breast height (dbh).</i></u></p>	<p>Data derived from fishermen impact surveys are conducted four times a year. For this season, the final wood harvesting survey was conducted during September 2004. This survey recorded the number of wood used at the five camps on Befotoka/Soamalipo Lakes documented wood use as 902 to 4,550 for hut construction, 288 to 3,649 for fish drying racks and 215 to 826 for firewood. The maximum use for the 5 camps took place in Soavala: 3,150 woods for huts, 3,649 for drying racks and 826 for firewoods. On Ankerika Lake, at the 3 designated camps, the number of wood utilized for hut construction was 420 to 1,980, 184 to 840 for fish drying racks, and 42 to 285 for firewood. Harvesting rates, in the 3 camps was higher at Ankilimaro where 1,980 pieces of wood were used for hut construction, 840 for fish drying racks, and 285 for firewood.</p>
<p><i>Ensure community associations FIZAMI and FIFAMA function adequately to be sustainable and to control fishing and forest use and biodiversity protection.</i></p>	<p><u><i>Assist and support FIZAMI and FIFAMA to control their resources in the management zone which will conserve biodiversity.</i></u></p>	<p>The traditional rules and by-laws are reinforced by the national legislation of the GELOSE policy. The traditional way is good for conservation of biodiversity and resource management. The sustainability of the lake and forest resources is based on the collaboration of The Peregrine and the Associations had is supported by the involvement of the local authorities (Villages elders, Mayors), technical services (Bekopaka, Antsalova and Maintirano foresters) and services of security (e.g. Bekopaka military police).</p>
<p><i>Ensure the local Madagascar Fish Eagle population remains stable at 10 pairs and mean annual productivity is at stable or increasing population levels.</i></p>	<p><u><i>Conduct surveys during the fish eagle breeding season to monitor number of territorial pairs and their productivity.</i></u></p>	<p>The Madagascar Fish Eagle population around the lakes is monitored during the breeding season. Three surveys were conducted during the breeding and fishing season. Each territory and nest was visited in June, August, and October. For the last 3 years, on the three lakes, fish eagle pairs have numbered 12 in 2002, 11 in 2003, and 11 in 2004.</p>

Describe the success of the project in terms of achieving its intended impact objective and performance indicators.

The project has been very successful in achieving its objects and performance indicators.

Opening fishing season was celebrated according to the traditional style and time. Fishermen numbers did not exceed the agreed quotas, 250 for FIZAMI and 150 for FIFAMA. Supported by the local authorities, technical services (represented by the foresters), Public Security (e.g. Gendarme Agency in Bekopaka)

and The Peregrine Fund; The Associations dare to enforce their by-laws. The number of Madagascar Fish Eagle around the lake has remained stable at 29 individuals for the last 3 years.

Were there any unexpected impacts (positive or negative)?

Due to the death of the lake keeper (*Tompondrano*) in Ankerika, the opening fishing season, for this fishing campaign, was postponed in August 2004.

IV. PROJECT OUTPUTS

Project Outputs: Enter the project outputs from the Logical Framework for the project

