

I. BASIC DATA

Organization Name : Man And The Environment

Project Title : Sustainable Biodiversity Conservation At the Vohimana Rainforest Through Local Populations and Private Sector Implication

Project Dates: August 15, 2002 - August 15, 2004

Date of Final Project Completion Report: October 2004

II. OPENING REMARKS

The Vohimana project has been launched because there was an emergency for the conservation of a biodiversity hot spot. This part of Madagascar's most interesting rain forest is small but confirmed to host a wide variety of species - even of mammals - and appeared to be the best key to keep a forest corridor link south of the Mantadia National Park.

Because socio-cultural context was very difficult, the approach chosen ;

- addressing a minimum of the local population needs,
- give a private sector opportunity perspective,
- emphasizing the Regional and National Authorities strict position on deforestation

was probably the only one viable.

It has been great to get the support of the CEPF team for the project design and during its implementation.

The Man And The Environment team is proud of what has been achieved and hope that the results of the project will serve more sustainable conservation approaches and to ensure more possibility for small key zones conservation.

III. ACHIEVEMENT OF THE PROJECT PURPOSE

The purpose of the project was to offer local communities alternative sources of revenues to *Tavy* (slash-and-burn-based farming), and private sector opportunities to end primary forest clearing.

The project was based on the assumption that the private sector activities can increase the value of the forest and thus, provide incentives for local farmers to contribute to the conservation while excluding other use of their forest. It targeted mainly the local people in a community that makes a living based on destructive activities such as hunting and forest cleaning (tavy).

The project identified income generating activities linked to the sustainable use of the natural resources as well as market for the products. These have been essential oil production, medicinal plant production, ecotourism, but also sustainable agriculture production.

Forest clearing has been stopped as well as lemur hunting on the zone.

The project has achieved the needed expected output of having a respected management plan of the zone including a strict natural protection zone and development zones.

Local participation has been growing during the project and is still at it's the closure of the CEPF because of the sustainable income generating activities approach adopted.

The link of the income-generating activities to environmental management has been clear to local stakeholders. Their growing dynamic participation appeared however clearly linked on a first step to incomes.

Therefore it appears that restricting rules of sustainable use of natural resources as well as authorities control support have been a key factor to the success of the project.

The need to find alternatives to the incomes that were generated by slash and burn destructive farming activities confirmed to be a key. In this sense the project may have underestimated the need to tackle agriculture as well as income generating activities and the time needed for private sector implication and products promotion.

Land security has been launched on site under the zoning management purpose and appeared a key factor to motivate local population.

At last, but not least, project evaluation shows that if great results have been achieved, the need of a long term approach is confirmed, leading also to the confirmation that if NGO input is needed the partnership with the private sector makes with no doubt interventions more viable.

Key performance indicators have been confirmed;

1) 0 ha of forest transformed by Tavy between year 2 and year 3 of the project;
Achieved on the intervention zone but - to be noted – the project requested support of the regional authorities to conduct controls.

2) Communities stop hunting lemurs;
Achieved, sustainability of this might be linked to ecotourism and the designed long term student presence on site.

3) Local people invest 10% of their revenues from essential oil production and eco-tourism employment in sustainable development activities;
Achieved through a design of incomes generating activities considering sustainable use rules and benefit investment in development.

IV. PROJECT OUTPUTS

INDICATOR	ACTUAL AT COMPLETION
<p>Project Output 1 Creation of an information database on biodiversity and socio-economic factors that supports sustainable natural resource management.</p>	
<p>Output 1: Indicator 1 Topographic study conducted by Sept. 2002 (including microclimate, soil, access to water, irrigation for forestry etc.)</p>	<p>An aerial photograph, showing the geomorphic specificities of the region was obtained in May 2003. Topographic characteristics documented in floristic inventory report. This study has allowed to define a zoning in areas for conservation purposes and to define a strategy for agriculture purposes depending on the topographic and soil composition characteristics.</p>
<p>Output 1: Indicator 2 Wildlife survey conducted by end of Sept. 2002 (including an evaluation of the state of biodiversity and habitat conservation)</p>	<p>Wildlife survey allowed to identify 11 species of lemurs, 48 species of amphibians (for sure more present), 25 species of reptiles, 50 species of bird (for sure more present). If biodiversity of the Vohimana forest is still especially high, the states of habitat varies a lot in the area going from almost pristine to totally degraded. A mapping of the degraded land has been conducted.</p>
<p>Output 1: Indicator 3 A socio-economic and cultural study conducted by Sept. 2002 [including links between the natural habitat and the communities, local attitudes, beliefs, threat analyses (including impact of potential interventions and identification of marginalized groups at risk), and health issues.]</p>	<p>Human populations have been identified. A bit less than 200 persons in isolated locations, 69 in the little village of Andasifahadimy, key area of the northern corridor and around 600 persons along the National road between the villages of Ambavaniasy, Ambatosenegaly, Amalonabe and Anevoka. All are of the Betsimisaraka tribe and have more or less family links. Before the start of the project almost all of them were relying on slash and burn agriculture and on illegal logging not aware of any threat to the forest. Some good willing people have been identified their number increasing over the two years of the project. Finding urgent agriculture and incomes generating alternatives appeared crucial for the viability of the project looking at local populations implication. Health situation appeared to be very bad and a main concern of the local populations. A medical doctor has been hired to coordinate field activities which improved a bit the positive perception of the project activities.</p>

