

Madagascar
Landscape
Development
Interventions



Semi Annual Report

LDI Regular Activities

July 2001 - December 2001

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Relevant to

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1. Liste des Entreprises Favorables à l'Environnement appuyées par LDI
2. Liste des Partenaires de LDI

ACRONYMS

AUE	Association des Usagers de l'eau (Water Users Association)
AUP	Association des Usagers des Pistes (Road Users Association)
AGERAS	Appui à la Gestion Régionalisée et à l'Approche Spatiale
AGEX	Agence d'Execution
ANAE	Association Nationale pour les Actions Environnementales
ANGAP	Association Nationale pour la Gestion des Aires Protégées
AQUALMA	Aquaculture de Mahajamba
ATS	Association Tefy Saina
BEST	Bureau d'Expertise Sociale et de Diffusion Technique
BRF	Bois Rameaux Fragmenté
BTM	Bankin'Ny Tantsaha Mpamokatra
BOA	Bank of Africa
CAF	Cellule d'Appui Forestier
CANFOR	Cantonnement Forestier
CANFORET	Forest Service Cantonment
CAP	Commercial Agricultural Promotion
CDC	Comité de Développement Communal
CDD	Departmental Development Committee
CCEE	Centre Culturel pour l'Education à l'Environnement
CCV	Centres Culturels Villageois
CDIA	Centre de Diffusion pour l'Intensification Agricole
CE	Conservation Enterprises
CEIF	Conservation Enterprises Investment Funds
CEM	Caisse d'Epargne de Madagascar
CGS	Community Granary Storage
CIIFAD	Cornell International Institute for Food, Agriculture and Development
CIIFOR	Cornell International Institute for Forestry
CIM	Centre d'Interpretation de Moramanga
CIRAGRI	Circonscription de l'Agriculture
CIREL	Circonscription de l'Elevage
CIREF	Circonscription des Eaux et Forêts
CIRPECH	Circonscription de la Pêche et des Ressources Halieutiques
CITE	Centre d'Information Technique et Economique
CJPM	Comité Jean Pain Madagascar
CLB	Comité Local de Base
COFIL	Comité de Pilotage
CPSE	Comité de Planification et de Suivi & Evaluation
CPF	Counterpart Funds
COP	Chief of Party
CRD	Comité Régional de Développement
CTA	Cellule d'appui Technique (AGERAS)
DPV	Direction de la Protection des Végétaux
DIREF	Direction des Eaux et Forêts
EAM	Entreprendre à Madagascar
EASTA	Ecole d'Application des Sciences Techniques et Agricoles
ECOCERT	Entreprise de Certification Organique/biologique
EFE	Entreprises Favorables à l'environnement
EIA	Environmental Impact Assessment
EJ	Expert Junior
EP II	Environmental Program 2
ESSA	Ecole Supérieure des Sciences Agronomiques
ETN	Eco-Tourisme Nord
FENU	Fonds d'équipements des Nations Unies
FMG	Malagasy Francs
FCE	Fianarantsoa Cote Est Railroad
FID	Fonds d'intervention pour le Développement
FIEFE	Fonds d'investissement pour les entreprises favorables à l'environnement
FITIM	Filature et Tissage de Madagascar (Spinning and Weaving of Madagascar)
FOFIFA	Foibe Fikarohana ho amin'ny Fampandrosoana ny eny Ambanivohitra
GAIM	Groupement Agro-Industriel de Moramanga
GCRN	Gestion Communautaire des Ressources Naturelles
GCV	Greniers Communautaires Villageois (Community Grain Storage Facilities)
GELOSE	Gestion Locale Sécurisée
GIS	Geographic Information System
GPF	Gestion Participative des Forêts
GPS	Global Positioning System
GTDR	Grpoe de Travail pour le Développement Régional (PADR)
GR	Génir Rural

IPNR	Institut pour la Promotion Nationale de la Riziculture
IR	Intermediate Result
IRRI	International Rice Research Institute
ISC	Input Supply Centers
KH	Kolo Harena
LDI	Landscape Development Interventions
MARP	Méthode Accélérée de Recherche Participative
M&E	Monitoring & Evaluation
MEF	Ministère des Eaux et Forêts
MIRAY	Consortium PACT – Conservation International – WWF
MSC	Malagasy Seafood Company
NRM	Natural Resources Management
NGO	Non-Government Organization
ODAI	Opération de Développement Agricole Intégré
ODASE	Opération de Développement Agricole du Sud Est
ONE	Office National de l'Environnement
OTIV	Mutuelle d'Epargne et de Crédit
PACT	Private Agencies Collaborating Together
PCR	Plan de Communication Régional
PE1	Programme Environnemental #1
PDRAB	Projet de Développement Régional d'Ambato Boeni
PPIM	Programme Pilote Intégrée de Mahajanga
PLAE	Programme de Lutte Anti-Erosive
PMF	Participatory Forest Management
PNLCP	Programme National de Lutte Contre la Pauvreté
POLFOR	Politique Forestière
PRA	Participatory Rural Appraisal
PRB	Projet Rizicole de Betsiboka
RFPD	Regional Forestry Plan Director
RN	Route Nationale
RRA	Rapid Rural Appraisal
RS	Ressources Vertes
SAF/FJKM	Sampan'Asa Fampandrosoana de l'Eglise Protestante
SFR	Sécurisation Foncière Relative
SO3	Strategic Objective # 3
SR	Sub-Result
SRI/SRA	Système de riziculture Intensif/Système de riziculture amélioré
SZI	Strategic Zone of Intervention
WWF	World Wide Fund
YNC	Young Naturalist Clubs
ZSI	Zone(s) Stratégique(s) d'Intervention
ZIE	Ecotourism Investment Zones

1. Overview

The present report only covers LDI's regular activities, from July to December 2001. Separate reports on the Cyclone Recovery Program were submitted in September 2001 and December 2001.

Main results

During the last six months, we were able to successfully carry out planned activities and reach results beyond expectations in most cases:

- **Kolo Harena Associations.** The total number increased from 442 with 10,250 members in July 2001, to 575 associations with 15,300 members in December 2001, among which 382 were assisted through LDI's regular program. As the word gets around more people are coming to us asking for help in forming their own associations. Some associations are still being formed, while others are carrying out a full range of activities such as managing input supply centers and representing their members' interests to agribusinesses. Some associations are at the stage where they are starting to build financial sustainability by undertaking income-generating activities. In the future, we will expand Kolo Harena membership and provide extension services through a less costly, farmer-to-farmer approach. More than 150 "paysans vulgarisateurs" and "paysans animateurs" have already been trained to that end.
- **Yields.** The minimum increase was 30%, with yields ranging from 2,1 T/ha to 10,2 T/ha for rice and from 4,16 T/ha to 17.5 T/ha for off-season potatoes. Average revenues of sampled farmers increased by 38% compared to last year.
- **Community-based Natural Resources Management.** We have arranged the signing of two new GCF contracts covering 180 ha of wetlands in the Lac Alaotra region. So far, we have helped "Communautés de Base" (COBA) sign a total of seven contracts, covering 4,100 ha, in all three regions of intervention. We also continue to provide needed training and organizational support to COBA with the assistance of young foresters, students and "experts junior".
- **Eco-enterprises.** We have provided assistance to 15 new enterprises during the past six months. There are now 85 eco-enterprises supported by LDI; eight of them invested about \$1.2 million during last year. Three new loan applications, through the FIEFE mechanism, were presented to the banks, out of which one disbursement of \$86,000 was made in favor of an ecolodge in Antsiranana. Following our successful business trip to South Africa, we helped strengthen PRONABIO by recruiting a full time executive secretary for the association, arranging a contract with an agent in Durban to sell spices and essential oils in South Africa, and sending a group of six enterprises to participate in the Natural Product Expo in Washington DC, last October. We have also helped more farmers establish commercial relationships with buyers. In linking around 3000 farmers to agribusinesses, we create mutually beneficial and long lasting business relationships that generate new economic opportunities for rural communities. LDI is also having a much broader impact in terms of new investments by agribusinesses which have directly or indirectly benefited from our support. For instance, in the Mahajanga region, Aqualma is planting 6,000 ha of cashew trees with the assistance of two international experts provided by LDI, while a Swiss company is ready to invest \$13 million in a fruit processing plant that will export organic juices, with the support of the LDI team.
- **Reduction of slash and burn agriculture (tavy).** This point was studied in three test sites located in strategic zones of intervention, in the Fianarantsoa, Mahajanga and Moramanga regions. Through a participative methodology, combining GIS and field surveys, we were able to show that of the 21 new tavy sites inventoried between 1998 and 2001, not a single site could be attributed to Kolo Harena members.



Arabica coffee nursery in Ambatovy Moramanga

Factors considered during the evaluation	Fianarantsoa	Mahajanga	Moramanga
Number of Kolo Harena farmers surveyed	30		
Number of non – Kolo Harena farmers surveyed	18		
Number of new tavy sites between 1998-2001	7	6	8
Number of Kolo Harena farmers implicated in the practice of tavy at the new sites	0	0	0

Kolo Harena farmers no longer practice *tavy* in test villages because:

- They are engaged in improved and multi-faceted production systems, and are motivated by an increase in revenues (38 percent), so they have less free time for other actions and are increasingly convinced that *tavy* is not the right choice.
- The application of *dinas* (or *bi-laws*) forbidding *tavy* and other destructive practices governs the members of the associations and limits their digressions.

The existence of participative forest management contracts (GCF) limits the granting of clear-cutting permits to people who don't belong to village associations.

Nevertheless, the impacts of reducing agricultural lands encroaching on priority ecosystems are still limited for two main reasons: (1) Kolo Harena farmers are still a minority in the ZSI, at less than 10 percent of the total population. (2) Farmers of the most disadvantaged social strata are often excluded from Kolo Harena associations, although they represent a serious source of environmental degradation. Specific actions must be taken to address this issue.

The official report of pressure monitoring in test villages will come out in January 2002. The next step will be to expand the methodology to include a much larger group of farmers, at the ZSI level. The work in the field will begin in July 2002.

- **Improved management and privatization of FCE.** We are pleased to report that remarkable progress has been achieved under that component of LDI, during the last six months:
 - Following intense training of FCE's administrative staff and installation of a new software package for payrolls, inventory and sales, the southern railway had a positive cash flow for the first time in many years.
 - The privatization process was officially launched by the Ministry of Transport in December 2001, with the support of the Ministry of Privatization. The Government and donors, particularly the World Bank, adopted the strategy of "mise en concession croisée" for FCE and the port of Manakara proposed by LDI, which will ensure a better technical and financial integration of both companies, without delaying the privatization of the southern railroad.
 - A major study on the Fianarantsoa regional transport and a cost benefit analysis of the port of Manakara have been completed and lead to a series of key conclusions: it is definitely cheaper to export commodities from the eastern side of the corridor by rail and sea, via Toamasina. It is also cheaper to import petroleum products in Fianarantsoa using the same transportation modes. As far as the port of Manakara is concerned, the LDI team, composed of foreign and national experts, recommended to rehabilitate existing facilities, in a first phase, in order to protect investments, improve work conditions and assure adequate supply of petroleum products to the region. In the future, the port could be containerized either by creating a deep-water port allowing passages of freighters or by building a breakwater to create a sheltered anchorage inside the reef. Further technical and environmental studies will be necessary to determine what would be the best option.
 - On October 15, 2001, LDI and FCER organized a donor roundtable, under the auspices of the Ministry of Transport, to present the master plan for FCE rehabilitation and the strategy for its privatization, as well as the main conclusions of the regional Transport Study. This official meeting, attended by all major donors, was a great



Donors roundtable on FCE rehabilitation and the strategy for its privatization

success and resulted in the full endorsement of both, the master plan and the privatization strategy, by the World Bank and other donors. In the following weeks, the World Bank, in particular, committed not only to provide most of the financing for FCE rehabilitation, but also to fund all consultancies and studies related to the “mise en concession” of the southern railroad.

LDI Success stories

Fianarantsoa

Miarinarivo Integrated Approach

The Miarinarivo Strategic Zone of Intervention represents the attainment of integration between the different LDI program components. Standing on a hillside at the mouth of the Miarinarivo valley, the president of the Kolo Harena Federation can point with considerable pride to how LDI has worked with the community to put in place a new community forest management regime (GCF) to protect the headwaters of the valley against the expansion of *tavy*. This forest block is contiguous with another block placed under a GELOSE contract by the WWF Andringitra project and a third block now subject to a temporary suspension of a logging permit.

Within the 1300 hectares primary forest of this part of the corridor, LDI has used cyclone recovery funds to rehabilitate 4 small dams that capture and channel water down into the valley. This has opened up 690 hectares of land to irrigated double cropping for 248 families. Down in this valley, LDI technical agents and the AIDE NGO provide training to 421 Kolo Harena farmers in SRI/SRA rice cultivation, rice-fish production, and dry season potato growing. Yields have been impressive: 4.3 tons of rice per ha and 18 tons of potatoes per ha. The Kolo Harena have set up 25 village granaries to house the surplus rice production and sell it when the prices rise. The newly construction agricultural supply center sells equipment, fertilizers, and seeds to the community. While the 45-kilometer road from the market town of Ambalavao to Miarinarivo is in horrible condition, LDI successfully lobbied the World Bank Program Transport Sector to finance the rehabilitation of the road from Ambalavao to Mahazony next year.

USAID counterpart fund will be used to finance the remaining part of the road from Mahazony to Anarafolaka following a technical study financed by the ReCAP project. Once the road is opened, new opportunities for market led agricultural expansion will be set up by the LDI conservation enterprise and marketing staff.

Sendrisoa Potatoes

The Kolo Harena of the neighboring Sendrisoa Strategic Zone of Intervention are situated primarily along the Ambalavao – Namoly road rehabilitated by the CAP project and repaired in part through USAID Cyclone Recovery Funds. This dry season the Kolo Harena produced for a second year a crop of 10 metric tons of potatoes. This is five times the production attained the first year. Hoping to sell this surplus at a good profit, the Kolo Harena organized with LDI a visit to what were thought



The Kolo Harena delivered on a weekly basis a ton of potatoes to Ambalavao wholesalers and generated 3.35 million FMG of cash revenues

would be promising markets in Ihosy, Ranohira, Ilakaka, Sakaraha, and Tuléar. To everyone's surprise, it was found that these markets are saturated with potatoes from Antsirabe. Confronted with this discouraging prospect, the Kolo Harena decided to conquer the local market of Ambalavao. The Kolo Harena organized a joint storage system for their potatoes and with technical assistance from LDI agents on how to cold store potatoes beyond the normal selling season, the Kolo Harena delivered a ton of potatoes to Ambalavao wholesalers on a weekly basis. Sixty-seven percent of the crop was sold this way to generate 3.35 million FMG cash for the Kolo Harena farmers. The remaining potatoes are being consumed by day laborers hired by the Kolo Harena to cultivate rice fields and invest in tanety rehabilitation. While this initiative is small compared to the 41 tons of potatoes produced in the Strategic Zone of Intervention of Alatsinainy-lalamarina (sold for 28 million FMG), it nevertheless represents the

first success of the Sendrisoa Kolo Harena to penetrate a market through a collaborative effort among highly individualistic farmers.