Planned vs. Actual Performance

Indicator	Planned	Actual at Completion
Output 1: Fishing is limited to or below maximum sustainable yields.		
<i>Indicator 1.1 Maximum sustainable yields calculated for fish species found in lakes.</i>	<u>Annual report given to Ministry of Fisheries for determining harvest quota for next season.</u>	Harvesting quota set at 60-100 tons per fishing season and the majority of the fish species taken are: <i>Tilapia zillii</i> , <i>Glossogobius girius</i> , <i>Megalops cyprinoides</i> , <i>Oreochromis macrochir</i> , <i>Oreochromis mossambicus</i> , and <i>Ophicephalus striatus</i> .
<i>Indicator 1.2 Number of fish caught annually limited and enforced.</i>	<u>Fish catch recorded and tallied daily. Established at 60 to 100 tons.</u>	Fish yields for Befotaka/Soamalipo Lakes and Ankerika lake were: 139.5 and 14.5 tons in 2002; 57 and 22 tons in 2003; and 59.5 and 4 tons in 2004, respectively.
<i>Indicator 1.3 Minimum fish size established and enforced.</i>	<u>Net size limited to minimum width and verified at each fisherman's camp.</u>	Fish size restricted to a minimum size of three-finger width or larger gill nets. Is strictly monitored and controlled. Strictly controlled. Last September, during the resource patrol conducted by the FIZAMI Association, the Masoarivo Mayor Assistant, the Ambalamanga village elders and The Peregrine Fund, at Befotaka Lake, one fishing net one-finger mesh size was discovered being used. All fish harvested by the fishermen with this illegal net (or anyone using unmarked canoes) was confiscated and later sold by the Association. The money received from this illegal fishing activity was added to the Association's bank account.
<i>Indicator 1.4 Length of fishing season limited.</i>	<u>Fishing season (determined by tompondranos "keeper-of-the-lakes" and supported by the two associations (generally, it runs from June-December).</u>	Set annually by Tompondrano. Normally, the opening fishing season (loandrano) starts in June and extends to the end of November.
<i>Indicator 1.5 Number of fishermen allowed to fish limited (to local community)</i>	<u>Fishermen controlled by number of permits given by the associations. Certain number allowed at each designated fishing camp.</u>	Limited to 250 on Befotaka/Soamalipo Lakes and 150 on Ankerika Lake. In 2002, 208 and 48 were present; in 2003, 290 and 35; and in 2004, 254 and 81 were allowed to fish. No non-residents were allowed to fish in 2004.

<p>Indicator 1.6 Fishing permits and fish re-selling permits required, being sold and enforcement occurring.</p>	<p><u>Every fisherman and fish buyer require permits to participate in the fisheries program. The number of permits is limited and enforced at each fishing camp.</u></p>	<p>All fishermen and fish buyers must obtain fishing and selling permits prior to the start of the fishing season. The Peregrine Fund assist the Associations and local Communes in collecting permits and helps in preparing a list of all fishing and selling participants. All harvested fish that will be re-sold out of The Antsalova District will be taxed heavily by the Associations</p>
<p>Output 2: Natural regeneration rates of utilized species calculated based on prior studies.</p>		
<p>Indicator 2.1 Natural regeneration rates of utilized species calculated based on prior studies.</p>	<p><u>The associations will be educated on regeneration rates and will monitor forest control plots.</u></p>	<p>Based on study conducted by The Bemaraha Program in the Tsimembo Forest, the density and phenology of important tree species utilized for fishing activities and camps were documented. This season the density of regenerated trees (DBH<10 cm) varied from 0 to 315/ha; 0 to 35/ha for young trees (10<DBH<30 cm); and 0 to 92/ha for harvestable plants (DBH>30 cm). Apart from several plants with permanent leaves and some other exceptionally species, most trees and plants had a leafing period from October to July and a fruiting from November to May.</p>
<p>Indicator 2.2 Harvesting rate established and enforced by FIZAMI and FIFAMA.</p>	<p><u>The association monitor harvesting rates and enforce them at each camp.</u></p>	<p>Selecting the sites for designated camps has allowed the associations to monitor the impacts on forest resources, and has also helped in establishing nursery tree seedling transplanting sites. The native tree <i>Comiphora</i> sp. was planted in openings and clearings around the lakes. There were 1,214 seedlings planted in 2004. Another fast growing tree species in the Bombacaceae family, was also planted in the peripheral zones and areas that were damaged by high water during two consecutive hurricanes that passed through this region during the Malagasy summer (January to March).</p>
<p>Indicator 2.3 Rates limited for species, number and size of trees annually cut for firewood, and dugout canoes and camp construction.</p>	<p><u>Tree harvest recorded for each tree species utilized and amount of wood collected at each camp.</u></p>	<p>Each tree harvested is recorded by species, length, and DBH at each camp and this information is used to set harvesting quotas. In 2004, a total of 40 trees species were used for construction of huts, earthen houses, fish drying racks, and for firewood. Three species (<i>Cedrolopsis</i> sp., <i>Grewia</i> sp. and <i>Dalbergia</i> sp.), were the most commonly used species. The trees DBH varied from 1.5-20 cm for huts, 1-17 cm for earthen houses, 1.7-9.5 cm for drying racks and 4-20.6 cm for firewood. Length of used species run from 0.7-6.6 cm. Earthen houses required longest trees. In Ankerika, 28 trees species were harvested. <i>Cedrolopsis</i> sp., <i>Grewia</i> sp. and <i>Diospyros tropophylla</i> are the species commonly used in Ankerika. The DBH of harvested wood run from 1.7-6.1 cm for huts, 2.5-6 cm for drying racks and 3.6-25 cm for firewoods. For both lakes, Andranobe and Ankerika,</p>