<p>Output 1: Indicator 4 Natural resource inventory identifying the potential species and plants of economic interest conducted by November 2002 (see 4.3)</p>	<p>134 medicinal plants have been identified in Vohimana, including characteristics, ecosystem, chemical components and use. Two of them are currently exported and one has previously been exported. One of two exported plants appeared to have populations too limited for commercial collection the other one to be possibly collected in large quantities. Black mushroom and honey appeared interesting potential commercial products, as well as some wild growing fruits like goyava. Large fresh water shrimps have been identified in some rivers but they might not be present in quantities large enough. Aromatic plant able to produce essential oils have also been identified although <i>Ravensara aromatica</i> with an existing market which was expected to be present has not been found. Exotic plantations (Eucalyptus) along some parts of the natural forest have been identified of important economic potential.</p>
<p>Output 1: Indicator 5 Ecotourism assessment including attraction inventory, analysis of potential markets and demand, analysis of local capacity and resident attitudes and an eco-tourism implementation strategy conducted by December 2002 (see 5.3)</p>	<p>The environment of the Vohimana forest present great sightseeing. Some are easily accessible and some are further in the forest. Agriculture development, tree nurseries medicinal plant trails and women making handicraft have been identified as interesting attractions. Training of local and site managers appeared to be possible but to request important training. Residents were very doubtful about ecotourism development and its interest but attitude started to change at the end of the project. The strategy adopted has been to give time to training and to target small scale groups interested in the discovery of nature but also its relation to human activities .</p>
<p>Output 1: Indicator 6 Marketing study on potential species (especially plants) in Vohimana Forest conducted by December 2002.</p>	<p>Market has been found for <i>Centella asiatica</i>. A cosmetic company has been contacted and has accepted to work on the development of products with yet untraded plants from Vohimana. The potential of the honey has been studied and the production development characteristics identified. Two companies interested in essential oil from fallow has also been identified and have selected products.</p>
<p>Output 1: Indicator 7 Data input procedures developed and database operational by Sept. 2002.</p>	<p>Two data base have been designed. One is on natural resources including biologic data analyses to ensure non risk sustainable use potential and the other one on socio economic aspects to evaluate long term project impact.</p>

Project Output 2

Local capacity needs identified, and capacity strengthened.

Output 2: Indicator 1

Planning workshop attended by community representatives (at least 10) and MATE, conducted at Vohimana by Sept. 2002 (to introduce project, to determine local coordinator, to identify local capacity needs in terms of training, materials, to set foundation for community management plan addressing an improved and sustainable agricultural production).

A big 1-day workshop was held on January 10th 2003. 138 community representatives were present.

Training in bee farming provided in December 2003. Associative management has been identified to be a potential factor of success for the long term local management and different association has been supported (ecosystem management, agriculture, women handicraft, agriculture, etc).

Output 2: Indicator 2

Training (1 week) of local people (at least 10) in productive sustainable agronomic practices and environmental awareness completed twice (December 2002 and March 2003).

A first training of 39 local people (mostly farmers, male and female) on sustainable agronomic practices has been carried out in 2003. Some trained farmers have express their interest in promoting what they have learned and sustainable agriculture promotion is ongoing.

Output 2: Indicator 3

Training (1 week) to local and regional authorities (at least 4) in conservation and implementation of natural resource management provided twice (December 2002 and March 2003).

Project coordinator conducted many training session and achieved concrete functioning of an association for the management of the zone to promote development activities within the limits of the conservation areas. Meetings have also been held with regional authorities for them to understand the management plan and to support it in front of local authorities.

Output 2: Indicator 4

Communities provided with materials and other supplies. First tranche by September 2002, second by December 2002, third by September 2003 (including technical and in kind assistance for agriculture development, tree nursery and reforestation program, fertilizer, equipment, seeds, plants).