Mahajanga

The federations of Mahajanga take action

Regarding the sustainability of actions initiated by the LDI Program in the region of Mahajanga during these last two and a half years of intervention, 68 Kolo Harena associations have been created, made official and been regrouped into five federations in the five ZSI.

Prior to the closing of the Mahajanga office, 25 members of these five federations were trained in associative management, following a management plan, agricultural mechanization and the management of input supply centers.

Currently the federations of Tsarahasina and Amboromaika support the CLB in putting into action the recommendations made in the Forest Management Plans, notably in regard to those activities for the protection and conservation of the Anosimijoro forest. To do this, it has been noted that the members of the CLB, who were before charcoal makers, have completely abandoned this type of activity and have dedicated themselves to agricultural production activities. Despite fires started by neighboring villages on Kolo Harena peanut plantations, the federations of Tsarahasina and Amboromaika have educated the population to use firebreaks to protect undamaged plantations. They are also engaged in making complaints to the Mahajanga II and Port-Bergé II police barracks and in creating a committee, which will collaborate closely with the forest services to periodically monitor the forest.

In addition, despite the destruction of most of the peanut plantations by bush fire, the plants were able to re-sprout. The Amboromaika CLB was able to manage 4 ha of peanuts and to create a eucalyptus plantation.

The five agricultural input and supply centers have also been transferred to the federations. Representatives of the federations have already started to educate local villagers on the products and services available at the centers. The startup phase is on the right track.

Moramanga

The transfer of marshland management in Lake Alaotra

A big step was made in the process of transfer of responsibility in the Lake Alaotra zone by involving village communities in the management of identified marshland perimeters.

The efforts were multidirectional, but the resulting achievement was the finalization of two signed contracts transferring the management of 180 ha of marshlands to 80 members of the community. Any praise of the LDI team should be shared with the authorities of the autonomous province of Toamasina, the personnel of CIREF Ambatondrazaka (in the realm of the four-party convention), the authorities of the commune and sub-prefect, the concerned COBA, and the population living adjacent to the concerned perimeters.

The importance of the role and impact of the marshlands in the regional ecosystem, particularly the lake, depends upon the survival of all the local populations and the environment. The ambition will be to



Putting together the convention for the transfer of management of the agricultural input and supply center in Amboromaika to the Federation "FITARATRA"



transfer the management of all the marshland perimeters surrounding the lake to the concerned community, to guarantee the promotion of the regional economy.

Summary of LDI 2001-2002 targets

Summary of LDI 2001-2002 targets are shown in the table below:

Indicators 2001-2002	LDI Quantified Objectives	Accomplishments July – December 2001	Notes on the Indicator
Activity Level			
Agricultural Intensification <ul style="list-style-type: none"> - increase in production - increase in revenue - allocate credit 	<ul style="list-style-type: none"> - 10-20% - 10-20% - \$120,759 of which \$ 40,378 is new. 	<ul style="list-style-type: none"> - min 30%, max 321%¹ - 38% on average - \$13,350 	<p>The minimum and maximum production in tons/ha follow the available data : rice = 2.1 and 10.2 ; corn = 0.85 and 1.5 ; beans = 0.4 and 2.2 ; off-season potatoes = 4.6 and 17.5.</p> <p>Credit : The off-season credit in the three regions will be effective only after May 2002 and the seasonal credit in Mahajanga during January – February 2002</p>
Environmental Education <ul style="list-style-type: none"> - carry out EE&C activities which target the Kolo Harena - carry out evaluations of the activities 	<ul style="list-style-type: none"> - 6 activities - 1 evaluation per ZSI 	<ul style="list-style-type: none"> - 6 activities - underway 	<p>The posters on ginger culture and the GCF are finalized. The Kolo Harena journal is in its second number. Other activities like the spreading of technical themes (health-environment activities, alternatives to tavy, credit, improved stoves) on the regional radios and RAA were also followed in discussions between Kolo Harena members.</p> <p>Mahajanga completed a pre-evaluation in each ZSI, Moramanga will finalize the evaluation in April 2002.</p>
Community Management of Natural Resources <ul style="list-style-type: none"> - number of contracts drawn up - number of villages concerned in the community conservation - number of villages concerned in the sustainable use of natural resources - implemented of signed contracts 	<ul style="list-style-type: none"> - 5 contracts - 60 villages - 340 villages - 5 contracts 	<ul style="list-style-type: none"> - 2 signed contracts - 72 villages - 324 villages - 5 contrats 	<p>2 contracts to manage 180 ha of zetra by 385 members of COBA were signed in July 2001 in Lake Alaotra.</p> <p>A total of 4099 ha of forest and zetra are managed by a community composed of 1028 members.</p> <p>The five contracts signed in 2000/2001 being executed following the “cahiers de charge” and COBA are supported by the forestry technicians, trainees and junior experts.</p>
Promotion of EFE <ul style="list-style-type: none"> - number of EFE supported by LDI - total investments by supported EFE - expenditure of FIEFE funds - establishment of commercial relations between EFE and Kolo Harena 	<ul style="list-style-type: none"> - 60 EFE - \$360,000 - \$152,440 - 2,260 farmers 	<ul style="list-style-type: none"> - 85 EFE - 8 EFE invested \$1,250,000 - \$86,200 - 2980 paysans 	<p>The number of EFE which received or are receiving LDI support is 85 of which 42 are getting active support. The rest benefited from market information research or participated in information round tables, for example.</p> <p>The application of the Nature Lodge in Antsiranana is the 3rd application to benefit \$86,200 from the FIEFE for which the cumulative of the disbursement is \$154,200.</p> <p>The areas concerned are the sale of potatoes, honey, oranges, carp, ginger, cinnamon, BRF, onions, rice and dried fruits.</p>
Capacity Building <ul style="list-style-type: none"> - Create Kolo Harena associations - Work with members of Kolo Harena associations - establish a system of farmer-to-farmer educators - Number of Federations of Kolo Harena associations reinforced with capacity-building activities 	<ul style="list-style-type: none"> - 500 associations - 12,000 members - 140 village animators - 11 junior experts 	<ul style="list-style-type: none"> - 575 associations - 15,300 members - 169 farmer trainers and animators - 12 junior experts 	<p>The Kolo Harena associations are divided in :</p> <ul style="list-style-type: none"> - 382 KH for 6852 members financed by regular funds - 171 KH and 22 AUE/KH for 8448 members financed by cyclone funds <p>These are farmers selected by their pair, each farmer trainer is trained in a specific technical theme and expected to reproduce and train the Kolo Harena members. The village animators educate the members in socio-organization.</p> <p>These Junior Experts reinforce the capacity of the federations in relations with technical, financial and commercial partners.</p>

¹ The increase in production and revenue is based on figures collected in the “cahiers de ménages

Sub-level Outcomes			
<p>Reduce the expansion of agricultural land in the priority ecosystems</p> <ul style="list-style-type: none"> - monitor the evolution of pressures in the ZSI 	<p>4 pilot sites: Andohanisoa, Ranomena, Ambalavero and Belalitra</p>	<p>No Kolo Harena members in the studies pilot zones are practicing tavy anymore.</p>	<p>The report on the monitoring of pressures in the test villages is available at the LDI level.</p>
<p>Increase incentives for sustainable use of natural resource</p> <ul style="list-style-type: none"> - inventory EFE transgressions in the LDI regions - evolution of turnover of the supported EFE - Number of created job opportunities 		<ul style="list-style-type: none"> - 17 EFE - data is being collected - 2172 jobs created 	<p>There were no quantifiable objectives given that show the results of LDI support in promoting the EFE. Those 17 are EFE that came into existence in the LDI regions without the support of LDI. These are : Madakoho, FIMPIMO-gemo, assoc amis 2 lacs, gaim, Volasoa, label CBD, Tsara Aromatika, Soalandy, koperativa MLA, Plantation Lamahoana, Plantation Beando, Biosave-trimeta, MENDRI, Eleveur SA-ICS, Ranomanitra, Ecubioprocess and Pronabio.</p>
<p>Reinforce the capacity of Kolo Harenas to undertake sustainable practices</p> <ul style="list-style-type: none"> - number of people using the technique package - number of Kolo Harena members who participate in conservation and development activities 	<ul style="list-style-type: none"> - 50% - 20% 	<ul style="list-style-type: none"> - 3309 farmers, or 48% - 3927 farmers, or 57% 	
Intermediate Results			
<p>Sustainable Use of Natural Resources</p> <ul style="list-style-type: none"> - incidence of tavy - incidence of fire - incidence of charcoal production 		<p>An extension of the study of pressures and the ZSI level will be started this year.</p>	

2. Antananarivo office

2.1 Activity components

2.1.1 Agricultural Intensification

The last six months' results are summarized here:

Kolo Harena Farmers

575 Kolo Harena associations with a total of 15,300 members were supported by LDI. The support of these Kolo Harena in the area of agricultural intensification is aimed at encouraging them to use more effective and sustainable agricultural techniques, which will both help them improve their standard of living and protect their natural resources. The July to December activities were oriented towards the laying a foundation for sustainability of extension work after the end of the LDI program.

Division of the Kolo Harena by region and by financing	Fianarantsoa				Mahajanga				Moramanga				Total			
	# ass.	H	F	Total	# ass.	H	F	Total	# ass.	H	F	Total	# ass.	H	F	Total
Kolo Harena Regular Funds	240	2,192	715	2,907	64	799	209	1,008	70	1235	674	1,909	374	4,226	1,598	5,824
Kolo Harena COBA	1			523	4			120	3			385	8			1,028
Kolo Harena FRC	14			1,777					179			6,671	193			8,448
Total	255			5,207	68			1,128	252			8,965	575			15,300

Agricultural production

Yield increases varied from 30% to 61%, according to monitoring in the regions. Note that the following results relate to the harvest that was unfinished for the 3 regions before June 2001.

Evolution of agricultural production in t/ha (campaign 2000/2001)	Fianarantsoa		Mahajanga		Moramanga	
	Min.	Max.	Min.	Max.	Min.	Max.
Rice	2.10	10.20	1.06	3.80	0.95	3.75
Corn	0.85	1.50	0.40	2.50	0.75	3
Manioc	2.26	6.2	4.20	6.50		
Bean	0.36	0.75			0.5	0.6
Ginger					2.5	10
Potatoes	4.16*	17.5			1.5	10.5
Onions					3.10	

* This is an off-season yields.



SRA techniques yield a minimum of 2,10 tons/ha

Adoption of agricultural techniques

On average, 45% of the members (or 3,309 farmers) adopted the improved agricultural techniques proposed by LDI. "Adopting" the improved agricultural techniques mean adopting at least 2-3 agricultural techniques in the entire package.

Criteria	Fianarantsoa	Mahajanga	Moramanga	Total
Number of farmers adopting improved techniques	1424, or 42%	366, or 32%	1262, or 55%	3309, or 45 %
Number of farmers participating in conservation and development activities	1740, or 51%	191, or 17%	1996, or 87 %	3927, or 57%

Rural credit

258 million FMG worth of credit for production was granted to 728 members during the 2000/2001 repayment rate on these loans was 66%. 29 million FMG was granted to 78 members for the 2001/2002 season, and 70 million FMG is currently being negotiated at the level of the financial partners for Fianarantsoa and Mahajanga. For Mahajanga, the credit operations at the level of the Kolo

Harena will continue with Entreprenre Madagascar, with the supervision and technical support of the NGO GREEN.

REGION	99/2000					2000/2001					2001/2002				
	TOT. GRANT.	TOT. REPAY.	Benef	RBT	%	TOT. GRANT.	TOT. REPAY.	Benef	RBT	%	TOT. GRANT.	TOT. REPAY.	Benef	RBT	%
FIA	14,237,075	2,190	57	14,237,075	100%	101,020,240	76,834,040	267	63,964,879	83%	10,669,700	1,956,000	46	114,100	6%
MOR	133,219,040	133,219,040	193	93,683,932	70%	114,642,300	114,642,300	235	51,771,144	45%	19,049,800		32		
MAH						42,391,250	42,391,250	226	38,683,128	91%					
TOTAL	147,456,115	133,221,230	250	107,921,007	81%	258,053,790	233,867,590	728	154,419,151	66%	29,719,500	1,956,000	78	114,100	6%

Note that credit during the 2001/2002 season for Fianarantsoa concerns the GCV granted in July 2001. The applications for credit to hire workers are still awaiting decision. The 2001/2002 season is not yet closed and awaits this year's off-season activity, which is when most farmers are interested in obtaining more revenue.

At the level of the input supply centers, credit was raised to 99 million FMG with a total reimbursement of 73% for the 2000/2001 season. 55 million FMG was granted for the 2001/2002 season.

The energy credit for the purchase of gas fatapera, which was developed in Mahajanga in collaboration with Entreprenre Madagascar, had 999 beneficiaries for a total of 100 million FMG worth of loans. The actual rate of reimbursement was 96%.

Farmers' Income

Farmers' income increased about 38% as shown in the table below:

Region	1998/1999	1999/2000	2000/2001
Fianarantsoa	2 147 500	2 407 000	3 472 000
Mahajanga	4 016 012	4 256 972	5 401 536
Moramanga	3 114 400	3 411 125	5 043 550
Total	3 092 637	3 358 365	4 639 028
		9%	38%

Farmer to Farmer Approach

The "Farmer to Farmer" style of training is one of the systems advocated to assure the sustainability of actions after the end of the LDI Program. The "*paysans vulgarisateurs*" or farmer trainers are chosen from the pilot farmers who have shown the best performance in their specialization and who are also judged capable of communicating with the KH. They are trained in the skills necessary to be a trainer, in pedagogy and communication.

Paysans Vulgarisateurs specialized in particular sectors (SRI/SRA rice, fish, honey, tenety rehabilitation) have been identified by the Kolo Harena for successful adoption of the LDI package of technical inputs

The farmer trainers will be remunerated by the beneficiaries and the Federation according to terms defined at the level of the Federation. At present, **169** *paysans vulgarisateurs* and *animateurs villageois* are operating, with 59 in Fianarantsoa, 42 in Moramanga and 68 in Mahajanga.

2.1.2 Community-based Natural Resources Management

The contracts for community-based forest management are fully established. The work managed by the local community is described in one part of the contract, which consolidates or complements the elements already in the GCF file. Another part identifies the parameters of the forest. As called for in the contract, the local community develops an annual work plan and forest exploitation plan.

The contracts signed to date are summarized in the following table:

Region	Type of natural resource	Surface area	Total number of base committee (COBA)	Date signed
Mahajanga	Primary forest	572 ha	20	14/12/00 27/06/01
		245 ha	21	
		922 ha	21	
		680 ha	58	

Fianarantsoa	Classified primary forest		1500 ha	523	30/06/01
Moramanga	Zetra (wet-land zones)	Andreba	80 ha	294	To be signed soon 20/05/01 15/05/01
		Ambohimiarina	100 ha	50	
		Belempona		41	
Total of signed contracts			4099 ha	1028	

This component received the support of forestry technicians from the Directions Régionales des Eaux et Forêts, two trainees and one junior expert in Fianarantsoa and Moramanga to strengthen local communities' capacity to manage natural resources, notably in helping local community members understand responsibilities of different actors, functions of the zones specified in the lot management plan, respect for the "cahiers de charge" and the development of work plans. Currently, four files are being developed.