		Gyrocarpus americanus and Givotia stipuflora are commonly used for canoe construction. Canoe construction required a tree size about 37-50.6 cm DBH and 4.3-6 cm length. Earthen houses will be excluded from the record as most of the used woods are built into the wall.
<i>Indicator 2.4 Distance of tree harvesting from lakeshore limited or harvest areas designated away from lake's edge.</i>	<u>Lake shore periphery described and established as a no harvest zone. Designated harvesting areas established and marked.</u>	Established at 200 meters and beyond. Most wood harvesting occurs 300 meters from the lakeshore.
<i>Indicator 2.5 Placement of fisherman camps restricted to specific sites.</i>	<u>Fishing camps marked and designated.</u>	Five fisherman camps have been designated on Befotaka and Soamalipo Lakes and 3 camps on Ankerika Lake. The camps are strictly controlled by The Associations in collaboration with The Peregrine Fund, the Maintirano and Antsalova Forestry Agencies, Gendarmes at Bekopaka, Communes and Fonkotany (village elders).
Output 3: Tree species used by Madagascar Fish Eagles are cut selectively to leave trees of size suitable for nesting within 100 m of the lakes' edge and for perching along the lakeshore.		
<i>Indicator 3.1 Madagascar Fish Eagle nest and foraging perch tree species identified.</i>	<u>Fish eagle nesting trees and foraging perch trees established and marked.</u>	In 2004, 6 tree species were used for nesting. Of 34 recorded perch trees used for foraging, only 4 were not identified.
<i>Indicator 3.2 Rules developed by FIZAMI and FIFAMA that allow suitable nest trees to be left within suitable distance of lake shore.</i>	<u>Rules posted at camps.</u>	All designated fishing camps were establish 300 meters and beyond from all fish eagle nesting sites near water. Other fish eagle nests inland were well away from designated camps.
<i>Indicator 3.3 Rules implemented, enforced and results monitored</i>	<u>Rules posted, and associations police and monitor them at camps.</u>	Disturbing nesting fish eagles is not allowed. In September 2004, an illegal fishermen camp was located at Bekofoky (south of Ankerika Lake), and later was removed by the association due to the disturbance it caused to one nesting pair of fish eagles.
Output 4: Community Natural Resource Management Associations (FIZAMI and FIFAMA) function sustainably and able to control resource use and biodiversity conservation indefinitely.		
<i>Indicator 4.1 Internal organization established and enforced to ensure sustainability (eg. operating rules or by-laws).</i>	<u>Operating rules and by-laws written and on file.</u>	The association's management zone is reinforced by the national GELOSE legislation, and all rules and policies pertaining to GELOSE are strictly enforced by the military police at Bekopaka. Any person not abiding by the rules and by-laws and depending on the severity of the case will be punished.
<i>Indicator 4.2 Permitting enforced, including among association members (monitoring fish catch, fish sales, number of camps, number of fires, number of</i>	<u>Enforcement group formed and actively verifying permits.</u>	Under The Associations' authorization and their resource permitting process, the harvesting system for fish and wood is strictly controlled. For 2004, money obtained from the permits was 10,403,000 MGF for FIZAMI Association