39 households provided with all the materials, the supplies and the technical assistance listed under this output. 1000 trees of Ravinstara, 700 rosemary plants provided to individuals, tephrosia seeds, given to them as well (December 12th 2003).

Project Output 3

Local stakeholders have tools to manage their resources.

Output 3: Indicator 1

Management Plan developed in collaboration with local community representatives (at least 10) and local and regional authorities (at least 3) in a participatory 2-3 day workshop by end of September 2002 (focusing on agricultural development and natural resource conservation and defining targets of achievement, clarifying roles and responsibilities of various stakeholders).

A management plan has been approved by the Management committee. Its responsibilities includes to ensure the sustainability of the agriculture inputs. Members of all the villages have been included in the management committee.

<p>Output 3: Indicator 2 The area under management defined into zones (e.g. for forest conservation, forest rehabilitation, income generating crops, subsistence crops and other areas) by November 2002.</p>	<p>The Management plan shows such zones clearly at a 1/5000 scale and less when needed.</p>
<p>Output 3: Indicator 3 A local agreement on the zoning reached and formal agreement signed between MATE and the local population (clearly outlining the objectives and a form of global responsibility of the group to respect the zoning and to take measures against members who might not respect the zoning) by March 2003.</p>	<p>A mapping at 1/5000 has been done allowing to see clearly the forest zone to be protected even when isolated from the main forest block. The management committee went on the field with the regional authorities to delimitate a potential corridor on already farmed land and had the local people to acknowledge the zoning.</p>
<p>Project Output 4 Development and implementation of a private sector program to commercialize natural products.</p>	
<p>Output 4: Indicator 1 Planning workshop (including discussion on sustainable production and promotion strategy for essential oils, identification of local coordinator, clarifying roles and responsibilities of various stakeholders, definition of targets of achievement for next 2 years, definition of TOR for nature resource inventory) attended by local community representatives (at least 10), private sector representatives (at least 2) carried out at Vohimana by September 2002 .</p>	<p>The plant expected to allow an immediate production of essential oils appeared not to be present. New plants with a market potential have however been found. After a promotion period, an association system has been set up to ensure professional production and to leave the added value left for health promotion. Indeed the private sector agreed to pay the price of a finished product and local communities to get the price of the raw material, leaving the added value for the association needs to promote health.</p>
<p>Output 4: Indicator 2 Training (at least 20 participants) on leaf collection, distillation and maintenance conducted at Anala or surrounding forest by September 2002.</p>	<p>Training of a local team for distillation has been conducted, as well as local people training for leave collection, and production has been initiated.</p>
<p>Output 4: Indicator 3 Natural resource inventory identifying the potential species and plants of economic interest conducted by November 2002 (see 1.4).</p>	<p>Report available (see 1.4).</p>
<p>Output 4: Indicator 4 Marketing study on potential species and plants of economic interest conducted in Vohimana by December 2002 (see 1.6).</p>	<p>Report available (see 1.6).</p>
<p>Output 4: Indicator 5 Set up of distillation plant by communities at Anala or surrounding forest by November 2002.</p>	<p>A distillation plant has been set up close to the ecotourism center. An access has been designed for leave collectors and at the same time tourist can visit the distillation unit.</p>

<p>Output 4: Indicator 6 60 litres of essential oils produced with a frequency of every 5 months by June 2003.</p> <p>Output 4: Indicator 7 A presentation of the products of the area to the national and international market presented by private agent by March 2004.</p>	<p>The wildlife survey showed that the plant expected to allowed an immediate market existing essential oils was not present. I therefore took much more time and efforts to promote essential oils native from the area.</p> <p>A “<i>Centella asiatica</i> from the region” promotion program has been launch with Rutgers University in November 2003. A presentation of a medicinal plant with cosmetic potential properties (<i>Siesbeckia orientalis</i>) has been done in Paris in December 2003 to the Yves Rocher company generating their interest and the start of a research program. Different essential oils from the area have been promoted in France through a private French company (Bio Mada) and put on sales (<i>Helichrysum gymnocephalum</i>, <i>Russ tarantana</i>, <i>Aframomum augustifolium</i>, etc.). A scientific paper has been published by a professional of aromatherapy on an oil from the area (<i>Helichrysum gymnocephalum</i>) (Pr Penoël) and a paper has been published with a Rutgers University team on essential oil from trees planted on the zone.</p>
<p>Output 4: Indicator 8 A monitoring system set up between the private sector and the local communities to ensure sustainability of the activities in favor of the environment and an evaluation of the socio-economic and cultural impact, starting September 2002 (see 6.2).</p>	<p>An “access” data base has been design allowing a socio economic evaluation of the impact of the new activities on the local inhabitants.</p>
<p>Output 4: Indicator 9 Periodic assistance by project team and private sector undertaken (see 6.3).</p>	<p>The involvement of researchers team (CIRAD, University and student from over seas) which has been set up will allow a more in depth follow up and long term analyses of the program.</p>
<p>Project Output 5 Development and implementation of private sector program for ecotourism.</p>	
<p>Output 5: Indicator 1 Planning workshop conducted in November 2002, attended by local community representatives (at least 10), and private sector representatives (at least 2).</p>	<p>Done.</p>