Despite the interest of the DIREF and CIREF to work with LDI to implement these contracts, the technical services lack the manpower and transport to carry out their legally mandated work without significant contributions from LDI

Based on real-life experiences during the process of transferring management of forest resources, at least in matters concerning steps relative to preparation of the file, a first evaluation was carried out with recommendations for better organization of work in the future in order to assure the viability of community management. Economic and commercial aspects were the particular focus so that they would be understood within the local community.

2.1.3 Environmental Education and Communication

This semester, our team produced communication tools aimed at creating an understanding of LDI activities.

At the national level, **panneaux de réalisation** were produced for each of LDI's technical components, presenting LDI's 30 months of on-the-ground experience to private and public partners and the media.

At the local and regional level, LDI produced **posters** relating to:

- *Organic ginger*, in two, four-color, 40x60 cm sheets used to promote organic ginger production to the Kolo Harena to generate greater yields, thus higher profits, while protecting the environment.
- *Contractual forest management (GCF)* which is in the midst of conception and production.



Poster as a support to promote organic ginger cultivation

The edition of the «**Gazety Kolo Harena**» was published as usual with the active participation of Kolo Harena farmers in the three LDI regions. The second issue was released in October 2001. Among other topics, it included:

- the experiences of Kolo Harena farmers from Marosely Mahajanga in transferring forest management in Marosely Port Bergé to a local committee
- the experiences of farmers in Tsararano Mahajanga managing the input supply center
- the practice of beekeeping by Kolo Harena farmers in Ialamarina Fianarantsoa

It should be noted that the private sector is interested in the journal and have placed publicity inserts to make known their interest in buying agricultural products, medicinal and aromatic plants. This was the case with Homéopharma and Pronabio.

The first issue attracted the interest of non-Kolo Harena farmers, who asked for copies of the issue as well as further information. Feedback allowed us to improve future issues.

The **Radio Akon'Ambanivolo** in Beforona got going again on a better basis after training for the broadcasters and an explanation to the KH of a participative approach. The Federation Tongalaza of Beforona is taking over control of the radio little by little with the FITARA association, bringing it closer to autonomy and sustainability.

The agency that charged with developing a plan to expand the Kolo Harena movement finished collecting data in the field. The first draft will come out in January and will be discussed with the regional LDI team. This plan aims to publicize and promote the Kolo Harena at all levels (local, regional and national) in the hopes of increasing members, the sustainability of their associative structures, and activities in development and environmental preservation.

This component supported the Kolo Harena Federation Hanitriniala in Ambatovy Moramanga in the preparation of a fair that marked the first anniversary of the federation. It was an occasion for the federation to display its accomplishments and look forward to its next goals.

2.1.4 Promotion of Conservation Enterprises and FIEFE

- LDI helped PRONABIO association participates in the Grand Exposition on Natural Products in Washington, which took place October 11–14, 2001. Six companies represented the association: Homéopharma, Expam, Parapharma, Trimeta, Plantations de Mondésir and Label CBD. Members of PRONABIO who were not in attendance were also able to show their products. The results were very satisfactory, with firm orders for at least one container of products and the opening of a US office for one of the companies.
- In addition, an agency representing PRONABIO in South Africa was established. The agency signed a protocol agreement last October and began importing fruit. Orders for products coming from South Africa arrive at PRONABIO, which in turn forwards them to members. The technical secretariat, for which LDI has supplied a junior expert, plays an important role in this mechanism.



Malagasy stand during the Natural Product Expo in Washington

Support of Conservation Enterprises

Fourteen support requests for EFE support were received during the period. These include:

- Madakoho for ecologic ginger cultivation in Moramanga
- FIMPIMO-GEMO for technical assistance and training in livestock and agriculture biologique with LDI
- Association Amis 2 Lacs for touristic development plan in Manambato site
- GAIM in essential oil production in Moramanga
- Soalandy in sériciculture sector in Ambatovy
- Biosave for essential oil from clove leaves in Fénériver Est area
- Kaoperativa Mpiompilandy Lac Alaotra for silk production in Antanandava
- Plantations Lamahoana & Beando for business plan development and cultivation model in Moramanga
- L'éleveur SA for onion production in Ambatovy
- Fanalamanga for forestry exploitation in Moramanga
- Label CBD for ginger essential oil promotion in Moramanga
- Volasoa for clove essential oil in Fénériver Est
- Homéopharma for ecotouristic development in Ambila
- Ramanandraibe Export for fruit processing in Manakara.

We carried out 85 EFE support activities, including:

- Feasibility studies (25)
- Product promotion trips (2)
- Research (8)
- Environmental impact studies (3)
- APD irrigation system rehabilitation (1)
- Ecolodge architectural studies (3)
- Market studies (13)
- Financial support by FIEFE (24 requests received)

- Requests for junior expert support (3)

The list of enterprises supported by LDI is given in annex 1.

Investment Funds for Enterprises Favorable to the Environment (FIEFE)

In July 2001, the Nature Lodge ecotourism project in Antsiranana received \$86,200 in financing from FIEFE to finalize investments in materials and equipment of the ecolodge.

This makes three applications that have received FIEFE financing for a total of \$154,200, with:

- PhaelFLor, for the production of cinnamon essential oil in Brickaville, receiving \$28,000
- Les Plantation de Mondésir, for the production of essential oil from spices in Fenerive Est, receiving \$40,000

Two applications were introduced at the bank level, the first of which was revised following intervening changes in the enterprise:

- BIOSAVE with a request for \$38,560 (of which \$30,840 for FIEFE), to exploit clove essential oil in the region of Fénériver Est.
- EXOFRUIMAD, which has a factory for the production of natural fruit juice in Mahajanga, for a loan of \$31,750 (of which \$25,400 for FIEFE).

The following shows the 17 applications that LDI examined for an investment total of \$4,045,949. The total of requests for financing was raised to \$1,231,336 with \$985,069 for FIEFE (a level of 80%).

The table following FIEFE applications is found below:

TABLE MONITORING FIEFE FILES								
Name	Region	Admin Chan	Objective of the investments	Total of the project (kFmg)	Total of the request (kFmg)	Financial Est. partners	Date app. was submitted to Financial Establishment	Application's status
Phael Flor	MOR	HES	Acquisition of production equipment (distillers, warehouses...)	767,474	227,300	BNI-CLM	October 2000	Refinancing 181,840 kMGF in effect
Domaine Nature	FIA	ECO	Commence the installation, supervision and direction of the work	245,971	197,145	Investco, BNI	September 2000	Under consideration without follow-up at Investco and BNI-CLM
Mendri	MOR	ECO	Construction of buildings and acquisition of equipment	1,021,509	532,070	BMOI, BTM-BOA	October 2000 (BMOI) and January 2001 (BOA)	Application rejected by BMOI; currently under consideration by BTM-BOA
Camp Catta	FIA	ECO	Construction of buildings and acquisition of equipment	1,000,000	260,000	BTM-BOA	February 2001	Application under consideration at BOA
Vatomanga	MOR	IAA	Acquisition of equipment and production materials (irrigation, kilns...)	983,096	523,589	Investco, BNI-CLM	February 2001	Application rejected by BNI-CLM and Investco
Biosave	MOR	HES	First phase acquisition of production materials and equipment, warehouse	362,902	242,902	Investco, BTM-BOA	January 2001 (BOA) and February 2001 (Investco); resubmitted in December 2001	Application being revised for BOA
Ranomanitra	MOR	HES	Acquisition of production equipment and materials, plus initial BRF for a new method of exploiting geranium	531,000	285,000	FIARO, BOA	March 2001 (BOA and FIARO)	Application being considered at BOA and FIARO
Les plantations de mondésir	MOR	HES	Investments in production equipment and materials, plus initial BRF	1,401,500	325,000	INVESTCO	September 2000	Refinancing 260,000 kMGF in effect
Alasoa Ecotourisme	MOR	ECO	Construction of a restaurant	506,911	342,411	BNI-CLM, BTM-BOA	-	Application finalized for LDI, awaiting documents from the promoter
Le dama	MOR	HES, PMED	Investments in production equipment and materials, plus			Fiaro	-	Application being modified

			initial BRF	4,000,000	1,000,000			
Nature Lodge	DIE	ECO	Finalization of investments in materials and equipment for the eco-lodge	1,686,663	700,000	BNI-CLM		Refinancing 560,000 kMGF effected by BNI-CLM
Tsara Aromatika	MOR	HES	Extension of a geranium plantation in Alaotra	475,840	210,000	BTM-BOA	-	Application being modified
Cap du poivrier	MOR	POI	Extension of a pepper plantation	789,000	612,000	BTM-BOA	-	Application being modified
SPIC	MOR	FRU	Create a factory for processing litchis in Toamasina	7,123,440	1,000,000	Not determined	-	Application in "stand by"
Plant sun International	MOR	HES	Acquisition of production of materials and equipment	1,000,000	600,000	Not determined	-	Application not established due to the reaction of the promoter
Exofruimad	MAH	FRU	Creation of a factory to produce fruit juice	919,172	200,000	BOA	December 2001	Application being considered by BOA
Fontenay Resort	DIE	ECO	Creation of a deluxe ecotourism hotel	2,675,000	500,000	Not determined	-	Application being prepared
TOTAL (Fmg)				25,489,478	7,757,417			
TOTAL (USD 1 USD=6300 Fmg)				4,045,949	1,231,336			

Projects already completed or underway by LDI

Projects being identified

HES : Essential oils
ECO : Ecotourism
POI : Pepper

BIO : Organic agriculture
PMED : Medicinal plants
FRU : Fresh or processed fruits

2.1.5 Local Community Capacity Building

Based on three years of experience of the LDI program, notably in socio-organization, a **Kolo Harena guide** was created and given to the field agents. A Malagasy version also exists and can be given to KH farmers and other farmers. The guide is divided into three parts:

- the aspect of socio-organization in rural areas
- the professionalism of farmer structures, notably the KH, in covering their different functions in the domain of agricultural intensification
- the importance of a partner relationship between the farmer organizations and the state or non-state organizations or institutions that intervene in rural areas.

In addition, **the exchange between Kolo Harena or between Kolo Harena and other farmer organizations** reinforced the salient points of the semester.

In August 2001, 8 Kolo Harena members from the ZSI of Antanandava Moramanga made exchange visits with the Kolo Harena ZSI South Corridor of Fianarantsoa. The experiences of the Betsileo were beneficial for the Antanandava Kolo Harena in matters of off-season crops, management of tanety, aquaculture and fingerling production, management of village community granaries, and way of life of the Kolo Harena and their actions which affect the environment.

In October 2001, 5 members of the Moramanga Kolo Harena and 3 from Mahajanga participated in the General Assembly of Farmer Organizations of Madagascar that brought together in the capital 70 farmer associations operating throughout the entire country. The representatives of the Kolo Harena profited from this occasion by giving a brief presentation on the Kolo Harena movement. The general assembly, which lasted three days, gave birth to the *Coalition Paysanne de Madagascar*, a platform for farmer to voice their concerns and make propositions in response to their needs and pressures, and an exchange of experiences to truly include farmers in rural development. For the LDI Program, this platform constitutes a major partner in representing the world of the farmer at the national level.

The number of farmers joining the Kolo Harena is presented in paragraph 2.1.1 of Agricultural Intensification.

2.1.6 Counterpart Fund

FCV USAID

PIP 2001

The inscription of FCV for the LDI Program in the PIP 2001 totals three billion Fmg. After reductions put into effect at the request of the "Ministère de l'Aménagement du Territoire et de la Ville" and USAID, aimed at the payment of the CAP road rehabilitation, the reimbursement of the European Union and the contre-audit, the funds available for LDI totaled 2,335 billion Fmg.

These funds were allocated for the following activities: road construction, water systems, irrigation work, anti-erosion work, studies and research, monitoring, oversight and surveillance.

A provisional reception was completed on all the work with the exception of the road rehabilitation in Bekobay Mahajanga and the three bridges in Miarinarivo Fianarantsoa, which will be reported on during 2002.



Road Rehabilitation in Isalo, funded by FCV Japon

The following shows the progress of work financed under FCV USAID by region.

Region	N.	Objective	Total Fmg HT	Payment situation ²	Work status
ANTSIRANANA	01	Establishment of APD and DAO for work to supply potable water in Ankarana	44 670 000	100%	
	02	Establishment of APD and DAO for work in the rehabilitation of the road in Ankarana	44 627 000	100%	
	04	Work in rehabilitating the supply of potable water in Ankarana	298 491 235	95%	Provisional reception
	04'		22 298 600 ³		
	05	Work in rehabilitating the potable water supply system in Joffreville	295 156 770	95%	Provisional reception
	10	Control and overseeing of work constructing a potable water supply system in Joffreville	44 749 000	95%	
	11	Control and overseeing of work constructing a potable water supply system in Ankarana	44 116 000	95%	
FI MAHAJANGA	03	Civil engineering work relating to the stabilization of two lavakas in Androtra	101 751 521	95%	Provisional reception
	07	Work in biological protection at two lavakas in Androtra	184 500 000	95%	Provisional reception
	08	Work in rehabilitating a road connecting RN4 and Bekobay	177 795 500	42%	Reported in the PIP 2002
FI AN	06	Work in rehabilitating the Faraony Nihaonana road	262 620 850	95%	Provisional reception

² Les 5% restant concernent le cautionnement des marchés qui sera restitué aux entreprises au moment de la réception définitive

³ Par rapport à l'attribution initiale de ces marchés, des travaux complémentaires ont été réalisés, au niveau de l'adduction d'eau potable d'Ankarana et de la réhabilitation de la piste Faraony Nihaonana. Ces travaux complémentaires se chiffrent respectivement à 22 298 600 FMG et 51 872 000 FMG

	06'	Work related to the Faraony Nihaonana road	51 872 000 ²	100%	Provisional reception
		Rehabilitation of the Miarinarivo bridge	346 947 774	-	Reported in the PIP 2002
	09	Control and overseeing of work rehabilitating the Faraony Nihaonana road	29 992 600	95%	
	12	Work in rehabilitating the road encircling the ZIE Isalo	324 641 750	86%	Provisional reception
	13	Control of work rehabilitating the road encircling the ZIE Isalo	49 940 000	95%	
Total			2 324 170 600		

FCV JAPAN

PIP 2000

LDI profited from a total of 650 million FMG worth of Japanese funding which was destined for road rehabilitation project around Isalo National Park in the autonomous province of Fianarantsoa. This sum was divided into a definite tranche (350 million) for the year 2000 and a conditional tranche (300 million) for the year 2001.

The execution of the work as of January 31, 2001 was evaluated at 297,401,259 FMG divided as follows:

- Lot 1: 160,402,957 FMG for the rehabilitation of the Ranohira Piscine and Ranohira Namaza roads
- Lot 2: 136,998,302 FMG for the rehabilitation of the Ranohira - Ranohira Bas road.

For the remaining sum of 352,598,741 Fmg, the Japanese Embassy agreed to its utilization to finalize the work in the framework of PIP 2001.

PIP 2001

For lot 1, the total of the work was 139,606,493 Fmg. Additional work was necessary costing 21,167,322 FMG, bringing the total for the PIP 2001 to 160,773,815 FMG.