<i>fishermen, and number of fish buyers).</i>		and 2,135,409 MGF for FIFAMA. Part of FIZAMI's money, 3,000,000 MGF, was used to buy the rice surplus to be re-sold to Association members with at a low interest rate (2,500 MGF per tin can), during the rice shortage period in Madagascar, normally January to April.
<i>Indicator 4.3 Monitoring of resources (fish, trees, fish eagles) in place and ongoing.</i>	<u>Monitoring program data collected and report written.</u>	An important end of the fishing season meeting will be organized by The Associations with all stakeholders participating: The Peregrine Fund and local authorities (village elders, mayors and Antsalova deputy). This meeting will be to improve the monitoring strategies for the next fishing season.
Output 5: Madagascar Fish Eagle breeding population on lakes stable, and productivity at levels consistent with stable or increasing population.		
<i>Indicator 5.1 Number of fish eagle pairs around 10.</i>	<u>Annual report written on number of fish eagle pairs at the lakes.</u>	In 2002, 12 pairs present and 8 attempted nesting; in 2003, there were 11 pairs present and 8 attempted nesting; and in 2004, 11 pairs were present and 11 attempted nesting. In 2004, of the 11 territorial pairs were made up of 29 individual eagles on the three lakes. Of these 11 territorial pairs, 7 contain 3 individuals, 2 males and one female each and the other 4 pairs were one female and one male each.
<i>Indicator 5.2 Productivity at or above 0.5 young/pair/year.</i>	<u>Annual report written on productivity of fish eagles at the lakes.</u>	Productivity of fish eagles was: 0.6 young (7/12) in 2002, 0.6 young (7/11) in 2003, and 0.7 young (8/11) in 2004.

Describe the success of the project in terms of delivering the intended outputs.

The project is controlling the fisheries resources at the intended harvest quota between 60-100 tons on the three lakes. This is being done by controlling the number of permitted fishermen, removing illegal fishermen, making fishermen operate from designated camps at a set distance from nesting fish eagles, marking dugout canoes on the lakes to specific camps, enforcing fishing regulations (e.g. fishing methods) and giving infractions for failure to abide by the rules and laws, recording daily catches, establishing a fishing period, and controlling forest resource use at the camps and in the designated GELOSE zone. All these activities are contributing to using the resources in a sustainable manner.

Were any outputs unrealized? If so, how has this affected the overall impact of the project?

This season several cyclone-caused floods affected the region, killing the transplanted fast growing tree species (e.g. in the Bombacaceae family) in the GELOSE peripheral zone. Most locals and stakeholders did not understand the importance of the reforestation program and the purpose of planting native trees species. It is important to continue informing the local population why a tree nursery and its transplanting practices should be embraced by all groups working with the GELOSE process.

V. SAFEGUARD POLICY ASSESSMENTS

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

Project did not require any actions toward environmental and social safeguard policies.

VI. LESSONS LEARNED FROM THE PROJECT

Describe any lessons learned during the various phases of the project. Consider lessons both for future projects, as well as for CEPF's future performance.

During each period of the GELOSE process, the Associations resource management skills and actions are continuing to improve. Supported by The Peregrine Fund, and in collaboration with other organizations and interested parties, the Associations are becoming more active and effective in their roles. Basically, they are enforcing their by-laws with more confidence and legal support. The local authorities of the Communes and Fokontany (village elders) are becoming more involved in the conservation movement and sustainable management of their local resources.

Project Design Process: (aspects of the project design that contributed to its success/failure)

The density of rare (e.g. *Hazomalania voyronii*) and valuable tree species (e.g. *Dalbergia* sp.) within GELOSE management zone should be studied in greater detail.

Project Execution: (aspects of the project execution that contributed to its success/failure)

Tree species density and forest dynamic study should be conducted in the GELOSE management zones.

VII. ADDITIONAL COMMENTS AND RECOMMENDATIONS

RAMSAR International organization provided funds to the two Associations to build an office in Ankirangato for FIZAMI and another one in Bejea for FIFAMA. The World Wide Fund for Nature (WWF) organization expressed their satisfaction in the Associations ability to move forward in their wetland GELOSE process and for this WWF provided certificate Gift to Earth certificates to each association. An important meeting will take place at the end of this year's fishing season. This meeting will focus on harmonizing the two Communes in management of their wetlands and forest resources. The GELOSE process should continue providing conservation awareness to all concerned organizations and groups (local community, administration and authority) and continue with the good collaboration of all these groups, too.

Public and environmental education is needed to develop and strengthen the two neighboring Communes of Masoarivo and Trangahy.

Native rare fish species such as *Ptychocromus oliganthus* and *Paretroplus* sp. need to be studied and possibly protected.

VIII. INFORMATION SHARING

CEPF aims to increase sharing of experiences, lessons learned and results among our grant recipients and the wider conservation and donor communities. One way we do this is by making the text of final

project completion reports available on our Web site, www.cepf.net, and by marketing these reports in our newsletter and other communications. Please indicate whether you would agree to publicly sharing your final project report with others in this way.

Yes _____

No _____

If yes, please also complete the following:

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