<p>Output 5: Indicator 2 Training of local stakeholders (at least 10) on tour guiding, administration and management, cooking, sanitation and maintenance of infrastructure by January 2003.</p>	<p>5 full time guides stay on site; a guides chief (Olivier), a senior plant specialist (Lesabotsy), a senior animal specialist (Rakoto) and two junior guides (Isabelle and Bernard). They carried out in June 2004 a training session of a group of 11 young persons from the area to prepare future guides. 1 person (Stana) is taking care of the maintenance and a woman has been trained for cooking and house maintenance (Meltine).</p>
<p>Output 5: Indicator 3 Ecotourism assessment including attraction inventory, analysis of potential markets and demand, analysis of local capacity and resident attitudes and an eco-tourism implementation strategy by December 2002.</p>	<p>Completed 4 reports available.</p>
<p>Output 5: Indicator 4 Commitment rules for eco-tourism agencies identified and documented (including a participation in the Indri population follow-up surveys, rules on respecting the environment, clarification of agencies role in the protection of the environment etc.) by February 2003.</p>	<p>Such rules and procedure are documented and displayed on site. A monitoring system has been design with tourists input although more work is needed.</p>
<p>Output 5: Indicator 5 Processing of training materials and information material (including development and edition training materials for guides (manuals, brochures and maps for tourists) by January 2003.</p>	<p>Such visual materials were designed, printed and distributed.</p>
<p>Output 5: Indicator 6 Set up of eco-tourism infrastructure by communities by May 2003.</p>	<p>3 basic small size bungalows are available for visitors like students to stay. A large bungalow used as an information center is also available as well as 3 bungalows to welcome tourists. A kitchen is available for cooking.</p>
<p>Output 5: Indicator 7 Site selection (based on zoning survey) undertaken and botanical garden established by March 2003.</p>	<p>One botanical garden can be visited close to the visitors site with tags on the plans and a manual of identification and information. An other medicinal plant garden has been designed more orientated toward conservation of threatened plants and research. It can also be visited by visitors.</p>
<p>Output 5: Indicator 8 At least 20 travel agencies contacted, presented to the project and invited to the site by June 2003; at least 3 agencies integrate one of the sites into their program by September 2003.</p>	<p>50 representatives of the travel industry invited to a presentation workshop on December 18 2003. Local hotels were also visited. Two companies (Cortez Travel and Ilay Tours) have now the destination in their catalogue. The Hillary Brat guide is also now presenting the site.</p>
<p>Project Output 6 Monitoring and evaluation system for project implementation in place.</p>	

<p>Output 6: Indicator 1 Financial and administrative system developed and in place by August 2002.</p>	<p>An administrative system has been set up first and afterward been reviewed; accounting set up under a “quick books” software and a Procedure Manual designed.</p>
<p>Output 6: Indicator 2 Project monitoring system developed and set up by September 2002 (allowing systematic measuring of project targets based management plan and con formity with project output indicators).</p>	<p>Done.</p>
<p>Output 6: Indicator 3 Frequent supervision carried out (at least once every two months) and reporting system in place by September 2002 (including distribution of semi-annual reports on project progress, mid-term evaluation and final impact evaluation shared with local authorities and communities, private sector representatives and CEPF).</p>	<p>Done. A final CEPF report meeting has been organized on October 18 th.</p>
<p>Output 6: Indicator 4 Training on project management and administration for field staff by September 2002.</p>	<p>On site training has been also been carried out for each association on accounting and project management.</p>
<p>Output 6: Indicator 5 A framework of successful development interventions prepared and discussed at a seminar organized with various government agencies, local and international organizations and NGOs, local community representatives and public sector representatives by December 2004 in Antananarivo.</p> <p>Output 6: Indicator 6 Water and Forest officers intervention discussed and facilitated (including identification of i) areas under most pressure and ii) trail to facilitate supervision of the environment) by December 2002 and controls by Water and Forest officers undertaken every four months during project implementation.</p>	<p>A first meeting has been conducted with researcher and the head of the rural development department of the French Embassy. They agreed to support a more agriculture orientated project on the site in the context of needed positive environmental impact. The Minister of the Environment has been met and invited to come on site for a final analyze of the project results. He expressed his interest in coming and a meeting should occur before the end of the year.</p> <p>Intervention on the trail appeared not needed or useful by water and forest officer but more effort have been requested by the department on illegal logging and proved to be effective. Slash and burn agriculture has been totally banned. Great results on this aspect has been heard during the CEPF closure meeting. Indeed one person willing to carry on slash and burn agriculture complained that in other zones of the area the restriction measures about fire where not as effective as on this site.</p>
<p>Output 6: Indicator 7 Hunting pressure follow up surveys conducted, and monitoring tools and measures needed to address unsustainable or illegal hunting agreed with local leaders by January 2003.</p>	<p>No more lemur traps have been found on site.</p>