For lot 2, the contract for the work was initially given to the enterprise Dimby, but the contract was completely terminated by the application of article 39, which stipulates that «the terms of termination are those which are anticipated by the regulations of the current public market ». Due to the pressing urgency of the work, a new contract total of 203,661,900 FMG was awarded to the enterprise ARR, who has had a better performance record than Dimby and already knew the context of the work.

The following shows the status of contracted work financed by the FCV Japan by region:

Region	Market	Objective	Total HT	Payment situation	Work situation
Fianarantsoa	00/01 Lot 1	Completion of the rehabilitation of roads at Ranohira Piscine Ranohira Bas	139 606 493	91 %	Provisional reception
			21 167322 ⁴		
	01/01 Lot 2	Rehabilitation of the road at Ranohira – Ranohira Bas	203 661 900	95%	Provisional reception
Total			364 435 715		

2.1.7 Monitoring and Evaluation

During this semester, the monitoring and evaluation team concentrated its efforts on the verification of LDI's hypothesis of work, as follows:

- the combination of the activities of agricultural intensification, community management of natural resources and environmental education contribute to the reduction of the expansion of agricultural land in the priority ecosystems
- the sustainable management of natural resources serves to increase the commercial benefits of enterprises favorable to the environment
- strengthening of local actors' capacity encourages them to undertake sustainable practices.

Reduction of pressures in the priority ecosystems

⁴ Il s'agit des travaux complémentaires par rapport au marché initial.

The basis of the methodology for monitoring pressures developed in collaboration with PACT in January 2001 is the use of quantitative surveys combined with the geographic information system and of qualitative surveys (MARP) in the three pilot zones as used in preparing the report monitoring tavy.

In summary, in the test villages, Andohanisoa (Fianarantsoa), Belalitra Ambalamanga (Mahajanga) and Ambalavero (Moramanga), the Kolo Harena farmers are no longer doing tavy. The study included 30 representatives of 11 Kolo Harena and 18 non-Kolo Harena farmers. Of the 21 new tavy fields created between 1998 and 2001, not a single Kolo Harena member was an owner of the fields.

The Kolo Harena farmers are no longer practicing tavy in these test villages because:

- engaged in improved techniques and motivated by an increase in income (38%), they don't have enough time for other activities
- the application of dina governs the actions of association members and limits their deviations
- the existence of a participative forest management contract (GCF) has limited the granting of land-clearing permits for profit and the creation of forest management plans

The Kolo Harena farmers are motivated to engage in sustainable practices because LDI acted quickly in its interventions and the opportunity for establishing commercial relations with private business people was effective (more than 500 million FMG worth of products sold since June 2001).

In those communes where LDI has launched a complete package of agricultural intensification, conservation enterprise, and community resource management initiatives, the rate of tavy is being slowed if not halted.

But even so, the impacts of the reduction of agricultural land in the priority ecosystems are still limited for two principal reasons: (1) the Kolo Harena farmers are a minority in the ZSI, comprising less than 10% of the total population and (2) farmers of the disadvantaged social strata are the principal sources of pressure and are naturally excluded from Kolo Harena associations due to their non-respect for engaging in protecting the environment and distrust of solidarity.

The next step will be to make the methodology precise enough to monitor pressures on the scale of the ZSI. Work in the field will begin in July 2002.

Increase in commercial benefits by sustainable management of natural resources

Data collected on enterprises favorable to the environment shows that:

- 8 EFE invested up to \$1,250,000 in the realms of ecotourism, essential oils and fruits and vegetables
- more than 500 jobs were created due to the extension of new investments realized by the EFE
- 2,980 Kolo Harena farmers actually have commercial relations with the EFE.

Strengthen the capacity of local actors to undertake sustainable practices

Of the number of farmers approached by LDI during June 2001, 70% of those who had received training and technical information practiced the improved techniques they had learned about and achieved higher agricultural production and an increase in revenue. An increase in agricultural production between 30% and 61% was observed during the agricultural season 2000-2001. For the agricultural season 2001-2002, cultivation has started up but the monitoring results for these two indicators are not yet complete. In actuality, LDI touches more than 320 villages of intervention in the 44 communes.

Establish a data base of Kolo Harena and eco-enterprises

The ACCESS software program is operational and the logging of data is underway in the regions. This program was developed to manage the data related to most LDI indicators. It also permits the user to look at the accomplishments of LDI using GIS, as well as to visualize data by zone or region. The next annual report will testify to the user-friendliness of this software.

2.2 LDI partnership with Institutions and Organizations

2.2.1 JSI and Voahary Salama

The integrated health-population-environment program started up with a subsidy grant of \$2 million from the Packard Foundation to JSI Research & Training Institute, Inc. This project will last until 2005 and the first years' funding of \$860,000 has already been transferred. LDI supports the Madagascar Green Healthy Communities Project in the development of its work plan and in getting Fast-Track activities in progress. The Fast-Track activities developed by LDI and underway in regions of Fianarantsoa and Moramanga are off to a good start and will be operational in January 2002.

2.2.2 ANGAP

In Antsiranana, ANGAP and LDI collaborated to give technical assistance and assure the socio-organization of a water users association in Joffreville and Ankarana. This action was aimed at establishing a sustainable structure to manage the rehabilitated infrastructure of the potable water supply system.

In Isalo, ANGAP launched itself into the upkeep and maintenance of the roads rehabilitated by LDI in Ranohira via the Japan FCV. ANGAP will receive technical training from the enterprise during the warranty period and will take biological steps to protect the roads by planting vetiver. In addition, LDI has supplied ANGAP Isalo with a Junior Expert who is charged with enlisting the community of Isalo for the development of Isalo in order to establish a Zone of Ecotourism Investment in the periphery of Isalo National Park.

2.2.3 PACT Madagascar

PACT gave helped us develop a methodology to monitor pressures in the pilot zones and in the collection, analysis and output of quantitative results on tavy in the three test-villages. They coordinated the fieldwork of three support technicians charged with the collection of data, the comparison of base data on tavy with geographic information and the write-up of reports.

In addition, PACT continues to furnish its support in producing maps depicting the accomplishments of LDI.



During the tavy studies, Pact has supported LDI in collecting and comparing data with geographic information systems

2.2.4 Ministry of Water and Forests

Through the angle of the Regional Direction of Water and Forests, LDI was able to conclude the signing of seven contracts for contractual management of forests. The Water and Forests agents were cooperative and engaged in the process of transferring management of the forests.

2.3 Training and Research

2.3.1 LDI Scholarship Program

Three students out of seven successfully finished their studies and obtained their diplomas. They have returned to Madagascar and have rejoined their respective posts. Three of the students will be returning in February 2002. One student will be doing internship for IRG in the USA.

2.3.2 Students and LDI staff capacity building

Up until now, 55 students and researchers have done work at the CDIA in Beforona, Miadana or in the LDI regions to complete training in preparation of a thesis or to do research required for a diploma. LDI has furnished the logistics (paid room and board) at the CDIA and has also contributed financing for research. LDI has awarded 334 million FMG to students/researchers to do soil analysis, buy supplies or inputs necessary for research, a de-briefing to finish the research and publishing of a final report. Since June 2001, a fixed sum of 1,500,000 Fmg has been given to Malagasy students to conduct their research. The



Students and researchers conducted their work with farmers

research topics are of interest to both LDI and the students.

The following is a list of students/researchers who have worked with LDI during the course of their studies, as well as their respective research themes.

#	Name of the student/researcher	Topic of research	University	Location
1	Erika STYGER	Evaluation of the domestication potential of useful woody rainforest species in the eastern region of Madagascar Sustainable upland farming systems development in the eastern region of Madagascar Fireless Upland Management in Eastern Madagascar	CORNELL UNIVERSITY	Beforona Moramanga
2	RAZAFIMAMONJY Noroseheno Laetitia	Compost production	ESSA	CDIA Beforona Moramanga
3	RAOBELISON Fidy Denis Eric	SRI : degradation of organic matter under the regional climate	ESSA	CDIA Beforona Moramanga
4	RAKOTOMANANA Mandimbisoa Salohy	Small animal husbandry	ESSA	CDIA Beforona Moramanga
5	RAKOTOARINORO Andriamahazo Rijaso	SRI : feasibility and economics of the technique	ESSA	CDIA Beforona Moramanga
6	ANDRIAMADY Voahangy Tahiana	Increase in fertility by the utilization of lombricompost	ESSA	CDIA Beforona Moramanga
7	ANDRIAMAROSOA Mick Richard Finidy Nasandratra	Re-launching sesame a food crop in Beforona	ESSA	CDIA Beforona Moramanga
8	Andry Najoro Solofodimbiniaina ZAFIMAHATRADRAIBE	Re-launching basil (variety "grand vert" or "Pistou") for the production of essential oil	ESSA	CDIA Beforona Moramanga
9	RAZAFIMBELO Tantely Maminiaina	Effect of compost on ginger	ESSA	CDIA Beforona Moramanga
10	Joely BARISON	The uptake and the use of nutrients by rice in the intensive rice culture (SRI) of Madagascar	CORNELL University	CDIA – Lac Alaotra – Antanandava – Antsirabe – Fianarantsoa
10	Oloro V. McHUGH	Water requirements and Nutrient dynamics for the SRI	CORNELL University	CDIA – Lac Aaotra – Antanandava
11	Christine Michelle MOSER	The Adoption and Dis-adoption of the System of Rice Intensification: Understanding the Constraints Farmers Face	CORNELL University	CDIA – Lac Alaotra - Fianarantsoa
12	Benjamin David NEIMARK	Vegetative Propagation Strategies of Tropical Agroforestry Trees in Madagascar	CORNELL University	CDIA – Beforona – Ambavaniasy
13	Bryan W. DAILEY	The Ecology of <i>Prunus Africana</i> and its Implications for Biodiversity Conservation in Madagascar	CORNELL University	CDIA – Ambatovy – Forêt de Zahamena - Antanandava
14	Nico Suzanne DAUPHINE	Herbaceous Medicinal Plant Trade and Extraction Habitats in Eastern Madagascar	CORNELL University	Moramanga – Fianarantsoa
15	Pierre KISTLER	Condition and strategy for sustainable development in slash and burn zones of tropical forest	Université de Berne – Institut géographique - CDE	Beforona – Moramanga
16	RAKOTONDRAZAKA Harimana Mamy	GCF Zetra Lac Alaotra	ESSA	Lac Alaotra
17	RAZAFIMANDIMBY Lanto Andriantsara	Mulberry culture	ESSA	Lac Alaotra
18	Tsirintseheno RANAIVOARIMANALINA	Analysis of communication networks in a rural setting	ESSA	CDIA – Beforona
19	Simon Michel NAMBENA	Regionalization	ESSA	Falaise Est Madagascar
20	Fanja Natacha RAKOTOHAROSOA	Effects of compost on ginger and the utilization of HYPERBARREN	ESSA	CDIA Beforona
21	Johary Lala ANDRIANASOLO	SRI	ESSA	CDIA Beforona
22	Léa RAOLIARIVELO	Decentralization	EES lettres	CDIA Beforona Moramanga
23	Samoela RAKOTONARIVO	Rainfed rice with and without burning	ESSA	CDIA Beforona Moramanga
24	Filemonina ANDRIANANTENAINA	Improved Tanimboly	ESSA Forêt	CDIA Beforona Moramanga
25	Liva RAVOAVY	Rainfed rice with and without burning	Faculté des sciences	CDIA Beforona Moramanga
26	Peter MESSERLI	Improvements and alternatives to tavy	Université de Berne – Institut géographique - CDE	CDIA Beforona Moramanga

27	Ulrike BONGARTZ	Ravagers	Université d'Heidelberg	CDIA Beforona
28	Adolphe LEHAVANA	Perennial types of Tanimboly	Faculté des sciences	CDIA Beforona
29	Saholy Tiaray RAZAFINIAINA	Perennial types of Tanimboly	Faculté des sciences	CDIA Beforona
30	Jutta NAMBENA	Intensification of tanimboly	Université de Heidelberg	CDIA Beforona Moramanga
31	Soava RAKOTOARISOA	PDC and CBRNM	CORNELL University	Beforona – Antanandava
32	Jacques POLLINI	TAVY (management and improvement of tavy)	CORNELL University	Ambodilaingo
33	Frédéric COGET	Medicinal plants of the eastern forest corridor	HEPHO (Haute Ecole de la Province De Hainaut Occidental)	Amparafara, Ampitambe, Ambatovy, Anosibeana, Beforona
34	Andiramihajanarivo Lucien Aimé			
35	Stephan Edouard Rakotosamimanana	Memoir in Beforona following techniques employed by LDI in Miadana Mahajanga		
36	Razafindranjoha Fatimanirina Théodile	Comparative study of FIEFE with other sources of similar financing		Antananarivo
37	Soudjay Maolidy Ndriantokinanahary	Integrated protection of pepper		
38	Ranaivojaona Harivonjy	FIEFE : Reproduction of the System	Université d'Antananarivo Filière Economie	
39	Randrianasolo Tojo Christian	Community management of natural resources		
40	Andrianirina Armand Dieudonné	Study of the dynamics of village (terrors) and the perspective of launching an association of cash crops and food crops	ESSA-Agriculture Antananarivo	Fianarantsoa (Kalalao & Ialamarina)
41	Andriantseho Mialy	Study of the hierarchy within different sites of the Dette Nature Program : in one part to establish progressive participative forest and to contribute to the reduction of human pressures on natural resources ; ...	Dept Geographie -Es-Lettre/ Université Antananarivo	Tolongoina
42 et 43	Rady Soahary Noronantenaina & Ramaharo Vanona Horance Angelo	Study to establish the progress of an ecotourism activity around the axis of the FCE rail lines and the reduction of human pressures on the natural resources of the corridor	ISTE - Fianarantsoa	Fianarantsoa
44	Rasolofomanana Raymond	Study of the value of Uapaca bojeri fruits for the fabrication of rum	ESSA- Dept Industrie Agricoles et Alimentaire	Fianarantsoa
45	Randrianarisoa Salohitiana Elissa	Study of the adaptation of Turkish roses	ESSA-Agriculture Antananarivo	Andoharanomaintso - Fianarantsoa
46	Rabetaliana Falihery	Test analysis of the conformity of essential oil from Rosa damascena in Madagascar	ESSA-Agriculture Antananarivo	Andoharanomaintso - Fianarantsoa
47	Christian Rakotoarinivo	Contribution to the study to establish a new hierarchy following the example of the Rose Parumées (Rosa Damascena et Rosa Centefolia) in view of producing an essential oil for the economic development of Madagascar	ESSA-Agriculture Antananarivo	Andoharanomaintso - Fianarantsoa
48	Randrianasolo Tojo Christian	Establishing contractual forest management (GCF) in the Fokontany of Ampatsy Commune of Alatsinainy Ialamarina	ESSA-Forêt Antananarivo	Alatsinainy Ialamarina
49	Rasolondraibe Hosana Hery Laza	Contribution of establishing low prices for the Kolo Harena	CNTEMAD Fianarantsoa	Fianarantsoa
50	Maminirina Marie Angela	Secretarial work	CFP Laura Vicuna-Fianarantsoa	Fianarantsoa
51	Fanja +	Guiding : the case of Andringitra.....	ISTE	Andringitra - Fianarantsoa
52	Christiane			
53	Ramasiinaina Yolande Angela	Administrative organization for optimal performance and quality of services of the secretarial work	CFC – Université de Fianarantsoa	Fianarantsoa
54	Raveloarikaja Domoina	Ecotourism development of the Forest of Sahambavy	ESSA-Forêt Antananarivo	Sahambavy - Fianarantsoa

55	Andriamarolaza Tanjona	Sustainability and viability of a rural development project in the autonomous phase : Study of financing and micro-credit within the Kolo Harena and Federation at the LDI site in Miarinarivo	ESSA-Agro-Management	
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2.4 Finances and Administration

2.4.1 Intervention Fund

Organization and Management

More than anything else, the last six months was marked by vigorous actions undertaken to carefully manage the Intervention Funds. In effect, the amount allocated for the Intervention Funds – in total and by region – stayed practically the same as the previous year (\$ 970,000), and a big part of this amount was already tied up in contractual engagements from the previous year, thus leaving little funding available to initiate new activities. We looked carefully at existing contracts and deobligated funds in cases where we determined that contractors would not be able to use the entire obligated amount effectively. Additionally, it is also important to note that the dollar was weak at the time the Work Plan was being developed, thus the amount of available funding was lessened further.