Output 6: Indicator 8

An Indri population survey conducted by November 2002 and follow up surveys undertaken regularly.

A foreign student training program has been set up and advertised on the MATE web site (www.mate.mg). This allows permanent presence of student doing wildlife follow-up.

V. SAFEGUARD POLICY ASSESSMENTS

The main risk of the activities implementations of the project have been identified as potential social unexpected reactions. Indeed the implementation of the conservation activities have resulted in main changes in local populations habits.

The support of the regional administrative authorities (Regional authorities and Ministry of the Environment, Water and Forest Departments) has been a great help to ensure the respect of the conservation measures.

It has been seen necessary to launch an agriculture support program to balance the restrictions to destroy natural habitat for agriculture purposes.

A social data base evaluation system has been set up to keep an understanding of the social-cultural evolution within the project's future.

VI. LESSONS LEARNT FROM THE PROJECT

Project Design Process :

Project design took a bit more time than expected but input of CI and CEPF people has been very helpful. Management need for the project team has been underestimated and some input from the NGO itself has been needed. This will have to be considered for future project proposals. Trust of the CEPF team on an innovative approach has proven to be justified and they should be granted for this.

Although the project has been very successful and achieved its outputs, if the NGO would not stay on site to coordinate private sector and local populations the project success might not last so well. Longer term intervention consideration might be important for the future.

Establishment of the office :

Accounting system with the NGO was weak and had to be revised during project implementation. This proved to request a lot of energy. Support from another national NGO (Fanamby) which had already been supported by CEPF appeared extremely useful to set up the new accounting system. More communication of experiences between NGOs involved in the CEPF will probably prove to be very helpful.

Fundraising :

A good accounting system is part of what allowed to convince another donor for more orientated development approach also needed. CEPF staff also informed the NGO staff of other opportunities (GCF and Verde Venture) and this appeared to be very interesting to ensure the sustainability of future intervention.

Monitoring and evaluation of CI/CEPF projects :

Field visits of CEPF staff has been very useful as well as their quick response to requirements by mail.

VII. ADDITIONAL COMMENTS AND RECOMMENDATIONS

The general overall long-term goal pursued by MATE is to induce positive behavioral change in favor of sustainable environmental conservation through the promotion of development activities by local communities and the private sector.

Some of the private enterprises which became partners on the site as well as the local association for ecotourism might need more support as it has been requested to them to work either on new product (longer to develop market) or for the ecotourism on a new destination. A support of a Verde Venture type might be appropriate but less than \$US 100.000 would be needed.

Tish being said the outputs of the CEPF project on the Vohimana forest are definitely contributing to the large goal to ensure the conservation of the natural ecosystem of the Eastern Corridor between Mantadia, Perinet, Vohimana and the Southern forest.

Corridor project between parks and reserves have to be integrated on general plans including many partners. However possible rapid intervention of GCF or CEPF linked to the efficiency of specific experienced national NGO should bring to think that taking actions on the field can help future large development plan.

The intervention of Man And The Environment during this project has been restricted to the Vohimana forest. It would for sure be efficient in terms of biodiversity conservation and future corridor regeneration intervention to see Man And The Environment;

- 1- extending its actions on the corridor zone south of Mantadia which is not under the immediate jurisdiction of the National Association for the Management of Protected Areas (directly or through the support other local associations);
- 2- take a leadership in promoting partnership with local associations and the private sector including ecotourisme development in the whole area of Andasibe – Analamazotra – Mantadia – Maromisa – Ambato until Vohidrazana and east Ambato.

Hopefully CEPF or CI could support such project.

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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