In order to assure optimal management of these financial resources and to respect the budget, we were obligated to, on one hand, prioritize financial activities, and on the other hand, establish an improved system for monitoring all activities financed by the Intervention Funds.

1. The prioritization of financial activities

A reassessment and evaluation of all contractual engagements at the level of each region was carried out in close collaboration with the technicians responsible for each component. This exercise permitted us to review and readjust the objectives of the contractual engagements and where necessary proceed directly to the termination of the contract in cases of unsatisfactory performance of the partner/sub-contractor. As a result, we were able to consolidate activities that were going well and to free up funds for financing new activities, as well as initiating new sub-contracts.

2. Establishing a data base

In order to insure improved monitoring of activities financed by the Intervention Funds, as well as to respond more rapidly to the information needs of technicians – notably in matters of budget availability – a database was conceived of and established.

This database integrated all of the activities financed by the Intervention Funds (regular activities and activities financed by cyclone rehabilitation funds). Globally, 548 contractual files (among which 218 were sub-contracts and 14 were subsidy accords) were indexed.

This database is functional and is managed by the IFUnit at the Antananarivo level. The next step is to establish a database at the level of each regional office, which will be in permanent liaison with that of the IF Unit.

Achievements

1. The contracts and subsidy grants signed, completed and terminated

The following table presents the number of new sub-contracts and subsidy grants signed and totally completed and terminated during the semester. In particular, it should also be noted that this period also marked the closing the regional office in Mahajanga. As a result, no new sub-contracts have been initiated in Mahajanga, and we have proceeded to terminate those sub-contracts that have not produced specified deliverables as well as those that are no longer judged valuable.

In total for the entire Program, 14 sub-contracts and 1 subsidy grant were signed. Additionally, due to budgetary restraints, as well as the closing of the regional office in Mahajanga, 18 sub-contracts and 1 subsidy grant were terminated.

Number of sub-contracts and grant accords signed, completed and terminated

July – December 2001

REGION	SUB-CONTRACTS			GRANT AGREEMENTS		
	signed	completed	terminated	signed	completed	terminated
Moramanga	6	9	2			
Fianarantsoa	4	10	2			
Mahajanga		4	13			1
Antsiranana	1		1			
Moramanga/Fianarantsoa/Mahajanga	1	3				
Moramanga/Fianarantsoa/Mahajanga/Antsiranana	1			1		
Moramanga/Fianarantsoa	1					
Mahajanga/Fianarantsoa		1				
TOTAL	14	27	18	1	0	1

The total amount of the 14 new sub-contracts signed during the period was raised to \$128,141 and the total amount of the grant was raised to \$ 100,000 (\$1= 6,300 Fmg).

2. The payments carried out

The following table presents payments carried out during the course of the semester. The reference budget is the one outlined in the Work Plan approved by USAID. The amounts listed correspond to the cumulative values of the contractual documents (sub-contracts, purchase orders or other), which were signed.

It should be noted that for the Matching Funds, the stated proper payment would be carried out according to the Central Bank of Madagascar.

SUMMARY
INTERVENTION FUND DISBURSMENTS TRACKER
July 2001- Dec 2001

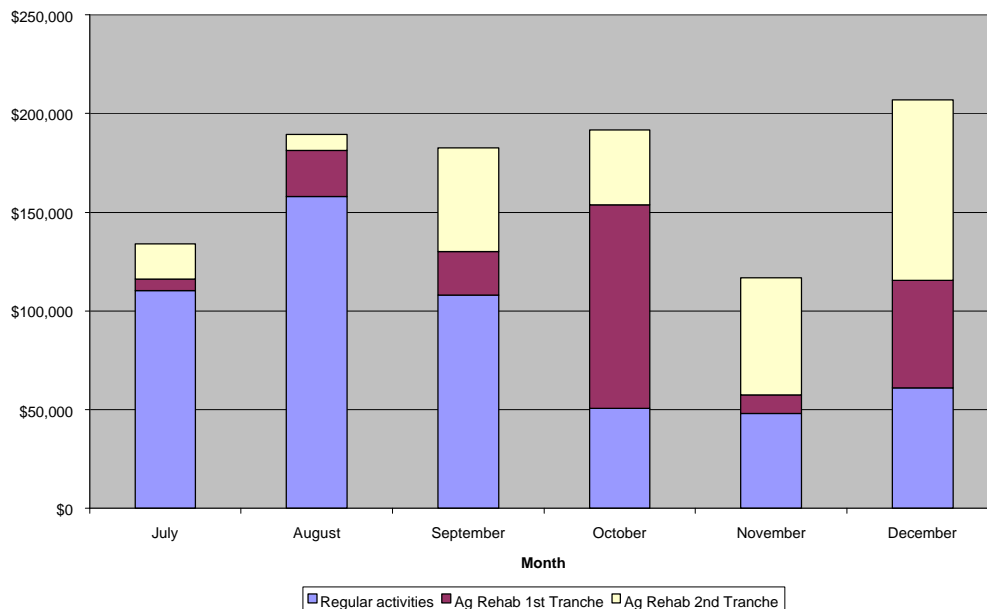
		BUDGET CATEGORIES											TOTAL
		REGULAR BUDGET					USAID FCV			Japanese FCV			
		Technical Assistance	Credit	Direct Material support	Research	Total	Technical Assistance	Direct Material Support	Total	Technical Assistance	Direct Material Support	Total	
Agricultural Intensification	Budgeted	\$206,864	\$40,378	\$28,658	\$28,822	\$304,722							\$304,722
	Obligated	\$175,699	\$30,577	\$17,748	\$42,898	\$266,922							\$266,922
	Spent	\$107,236	\$23,483	\$11,670	\$39,411	\$181,800	\$0	\$0	\$0	\$0	\$0	\$0	\$181,800
Community Mgmt of Nat Resources	Budgeted	\$62,106	\$0	\$8,380	\$0	\$70,486							\$70,486
	Obligated	\$39,261	\$0	\$164	\$332	\$39,757							\$39,757
	Spent	\$30,590	\$0	\$164	\$332	\$31,086	\$0	\$0	\$0	\$0	\$0	\$0	\$31,086
Environmental Education	Budgeted	\$31,362	\$0	\$15,277	\$0	\$46,639							\$46,639
	Obligated	\$18,319	\$0	\$3,689	\$0	\$22,008							\$22,008
	Spent	\$5,761	\$0	\$544	\$0	\$6,305	\$0	\$0	\$0	\$0	\$0	\$0	\$6,305
EFE Promotion	Budgeted	\$116,908	\$170,805	\$17,898	\$0	\$305,611							\$305,611
	Obligated	\$84,527	\$125,000	\$25,111	\$125	\$234,762							\$234,762
	Spent	\$74,622	\$107,232	\$7,400	\$120	\$189,373	\$0	\$0	\$0	\$0	\$0	\$0	\$189,373
Reinforcement of partner capacity	Budgeted	\$223,205	\$0	\$694	\$0	\$223,899							\$223,899
	Obligated	\$207,897	\$0	\$236	\$0	\$208,132							\$208,132
	Spent	\$123,665	\$0	\$43	\$0	\$123,708	\$0	\$0	\$0	\$0	\$0	\$0	\$123,708
FCE Railroad	Budgeted	\$9,232	\$0	\$0	\$0	\$9,232							\$9,232
	Obligated												\$0
	Spent	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Road Construction	Budgeted	\$0	\$0	\$0	\$0		\$19,771	\$184,445	\$204,217	\$0	\$55,556	\$55,556	\$259,772
	Obligated						\$19,771	\$129,671	\$149,442		\$57,847	\$57,847	\$207,289
	Spent	\$0	\$0	\$0	\$0	\$0	\$19,137	\$103,910	\$123,047	\$0	\$53,826	\$53,826	\$176,873
Other Infrastructures	Budgeted	\$9,411	\$0	\$0	\$0	\$9,411	\$21,196	\$139,667	\$160,863	\$0	\$0	\$0	\$170,274
	Obligated	\$3,450				\$3,450	\$21,196	\$143,206	\$164,402			\$0	\$167,852
	Spent	\$3,450	\$0	\$0	\$0	\$3,450	\$20,491	\$136,223	\$156,714	\$0	\$0	\$0	\$160,164
TOTAL	Budgeted	\$659,088	\$211,183	\$70,907	\$28,822	\$970,000	\$40,967	\$324,112	\$365,079	\$0	\$55,556	\$55,556	\$1,390,635
	Obligated	\$529,152	\$155,577	\$46,948	\$43,354	\$775,031	\$40,967	\$272,877	\$313,844	\$0	\$57,847	\$57,847	\$1,146,722
	Spent	\$345,324	\$130,715	\$19,821	\$39,862	\$535,722	\$39,628	\$240,133	\$279,761	\$0	\$53,826	\$53,826	\$869,309

3. Analysis of expenses

Total disbursements:

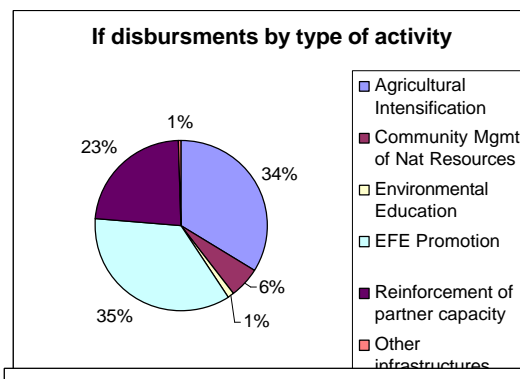
With the cyclone rehabilitation activities, the disbursements carried out in the framework of the Intervention Funds decreased from an average of \$ 187,000 per month to an average of \$ 170,200 per month. This decrease is explained by the lowering of almost half the payments carried out on the regular funds from October 2001.

IF disbursements by month



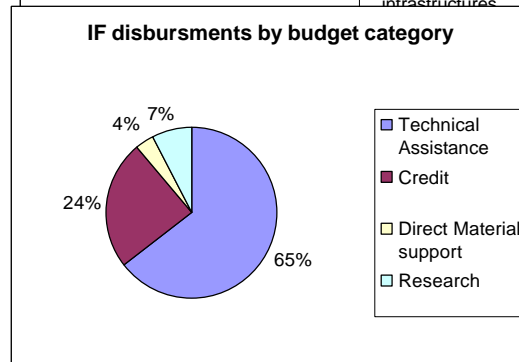
Expenditures by type of activity:

The analysis of expenditures carried out by the type of activity shows us a slight modification compared to the tendencies of the preceding year. In effect, during the course of this period, the Program expended little in the domain of EFE as compared to «Agriculture Intensification» activities and «Reinforcement of partner capacity». Also, the most important expenditures carried out in the framework of EFE activities figured notably in credit activities and ecotourism activities in all the regions.



Expenditures by budget category:

After technical assistance, which represents 65% of expenditures carried out, «credit » constitutes second place for the budget line most utilized.



2.4.2 Added value tax (TVA) and import tax (DTI)

An administrative assistant was recruited to work on straightening out the TVA and DTI on the three USAID projects executed by Chemonics International (LDI, FCER and ReCAP). A recapitulation of the payment situation during the year 2001 is presented in the following table.

Sub Paragraph	TVA			DTI		
	Payment credit	Credit consumed	Available afterwards	Payment credit	Credit consumed	Available afterwards
20172 Water, Electricity, Telephone	120,000,000	5,681,676	114,318,324			
20173 Furnishing and Services	140,000,000	298,758,002	-158,758,002			
20175 Maintenance and Repairs	140,000,000	44,996,239	95,003,761			
21610 Technical materials	540,000,000	112,973,420	427,026,580	50,000,000	909,824,449	-859,824,449
21720 Vehicle materials				100,000,000	45,970,578	54,029,422
Financing Group B (FCV)						
21410 Roads	100,000,000	317,061,857	-217,061,857			
21240 Irrigation work	600,000,000	59,839,070	540,160,930			
Total	1,640,000,000	839,310,264	800,689,736	150,000,000	955,795,027	-805,795,027

Note that the passing of budget lines will create the objective of re-managing credit, but straightening it out by presentation note will be realized between the Minister of the Environment and the Minister of Planning. LDI is working on the global envelope of credit allocated at 13,762,000,000 Fmg.

3. Antsiranana Region

3.1 Principal Activities undertaken in Antsiranana

- a) Support to the development of the two ZIE and peripheral zones**
To improve the well being of the population living around the two ZIE's, LDI has invested 700 millions Fmg from the counterpart fund to rehabilitate the water supply system in Joffreville and to install a new one in Ankarana. On the other hand, users associations have been created to assure long term maintenance of these systems.
- b) A touristic Guide for the promotion of the region**
Through financial and technical support of LDI, the ETN association has elaborated a beautiful touristic guide on Antsiranana region to be on sale for only 60,000 Fmg. This guide will help to promote the region in a large scale for a great impact. The benefits collected from the sale of this guide will contribute to the financial sustainability of the association.
- c) Sustainability to the « Comptoir du Tourisme »**
A new Expert Junior has been hired to help the members of the ETN association manage this tourism information center and their activities.
- d) Assistance for investors to develop ecolodges and other activities related to ecotourism**
An amount of \$ 86,000 has been released through the FIEFE (Fonds d'Investissement pour les Entreprises Favorables à l'Environnement) for the MDA Nature Lodge located in Joffreville to finalize the construction of this ecolodge.
- e) Development of basic lodges by Village association**
Upon construction of the two basic lodges in Andrafiabe, Ankarana, a protocol agreement has been established between the village association, « Ankarana Mandroso », the ETN association and LDI to promote the project through ETN technical support.
- f) Education in the new concept of Ecotourism**
A film on Ecotourism in Madagascar is on process to be finished by end of December. This product is essentially focused on the potentialities of Madagascar in terms of ecotourism. It has a principal objective to invite tourists as well as investors to come to Madagascar. The film will also try to present the main aspects of real ecotourism, as it is a new concept in Madagascar.



3.2 Accomplishments July – December 2001

Indicators 2001 - 2002	July – December 2001 accomplishments	Observations
Various commercial contracts are established and undertaken between the local private operators through ETN association and the villagers Association of Ankarana to promote the two basics lodges.	The first step that consists of elaborating a protocol agreement between the 2 associations has been done.	The ETN association is finalizing the presentation letters to local operators in order to get the commercial contracts signed before the tourist season of next year.
1 Ecolodge established in Joffreville or Ankarana		No new investment in perspective. Awaiting for the formal opening of the ZIE's.
Technical assistance to rehabilitate the water systems in Joffreville and in Ankarana	Principal works will be done by end of December.	Socio-organization actions are undertaken with the technical assistance of Angap in order to put in place a sustainable maintenance of the water systems.

4. FIANARANTSOA Region

4.1 Lessons learned by component

4.1.1 Agricultural Intensification

The agricultural intensification component has generated production surpluses among the communities living along the forest corridor. The LDI field agents and technical partners like AIDE, CEP, and CIADRM are increasingly confident in their abilities to offer technically viable packages of agricultural intensification techniques to Kolo Harena. Significant yield increases have occurred in rice, dry-season crops, honey, and fish production systems. Tanety upland rehabilitation using vetiver and biomass banks is expanding quite rapidly as farmers see the benefits of the increased soil stabilization and soil fertility. With the right set of incentives (knowledge, encouragement, infrastructure improvements, market opportunities, and a stable supply of agricultural inputs), farmers in the LDI Fianarantsoa strategic zones of intervention are indeed producing surplus.

Despite these successes, these gains are very fragile and perhaps even ephemeral. Externalities continue to buffet the production strategies of the Kolo Harena members. The continued low price of rice has severely undermined the ability of farmers to repay loans taken out to stock community granaries. Drought in November and December affected the supply of water to some Kolo Harena fishponds and led to some losses of fingerlings. Financial institutions like the BOA bank and Entreprenre à Madagascar continue to encounter difficulties in providing timely credit to farmers. Unexpected surpluses of agricultural produce from other regions glut local markets. Kolo Harena could slip very quickly back into production for subsistence consumption.

Situation of credits on 31 December 2001

	Credits granted in 2000/2001			Credits granted in 2001/2002		
	Allocated \$	# Beneficiaries	Reimbursement rate	Allocated \$	# Beneficiaries	Reimbursement rate
Micro-credit	15,542	264	80%	1,640	46	Not due
Credit from Input Supply Centers	14,090	110	54%	8,686	325	Not due
Total	\$ 29,632	374 farmers		\$ 10,326	371 farmers	

While Kolo Harena farmers increasingly adopt the proffered technical options, the challenge remains for LDI to scale-up the transfer of knowledge and inputs to the Kolo Harena with steady but moderate financial resources at its disposal. The new farmer-to-farmer extension method being implemented now is a move in the right direction. Similarly, the transfer of management control over the Agricultural Supply Centers to the federations of Kolo Harena is so far quite successful. Efforts by LDI to leverage additional investments by other donors into the communities along the corridor are also leading to improved infrastructures and market opportunities. Ultimately, LDI Fianarantsoa feels that its contributions to the progressive empowerment of Kolo Harena organized into federations will lead to the increased capability of the rural sector to capture development assistance and open new market opportunities.



Tanety upland rehabilitation using vetiver and biomass banks is expanding quite rapidly as farmers see the benefits of the increased soil stabilization and soil fertility

4.1.2 Conservation Enterprise

The production surpluses generated by the LDI agricultural intensification component has galvanized the conservation enterprise program over the past six months. LDI Fianarantsoa has geared up significantly its work in this sector through the hiring of a marketing specialist and the devotion of more staff time to brokering new market opportunities. This investment is paying off through the generation of new commercial contacts between the once isolated Kolo Harena and the national and international market. This work-in-progress is opening up several promising market opportunities in a regional economy depressed by the total collapse of the coffee economy, a stagnant rice market, and a sluggish demand for off-season agricultural produce. New market opportunities certainly exist for Bulgarian Rose oil, organic Arabic coffee, bio-ginger, pepper, and various essential oils. Demand for honey, fruit, and fresh water fish is strong and constant. Opening up market opportunities for these and other products grown by Kolo Harena members has become the driving force for the regional staff and its partner organizations.



in a regional economy depressed by the total collapse of the coffee economy, new market opportunities certainly exist for pepper and various essential oils

As LDI Fianarantsoa learns more about the rapidly evolving market dynamics in this region, the structural impediments of the market become even more obvious. Export oriented agriculture along the eastern side of the corridor will not succeed unless the port of Manakara is modernized through containerization and efficient transport of produce along the FCE railway corridor and the RN 25 road from Ranomafana to Manakara. The commercial sector itself has serious flaws. Despite an enormous investment of time by LDI staff to broker new credit arrangements for several ecotourism investments, few entrepreneurs are willing to accept bank conditions requiring full financial transparency and tax contributions. Others suffer from difficult and unresolved land title issues. The commercial agricultural sector is a potentially important, but not yet a flourishing economic motor. Fluctuations in international commodity prices buffet the sector. Liquidity constraints hinder considerably expansion, yet this is the result of deficiencies in both the banking and enterprises themselves. While the promotion of market oriented agriculture and conservation enterprises are certainly the driving forces behind LDI's programmatic thrusts, it is now abundantly clear that a multiplicity of actors must work together at various scales to confront deep structural obstacles. Foundations for

collaborative working arrangements are being solidified through the GTDR and other regional structures such as the *Chambre de Commerce* and the *Chambre des Métiers* but this is a delicate and time-consuming process often buffeted by political factors.

4.1.3 Community Resource Management

The community resource management component has expanded considerably with the on-going negotiation of 4 major *Gestion Contractualisée des Forêts* initiatives along the corridor. The signing of the Miarinarivo GCF contract has galvanized interest by Kolo Harena in other strategic zones of intervention. Valuable lessons are emerging from this work. Preparatory investments in community organization of COBA (Communauté de Base) and Kolo Harena are absolutely critical, but this takes time. Despite the interest of the DIREF and CIREF to work with LDI to implement these contracts, the technical services lack the manpower and transport to carry out their legally mandated work without significant contributions from LDI. The participatory preparation of *Plans d'Aménagement Forestier* have led to much interest in implementation of plan components, but relatively little funds and technical expertise exists to carry out the plans. Despite interest by local communities to manage their own resources, the legal complexity of forest statutes and the lack of available and low-cost technical expertise hinder rapid expansion of GCF contracts. The private sector itself is uninterested in sustainable management of primary forests but instead seeks to extract valuable lumber with minimal investment and contributions to sustainable management. But despite these difficulties, the precedents for community management of natural resources are now in place in Fianarantsoa. No turning back is now possible.

4.1.4 Communication/Environmental Education

The communication and environmental education component continued to expand its initiative to carry out communication activities at two distinct scales – the village level and the regional level. At the village level, the program introduced the *Gazety Kolo Harena* to considerable enthusiasm. Kolo Harena appear to be enthused about the possibility of contributing to the broader membership network. As part of the initiative to expand the use of a variety of communication tools, work continued on ways to establish a rural radio station on the eastern side of the forest corridor where no local radio reaches any community. LDI Fianarantsoa has discovered to its consternation that the construction of a rural radio system is no simple task due primarily to the topography and isolation of the eastern side of the corridor. The provision of energy to a radio emitter and a relay station requires the construction of a



The ceremony of inauguration of the GCF contract in Miarinarivo

micro-hydrological power plant as well as use of solar or wind power technologies. Despite these obstacles, the utility of a rural radio is now becoming much clearer.

At the regional scale, the LDI program invested considerable effort in educating the new leadership of the Province Autonome to the environmental and development realities occurring around the Ranomafana – Andringitra forest corridor. Various forums were set up for the new governor and *commissaires généraux* to learn about LDI and its work. This ranged from a collaborative effort with the FCE railway rehabilitation project to take a train trip through the corridor and down to the

port of Manakara to learn about the linkages between environmental and transport issues. Two inaugurations of LDI activities (the GCF and the dam projects in Miarinarivo) created the occasions for political leaders to see how the program carries out its activities. Site visits organized to infrastructure projects similarly created learning opportunities.

4.1.5 Capacity Building

The LDI Fianarantsoa program has put in place a new agricultural extension system. This farmer-to-farmer approach has begun to be supported by the LDI field agents and NGO technical partners.

Animateurs villageois farmers specialized in particular sectors (SRI/SRA rice, fish, honey, tany rehabilitation) have been identified by the Kolo Harena for successful adoption of the LDI package of technical inputs. These farmers receive specialized training and technical up-dates.

This focus on restructuring the relation between technical agents and progressive Kolo Harena farmers has been complemented by the intensive investment of effort in transferring management powers of the Agricultural Supply Centers to the Kolo Harena federations. Several initial lessons have emerged. The Kolo Harena are jealously exercising their authority to manage the Agricultural Supply Centers and they direct quite effectively the *experts juniors* placed at their disposal.

The *animateurs villageois* farmers certainly see the benefits of the supplemental training offered by LDI, and as agreed upon by the Federations, the skills will be transferred to other farmers through in-kind payments for rendered extension services. These two initiatives are attracting considerable attention of other donor-financed projects like the PSDR/GTDR.



The Kolo Harena are jealously exercising their authority to manage the Agricultural Supply Centers

4.1.6 Monitoring and Evaluation

The on-going initiative by LDI to determine the impact of its activities on slowing and reversing the tide of environmental degradation in and along the Ranomafana – Andringitra forest corridor is beginning to generate some interesting perspectives. Several data sources suggest the tentative conclusion that in those communes where LDI Fianarantsoa has launched a complete package of agricultural intensification, conservation enterprise, and community resource management initiatives the rate of *tavy* is being slowed if not halted. While it is difficult to assign causality to LDI interventions alone, it is notable that the PAGE/USAID study “Forest Cover Change in USAID and Control Areas” notes that “forest is disappearing much more rapidly in areas where USAID is not intervening” and that the rate of loss over a 5 year period is on average about 3.5% of the forest cover compared to control areas of 6.7%.

The ecoregional scale environmental dynamics reported in the PAGE study are beginning to stand up to the test of field verification. A rapid rural appraisal study conducted by LDI Fianarantsoa in the commune of Alatsinainy-lalamarina in November 2001 showed that the rate of *tavy* has slowed to a near halt in those village territories near the corridor working with LDI. Similarly, *tavy* has also come to a near halt in the commune of Miarinarivo where a 1300 hectare *Gestion Contractualisée des Forêts (GCF)* contract is now in place even though the forestry service continues to sell permits contrary to public policy and local conventions in the newly established areas placed under community management regimes. Similarly, along the eastern side of the corridor anecdotal evidence from LDI field agents notes that *tavy* has slowed considerably in those primary forests that are going to be put under GCF contracts in the Ikongo commune. Similar results are occurring in the Tolongoina commune where the WWF CAF/Dette Nature project has put in place several GCF contracts. Villagers note to field staff that the rehabilitation of the FCE railway has reduced the urgency of clearing land for rice production on hillsides because farmers can still sell fruit for transport by rail to Fianarantsoa markets in exchange for purchased rice. Slash-and-burn along the FCE railway has also noticeably slowed due to the contractual stipulations and *dina* put in place by the community component of the FCE Cyclone Rehabilitation initiative. While this tendency is encouraging, it raises innumerable difficult questions. How permanent is this reduction in the apparent rates of *tavy*? Will the rate continue to decline after the end of the LDI program? Is the location of *tavy* shifting from the LDI sites to other natural forests within the corridor? These questions must be answered over the next months.

As a sign of the changing behaviors of rural communities occurring along the corridor, LDI regional office staff note with both pleasure and consternation the growing pressure placed on LDI field agents and other donor projects by Kolo Harena to increase the extent of the technical and institutional package developed by LDI. For instance, the suspicion and distrust encountered by LDI on the eastern side of the corridor at the outset of the LDI program has now largely disappeared as rural communities flock toward LDI to explore options for diversifying the cash crop economy once so dominated by coffee. While Kolo Harena note that they are trying to reduce the extent of *tavy*, they vocally express their concern about the speed and effectiveness of LDI and other programs like the PSDR/GTDR to expand significantly alternative production, marketing, and policy interventions. This is a healthy dynamic that forces all stakeholders to strategize on ways to utilize limited financing with the greatest impact.

4.2 Performance according to indicators

Indicators for July 2001 to June 2002	Situation in December 2001	Observations
Indicators for Activities		
Agricultural Intensification - increase in yields: 20% - increase in revenues: 20% - Credit granted : \$15,787	- 30 to 321% augmentation of yields - 62% average increase of revenues - Credit granted: \$10,326 (\$8,686 from Input supply centers and \$1,640 from micro-credit)	Minimum and maximum yields : • Off-season potatoes : 4.16 to 17.5 T/ha • Beans : 0.36 to 0.75 T/ha • Rice: 2.1 to 10.2 T/ha • Maize : 0.85 to 1.5 T /ha

<p>Environmental Education</p> <ul style="list-style-type: none"> - 2 new projects supported by LDI in environmental education - 5 new activities implemented in environmental education and communication - 200 Kolo Harena targeted by the environmental education and communication activities 	<ul style="list-style-type: none"> • Edition and publishing of the journal "Gazety Kolo Harena" and "Fanoïtsa" No.12 • Preliminary technical study of the installation of a radio station in Manampatrana • Identification of integrated activities (environmental and health components) and the sites concerned • More than 300 farmers (non Kolo Harena and Kolo Harena) beneficiaries of environmental media activities 	
<p>Community Based Natural Resources Management</p> <ul style="list-style-type: none"> - 20 villages doing community conservation, Gelose or GPF activities - 3 Community Resource Management Contracts (Gestion Contractuelle des Forêts) signed - 3 Contractual Forest management plans implemented - 300 hectares placed under community resource management agreements - 20 hectares of reforestation (2.5 ha per sites) by local communities 	<ul style="list-style-type: none"> - 15 villages - 1 contract will be signed on the 15th of January 2002 - 1 Contractual Forest management plan under implementation - 430 hectares in Alatsinainy-lalamarina - Reforestation starts in February 2002 	<p>Alatsinainy-lalamarina: Ampatsy - Anara Nord- Anara Sud - Antsomaina - Ranomena- Sahalava - Tetezamalama</p> <p>Ikongo: Ambalagoavy.</p> <p>Sendrisoa: Ilaivory Nord - Andronivato</p> <p>Miarinarivo: Anarafolaka - Miarinarivo -Soamanandrarinny Vantanamaso –Angalampona</p> <p>523 members of COBA (Communauté de Base)</p>
<p>Conservation Enterprises</p> <ul style="list-style-type: none"> - Number of EFE supported : 8 - 2 new EFE investment projects - Total investment of \$50,000 in the EFEs - 200 farmers supported by LDI having commercial relations with the EFEs 	<ul style="list-style-type: none"> - 7 EFE supported - - - 459 members of Kolo Harena associations 	<p>Domaine Nature, Centrest, Camp Catta, BIOSAVE, Delta Informatique, Mac & Frères, AGROMAN.</p> <p>Products sold by the Kolo Harena are potatoes, honey, orange and Royal Carp.</p>
<p>Local Capacity Building</p> <ul style="list-style-type: none"> - 250 Kolo Harena associations created - 3 000 household members working with LDI - 6 Federations of Kolo Harena associations are operational in Agricultural Inputs Supply centers management and other socio-organization related activities in every site, at least 1 animateur villageois is trained and specialized in one activity to assist the other Kolo Harena members 	<ul style="list-style-type: none"> - 255 Kolo Harena - 5 207 members - 6 federations managing the Agricultural input supply centers supported by 3 expert-juniors - 59 animateurs villageois identified 	<p>106 villages of interventions</p> <p>255 Kolo Harena associations, of which 14 AUE/KHH. 3430 farmers are funded by LDI regular fund and 1777 by cyclone fund</p>
Indicators for Sub-Results		
<p>Reduction of the expansion of agricultural lands within priority ecosystems</p> <ul style="list-style-type: none"> - follow-up of the human pressure trends in the SZI 	<p>2 pilot sites in Andohanisosa, in Miarinarivo (SZI South corridor) and Ranomena, in Alatsinainy-lalamarina (SZI Central corridor)</p>	

<p>Increase of commercial benefits from sustainable use of natural resources</p> <ul style="list-style-type: none"> - inventory of new EFE projects developed by other EFE in the region 	<p>PRONABIO, an association of exporters of natural and organic products from Madagascar, negotiated several commercial contracts targeting the US market for spices and essential oils.</p>	
<p>Reinforcement of Kolo Harena associations to undertake sustainable development</p> <ul style="list-style-type: none"> - 50% of targeted families have adopted improved practices. - Number of Kolo Harena participating in conservation and development activities 	<ul style="list-style-type: none"> - 49% of Kolo Harena members - 1740 Kolo Harena members 	<p>Activities still on going.</p>

4.3 Regional support

4.3.1 Promotion of the EFE

A period of intense activity characterized by the harvest of cash crops and practice of off-season cultivation, the second semester of the year was a big time for the transformation of products and their commercialization. In response to these varied needs, the EFE component supported the following activities:



Since June 2001, the federation of Tolongoina has been able to achieve earnings of 1.2 million FMG with the huller that serves 50 farmers

Coffee sector: the weak enthusiasm concerning the coffee sector created by the fall in world prices limited our interventions in the sporadic hulling of the weak tonnage in Tolongoina. An *Expert-Junior* joined the input supply center in working on the management of the tool, and the site's socio-organizers in turn worked with the Kolo Harena Federation to establish a structure and a management system for managing the huller.

Essential oil sector: the diversification of cultivation has encouraged the launching of other activities like the cultivation of macroclada aloe to deal with the situation of cyclical catastrophes and price fluctuations. In other areas, the oil extraction operation was started up with the first petals of the Bulgarian roses. These interventions will be followed with the promotion and labeling of their products.

Commercialization of Kolo Harena products: The EFE team organized in Fianarantsoa a meeting between Kolo Harena producers and regional and national buyers of potatoes, honey and oranges. Contracts were signed between producers and buyers. Initiatives were launched to find new markets outside of the traditional market. We explored possibilities to tap into emerging market opportunities in Ilakaka and to Tulear, Antananarivo and Antsirabe. Negotiations were commenced with industries involved in agricultural transformation. We are trying to work with companies involved in transforming potatoes into potato flour, honey into an additive to candy, and fresh oranges into concentrated juice.

Technical support of regional institutions: The regional office continued to participate actively in the privatization process for the FCE railway and the port Manakara. The regional office worked closely with consultants to plan a major conference at the Hilton Hotel in October to move forward the rehabilitation of the railway and the port in the context of the privatization agenda of the Ministry of Transport. This conference led to major financial commitments for port and railway recovery by the World Bank and other donors. We also worked with the Chamber of Commerce and the GTDR of the Haute-Matsiatra and the South East to contribute to an internal restructuring process that has led to a much more dynamic movement. The regional office gave its support to the production of a film on ecotourism in Madagascar as a contribution to the World Year of Tourism.

4.3.2 Research and training

LDI Fianarantsoa engaged 15 national and international trainees in research work that contributed to the increased standing of EFE activities (ecotourism along the FCE railway and in Sahambavy, Bulgarian roses, crayfish raising, ...) and the establishment of the *Gestion Contractualisée des Forêts* in our sites. Most of the applied research served as a base for the analysis and development of new

activities like the adaptation tests of Bulgarian roses, the viability study of rural credit, and the development of a management plan for the Alatsinainy-lalamarina forest.

4.3.3 Regional Synergies

The past year in Fianarantsoa has been a tumultuous one from an institutional perspective. The role of regional coordination bodies has evolved rapidly with the emergence of the Province Autonome and its associated regional institutions. LDI participated very actively not only in the AGERAS consultative body, but also it supported the growth of the Comité Multilocal de Planification (CMP) and the GTDR/PSDR consultative process. LDI supported the participation of Kolo Harena in the GTDR for the Haute Matsiatra and southeastern regions as a way to assure that environmental and development issues of our concern were placed on the table. As a result of this active engagement with regional coordination bodies, the role of the FCE and the port of Manakara rose in importance as a factor critical to the survival of the forest corridor. But more importantly, the investment of staff time in regional consultative bodies helped generate the stakeholder support for additional investment of funds for the conservation of the Ranomafana – Andringitra forest corridor.

The LDI Fianarantsoa regional program invested considerable human resources in presenting information and recommendations to donors to encourage leveraging of additional funds for conservation of the Ranomafana – Andringitra forest corridor and the promotion of rural development and poverty alleviation for communities living in and along these forests. Following the publication of depressing economic statistics on the Fianarantsoa province showing it ranks as the poorest of all provinces in Madagascar and in the aftermath of cyclones Eline and Gloria, the regional office staff received numerous delegations of consultants and government officials seeking to identify fundable projects. Regional office staff have responded to these needs for information by participating actively in regional project identification meetings, preparing Power Point briefings, writing short project briefs, reproducing research reports and analytical papers, and taking teams out on field trips to observe program activities.

Despite the considerable investments of time, these investments have led to considerable new investments for actions to maintain intact the forest corridor. The large majority of the investments are managed by other projects, but LDI has obtained some supplemental funding. The total supplemental funding obtained over the past three years for development and sustainable resource management along the corridor linked in part to LDI's active advocacy role is estimated to be about **\$23 million**. This complements the annual average of about \$350,000 per year from the LDI Fianarantsoa Intervention Fund.

Activity	Donor Institution	Estimated Contributions	Commentary
FCE Rehabilitation	World Bank	\$ 8 million	Railroad rehabilitation contingent on privatization of the railway
	World Bank	\$160,000	Payment for privatization process for the FCE
	UNDP Fianarantsoa	\$200,000	Drainage canals
	African Development Bank	\$2 million	Tunnel rehabilitation
	Province of Fianarantsoa	\$15,800	Contributions to railroad maintenance
Port of Manakara Rehabilitation	Pact/ILO	\$50,000 estimated	Institutional Development of OPCI
	World Bank	\$ 2 million	Contingent on privatization of the port
	Ministry of Public Works	\$500,000 estimated	Transfer of a used drag on the Canal de Pangalanes to Ministry of Transport for the Port of Manakara
Agricultural Intensification	ReCAP/USAID	\$300,000	Repairs to port warehouses
	STABEX/ European Union	\$20,000 estimated	Training in cash crop tree production on eastern side of corridor
	USAID Cyclone Supplemental Funding	\$ 68,000	Reinforcement of agricultural systems
Population-Environment	PSDR/Work Bank	In-progress	Negotiation of presentation of Kolo Harena projects to GTDR and PSDR
	Packard Foundation	\$1 million	A \$2 million grant to Madagascar with about half to the eastern side of the forest corridor
	Population Office/USAID	\$100,000 estimated	ECHO financing for integration activities in the Tolongoina, Ikongo, Alatsinainy-lalamarina and Ambohimahamasina communes
Road Construction	Summit Foundation	\$50,000 estimated	Contributions for public health and water supply infrastructures on eastern and western side of corridor
	USAID FCV	\$ 168,912	<ul style="list-style-type: none"> Isalo National Park circular road Miarinarivo segment
		In-progress	
	USAID Cyclone Supplemental Appropriations	\$ 52,000	Repairs to CAP roads
	ReCAP	\$ 1.5 million	Ifanadiana – Ikongo road
		\$ 500,000	Sahasinaka – Bekatra road
	World Bank PST	\$ 232,000	Vohitsaoka – Tanambao road
\$ 1.02 million		Ambalavao – Mahazony road	
Agro-Action Alimentaire (European Union)	In-progress	Complementary road construction to link up with Ifanadiana – Ikongo RIP 4	
Agricultural Infrastructures	Japanese FCV	\$ 55,556	3 access roads to Isalo National Park
	International Red Cross	\$4,000	Lavaka restoration in Sendrisoa, latrine and well construction in Faraony valley
	US Pacific Command	\$25,000	Emergency funding for reconstruction
Community Development through Communes	USAID Cyclone Supplemental Appropriations	\$ 112,000	Rehabilitation of dams and other infrastructures
	UNFP	\$ 5 million	Ambalavao region economic development in all surrounding communes
Community Development through Communes	USAID Cyclone Supplemental Appropriations	\$10,000	Mini-grants to communes
	Total	\$ 23,143,268	

The consequences of this additional investment of funds is now extremely gratifying for LDI. Most all of our Strategic Zones of Intervention are now served by all-weather roads. New areas of the coastal

zones (Sahasinaka linked to Bekatra/Lokomby) are now opened up to year round access. Bridges have been built so that now farmers can get their surplus produce to the market. Development projects financed by Interaide, TIAVO, and the European Union are now in place in many of the areas previously non accessible. The FCE railway is being rehabilitated and indeed, the quality of service has increased tremendously. Following the investment of cyclone recovery funds, rehabilitation of irrigation infrastructures has progressed on time with farmers now able to utilize much more efficiently their agricultural lands. Market access for Kolo Harena has increased dramatically. Rural areas of Fianarantsoa are becoming progressively different places from where they were three years ago!

4.4 Accomplishments by ZSI

4.4.1 North Corridor ZSI

After the end of the contract with the Association Tefy Saina, which assured the agricultural extension in this zone, the activities in Ranomafana slowed down during the last semester of 2001. Some farmers who are now *paysans vulgarisateurs* have gained experience and continue the application of techniques like SRA, tanety rehabilitation and fertilization in spite of the absence of formal organization. With limits in the available budget, LDI installed four new technical agents to support the *paysans vulgarisateurs* in providing the agricultural extension to 521 Kolo Harena members.

The agricultural supply centers continue to be very popular among farmers. For instance, the agricultural supply center managed by the Kolo Harena Federation of Ranomafana is very well received by farmers because it provides ready and short-term credit on a timely basis. The federation monitors very carefully the financial transactions and places pressure on banking institutions to assure timely delivery of credit. The federation has developed an annual work plan that includes investments of considerable membership time in the management of the supply center. The members do not hesitate to apply sanctions against debtors who default and subsequently the federation refused new requests for credit to these defaulters. The Ranomafana supply center now possesses management autonomy and it has used its own revolving funds to re-supply the center with 52 million FMG of materials and equipment this year. The credit system associated with the center has led to a 98% credit recovery rate and 100% for GCV credit.



The system of "caution solidaire" applied by the Kolo Harena increased the repayment of credit

4.4.2 Center Corridor ZSI

After several months of negotiation and awareness raising of the beneficiaries, the main steps in developing a GCF contract (Contractual Forest Management of 430 ha) in Ranomena, Alatsinainy-lalamarina have been cleared. A PRA study was completed in order to analyze the expectations of the population for the GCF and to propose viable alternatives for the ongoing forest use management. The signing of the contract is scheduled for January 2002 because of political events in December.

The eastern part of the corridor is a zone of regeneration and diversification of cash crops like coffee, pepper, cloves and organic ginger (17.5 ha). A protocol accord with STABEX and the CNCC (Comité National de Commercialisation de Café de Madagascar) is being developed to technically support the



The investment efforts in re-launching coffee in the eastern corridor tend to the labeling of the Kolo Harena products

Kolo Harena in creating coffee nurseries and multi-purpose nurseries in Ikongo, Tolongoina and Manakara (Bekatra). These series of initiatives represent a long-term investment that will yield fruit in 6 or 7 years. Right now, the cultivation of organic ginger is rapidly developing in Manakara and Tolongoina (3 ha) in collaboration with CEVOI. Until now, the Kolo Harena have been able to sell all of their production in the local market without any difficulty. If production surplus is available, the Kolo Harena will be the principal suppliers to PRONABIO, a

professional association of operators in the agri-business of natural and organic products supported by LDI in its EFE component.

This eastern zone of the corridor also benefits from the interventions of many NGOs in the domain of integrated activities (potable water supply, films on reproductive health, market garden cultivation, etc.). LDI assures the coordination of the activities of different partners in health and environmental activities who work with the same Kolo Harena in Tolongoina and Ikongo.

In addition to the techniques of SRI/SRA for which adoption continues to increase (49 ha, 30% adoption on average), tany rehabilitation using contour lines (40.5 ha) and the anti-erosion system are much more practiced by the farmers, particularly the Kolo Harena in eastern corridor where the tavy hills make up the Tanala landscape. The rehabilitation of tany is also associated with the creation of more than 30 nurseries for eucalyptus and coffee reforestation in all the sites.

In small-animal husbandry, beekeeping (265 populated hives) has started producing honey of high enough quality to be sought by big transformation enterprises like JB. It was noted that hive production varies from 3.5 kg to 10.7 kg of honey, and the production of the Kolo Harena is not yet high enough to satisfy the demand of the enterprises. Aquaculture (4.5 ha) still continues to generate substantial revenue for small producers of fingerlings in Alatsinainy-lalamarina where the sale of fingerlings generated 19 million FMG for two producers.

4.4.3 South Corridor ZSI

The process of establishing the GCF in Miarinarivo came to the implementation phase of the annual work plan. The members of COBA displayed their good willpower in advancing the process through structuring the different commissions for dina reinforcement, commissions for development and conservation within COBA. This dynamics is somewhat disrupted by the poor collaboration of the forestry cantonnement in Ambalavao vis-à-vis the objectives of the management transfer. The reinforcement of COBA capacity will be a focus in the next six months in order to improve the management and financial techniques before the end of the program.



The big steps made by COBA in the GCF have led to the suspension of private exploitation permits in the Miarinarivo forest

The environmental education component proceeded with an evaluation of reforestation activities done by LDI before the start-up of the next reforestation campaign. This evaluation put into evidence the constraints and opportunities with regard to exotic reforestation species used until now. The Kolo Harena already familiar with the techniques established 16 eucalyptus nurseries planted with coffee.

The formalization and organizational reinforcement of new Kolo Harena continues with the establishment of Kolo Harena Facilitators (Mpanentana Kolo Harena) in each intervention site. Trained in the reinforcement of Kolo Harena capacity in the domains of commercialization, credit, etc., the Kolo Harena Facilitators are the people in liaison with the LDI socio-organizers.

Along with rehabilitation work on CAP roads with FRC funds, the LDI socio-organizers continued the monitoring of AUP activities, most notably in matters relating to the control, financial management and organization of maintenance work on the roads.

5. Mahajanga Region

5.1 Lessons learned

You need a tree to save a tree: an adage which fits the forests of Madagascar that are particularly threatened. This was the slogan of LDI Mahajanga in 1999 when they commenced the promotion of peanut cultivation as a cash crop for farmers living in the peripheral zones of blocks of dry forest (Ankarafantsika and Bongolava), and engaged more partners in the development of the region. This activity saw the participation of different partners in a great diffusion in the autonomous province of Mahajanga.

In addition, during the two and a half years of LDI intervention in the Mahajanga region, besides the expansive diffusion of peanuts, it was shown that:

- In the realm of agricultural promotion, credit made available to Kolo Harena members (especially for farmers with a weak source of revenue) was indispensable for survival and thereafter for increasing production. With the transfer of management of the input supply centers to the federations, more confidence was established between the federation and the Kolo Harena.
- The members of the Kolo Harena started not only to understand but also to apply a big portion of the technical and organizational packets supplied by LDI.
- In socio-organizational matters, it was demonstrated that the farmers who haven't have the luck of being helped by development organizations in the past are more motivated, more receptive to adopting techniques and more disciplined (credit reimbursement, little infringement of rules and the dina, adoption of cultivation techniques ...) as compared to farmers who have been habitually helped in the past.
- In matters of reinforcement of Kolo Harena capacity, the receptivity of the KH is greatly amplified after good technical results are obtained from technical assistance and practical and theoretical training (training in associative management, cultivation techniques, and management of input supply centers...). In effect, training constitutes an indispensable condition for the sustainability of the structures and achievements of the Program.
- The main lesson learned during the semester in terms of Enterprises favorable to the environment is that despite the studies that were already done before LDI, there is insufficient important economic data available on the region of Mahajanga.

The support of the ECUBIOPROCESS projected showed that it was difficult to collect production data when it's necessary to have very exact information, and that makes it difficult to evaluate future input support and a need for large quantities of products. In order to overcome this deficiency, it is necessary to do studies on a grand scale and over a long period of time.

- Regarding community management of natural resources, it was shown that the "participative management of forests" (GPF) is an adequate process. The procedures are less cumbersome than "Gelose", but it necessitates effective participation of the Forest and Water Service. Nevertheless, the creation of the "base local community" (CLB) cannot be forced, the awareness-raising phase is very important since it is only associations or communities conscious of the gravity of their problem who can make up the CLB and formulate a request. Once regrouped, the community will establish itself with technical support of the socio-organizers and adequate management tools.

As for the establishment of the management plan after the signature of the contract, conflicts of interest with neighboring villages can come up but this is not an insurmountable problem. The federation of associations and the local authorities can help. Often it is necessary for a resource person monitoring the CLB and mobilization to be around for a period of a few months to a year.

- Despite the budget reduction and the closing of the LDI regional office in Mahajanga, great confidence was established between the Kolo Harena/federation and the program. The NGO GREEN will take over for LDI, although with even more limited means for a determined period, and the sustainability of achievements is on the right track. It remains to reinforce the technical and organizational capacity of the federation that will be the structure of the lasting sustainability of LDI in the Mahajanga region.

5.2 Performance according to the indicators

Accomplishments according to objectives are presented in the following table :

Indicators 2001-2002	Quantified objectives	Accomplishments July – December 2001	Notes on the indicator
Level of activity			
Agricultural intensification - Increase in production - Increase in revenue - Establishment of credit	- 10% - 10% - \$ 8,050 of which \$4,820 rural credit and \$3,230 in inputs	n/a n/a Applications checked over but released in February 2002	Agricultural campaign underway. Yield figures complete last year data ONG GREEN assures the January 2002 monitoring of credit with EAM
Environmental education - Realize the EE&C activities that target the Kolo Harena - Conduct evaluations according to activities conducted	- 2 activities - 1 evaluation per ZSI	-4 activities - 1 pre-evaluation per ZSI	(projection-debates, distribution lambahoany, emissions radio-TV, gazety KH) household studies
Community management of natural resources - Number of signed contracts - Number of villages implicated in the community conservation - Number of villages implicated in the sustainable use of the natural resources - Establishment of signed contracts	- 1 contract - 11 villages - 51 villages - 4 contracts	- 1 contract being developed - 11 villages - 51 villages - 4 contracts	(signature the beginning of January) <u>Forest of Anosimijoro:</u> Area replanted : 4 ha <u>Forest of Marosely:</u> Preparation for re- plantation, potting of harvested wildlings, re- plantation scheduled for January
Promotion of the EFE - Number of EFE supported by LDI - Total investments attained by the supported EFE - Disbursement of FIEFE funds - Creation of commercial relations between EFE and Kolo Harena	- 14 EFE - \$172,000 - \$0 - 342 farmers	- 14 EFE -\$0 -\$0 -891 farmers	
Capacity reinforcement - Creation of Kolo Harena associations - Work with members of Kolo Harena associations - Village animators - Reinforcement of negotiation capacities of Kolo Harena federations	- 69 associations - 5 federations - 1125 members - 60 animators - 1 junior expert	- 68 associations - 5 federations - 1128 members - 68 animators - 1 junior expert	
Sub-results level			
Reduce the expansion of agricultural land in the priority ecosystems - Monitor the evolution of pressures in the ZSI	-1 pilot ZSI	- Report of the monitoring of tavy finalized	Illicit tavy still exists in the pilot ZSI but it's not being practiced by any KH members Charcoal making and tavy are inseparable in the ZSI of Ankijabe
Increase in benefits coming from the sustainable use of natural resources - Inventory of the EFE "induites" in the regions of LDI - Evolution of business figures of the supported EFE - Creation of jobs		- 1 EFE induite : functional - n/a - 29 jobs	ECUBIOPROCESS (will be in 2003) For the fruits : EXOFRUITMAD/Ass. VONONA
Reinforce the capacity of the Kolo Harena to undertake sustainable practices - Evolution of the number of people practicing the technical packets - # Kolo Harena who participate in conservation and development activities		- 366 farmers - 12 Kolo Harena (191 farmers)	The associations have their work plans, participate in the development and the monitoring-evaluation of the plans and receive training on these themes. - Anticipated for the first semester of 2002 in the framework of GREEN activities
Intermediate results level			
Sustainable use of natural resources Incidence of tavy Incidence of fire			The objectives are not quantified but the results will be numbered when the study is terminated

Incidence of charcoal production		- n/a
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5.3 Regional support

5.3.1 Promotion of the EFE

Taking into account the future end of activities supporting EFE activities, most of all will be access to support in the realms of fruits and vegetables and to the credit system.

This action is summarized as follows :

The project ECUBIOPROCESS was supported in their desire to create a factory for the processing of fruits and vegetables in Mahajanga. In order to refine information collected during the study done by the EDEN on the possibility of supplying stocks of fruits and vegetables, another study was done in a radius of 150 km to see the possibilities for the KH to cultivate the products in demand and to see what help would be necessary to enable the associations to supply a future factory.

The support of this activity also consisted of finalizing a business plan for EXOFRUIMAD for a request for funds totaling 200 million FMG compared with the FIEFE.

For credit actions were approached by the monitoring of credit accords (*faisance valoir*, GCV and energy) with EAM, however it should be noted that the economic context in the area of rice has put a check on the actions of credit.



Input Supply center "MAHASOA" in Ankijabe village

Also to be noted in the realm of credit is the transfer of the input supply centers formerly held by SAF FJKM to the KH federations in the concerned regions as well as the opening of new centers throughout the ZSI.

It can be said that during the semester the five KH federations kept relations with the EFE, for a total of 891 farmers. For the contracts and protocols signed during the union of KH/EFE, only the federation "FITARATRA" of ANOSIMIJORO honored its contract but in actuality the sale of mangos was suspended on account of technical problems within EXOFRUIMAD. For the other contracts of the other federations, they should resume when the economic situation permits. GREEN will support the federations in the development

of new contracts.

5.3.2 Partnerships with institutions and organizations

LDI continued to closely collaborate with different partners in the region. They participated in different regional planning seminars and established a regional monitoring and evaluation system.

- In the realm of establishing activities in the peripheral zone of Ankarafantsika, a protocol accord was renewed for six months between LDI and ANGAP/Ankarafantsika and with FENU/PDRAB. To make this collaboration concrete, biological measures were put in place for the stabilization of lavakas in the watershed of Androtra conducted with ANGAP, and debate sessions on different environmental themes in the region of Ambato-Boeni with FENU/PDRAB.
- For the rehabilitation of the Bekobay road, a protocol accord was signed between LDI and AQUALMA Mahajanga.
- In the realm of establishing the autonomous province, LDI participated in a workshop on the validation of dashboard of technical unity and monitoring in the Province and the validation of communal plans for the region of Ambato-Boeni, as well as a workshop for the launching of the PSDR in Mahajanga.

- At the national level, representatives of the KH participated at the platform of farmer organizations of Madagascar organized by the Dutch NGO AGRI TERRA in Antananarivo

In November LDI Mahajanga was honored to welcome the General Director of USAID to its office.

After exchanges with the Program's associate directors, there was a visit to the CDIA. In addition, members of the Tanjona federations and representatives of the KH of Tsararano had the opportunity to talk with the General Director.



USAID Director during the Kolo Harena visit in Tsararano

5.3.3 Other regional activities

Research and training at the CDIA

At the CDIA, preparations for the new campaign started. The manioc fields and rice paddies were prepared and the surrounding villages supplied manure for the CDIA. Rice nurseries were planted in preparation for the training of farmer-trainers in improved rice culture techniques.

The watering of aloe plants, lemon trees and cashew trees continued.

Sixteen training sessions on the utilization of ploughs and discs were done with KH members from 5 ZSI, not at the CDIA but in the field in the respective villages.

Regional communication plan

In the realm of establishing the regional communication plan, in collaboration with ONE in Mahajanga, 120 lambahoany were distributed to the best Kolo Harena of the year in the five ZSI. Sixty more lambahoany will be distributed to members of the CLB and local authorities following the signing of the contract transferring the management of the Belalitra forest in January 2002.

Work rehabilitating the RN4 – Bekobay road:

In the realm of LDI activities financed by USAID matching funds (FCV), the RN4-Bekobay road (46 km) obtained the objective of a partial rehabilitation.

Following the convention n°687-0126.G.00.7001, the market support reference Min/LDI/ANT/01/08 for a total of 213.354.6000Fmg was awarded to the enterprise DECOM.

The following shows the progress of work until November 30, 2001 (the last worksite meeting)

- Structures and cleanup :
 - 2 strike offs : 100% complete
 - 1 dalot : 100% complete
 - masonry canals : 90% complete
 - curing of the dalots : 100% complete
 => *Advancement = 95% complete*

- Earthworks and causeway :

After the problem of broken equipment at the beginning of November, the work was able to resume. The enterprise was able to do the embankment and the work of re-profiling (light and heavy) but the work overseer did not approve the measures that were not executed following the rules of the art. The work was therefore redone.

The situation therefore is as follows :

- light re-profiling (approved) : 20%
 - heavy re-profiling (approved) : 10%
 - borrowed fill : 80%
 - gravel : 0%
 - purge : 0%
 - planting grass : 0%
- => *Advancement = 25%*

The global situation for the advancement of work therefore averages 70% at the time of this writing. The work has been slowed by delays. The provisional reception of the work is expected at the end of January 2002.

5.4 Accomplishments by ZSI

The following table illustrates the accomplishments in each ZSI :

Strategic Zone of Intervention	Accomplishment	Partners
Tsararano - Area : 300 Km2 - Population : 7810 - Density : 26 hab./km2 - #Villages/hamlet : 60+ - #Fokontany : 7 - Ethnic composition : 15 groups with Antaisaka dominating	<i>Agricultural intensification</i> - Preparation of the agricultural campaign asara : Establishment of tany cultivation by the method of sub-cover cultivation : 0,35 ha of corn, 0,90 ha of manioc and 0,75 ha of peanuts - Establishment of 25,34 ha of rice during the season jebly - Establishment of 0,52 ha of market garden cultivation - Management of eucalyptus nursery : 60 m2 and potting of young plants Credit - Number of beneficiaries : 10 members of 2 Kolo Harena - Establishment of an input supply center managed by the federation Infrastructure - Rehabilitation of the GCV by the Kolo Harena Soaniarahana.	EAM
	<i>GCRN</i> - Creation and making official of the CLB « Imitsoanala » : 32 families are implicated - Following the meeting with ANGAP, the forest demanded on behalf of the National Park of Ankarafantsika, along with the controlled utilization zone (ZUC) for a project to transfer the management was not possible. Therefore other models of control of the Antahialava forest will be made the objective of another reunion of the CLB with ANGAP	CANFORET
	<i>Environmental education</i> - Installation of 13 village animators and 12 listening groups - Distribution of lambahoany - Radio emission - Projection-debate	
	<i>Reinforcement of local capacities</i> - Creation and making official 16 Kolo Harena regrouped in the federation named " Tanjona" - Training of those responsible for associative management - Training of the KH in the utilization of the plough and discs - A general assembly of the federation members - Training of those responsible for the internal organization of a groupement and on the different responsibilities of the elected representatives with practical application - Make a list of KH members in the ZSI - Dialogue with KH for the development of a contract with NOURALY	
Ankazomborona - Area: 1950 Km2 - Population : 22731 - Density : 11.6 hab./km2 - #Villages/hamlets : 50+ - #Fokontany : 10 - Ethnic composition : 17 dominating groups Tsimihety et Bara	<i>Agricultural intensification</i> - Preparation of the asara campaign - Maintenance of lemon nursery : 12m2 - Maintenance of eucalyptus nursery : 14 m2 - Established 16,3 ares of market gardens - Established 500 m of fire breaks to protect peanut cultivation Credit - Number of beneficiaries: 29 members of 6 Kolo Harena - Creation of an input supply center managed by the federation Infrastructure - Identification of 2 sites to install a barrage - Completion of a barrage feasibility study by ERM	EAM
	GCRN - Dina made official on roaming zebus in 9 villages - Monitoring committee controls the application of dina on the destruction of crops by zebus - Establishment of an inter-community dina on charcoal making/deforestation/management of raffia and bush fires on the level of 9 KH	
	Environmental Education - Installation of 18 village animators and 9 listening groups - Distribution of lambahoany - Radio emission - Projection-debate	CCEE
	Reinforcement of local capacities - Creation and officializing of 11 KH regrouped in a federation named " Miara-mizotra" - Training people responsible for associative management - Training of KH on the use of ploughs and discs - General assembly of federation members - Training of people responsible for the internal organization of the groupement and on	

	<ul style="list-style-type: none"> - the different responsibilities of elected representatives with practical application - Creation of a list of KH members in the ZSI - Monitoring the collection of dues and the transportation of materials for construction of the Ampatika bridge - Support of KH members in identifying their needs for seeds and agricultural materials 	
Ankijabe - Area : 600 Km ² - Population : 6618 - Density : 11 hab./km ² - #Villages/hamlets : 47+ - #Fokontany : 8 - Ethnic composition : 9 groups with domination of Sakalava	<i>Agricultural intensification</i> <ul style="list-style-type: none"> - Preparation of the asara campaign - Installation of 7,27 ha of rice paddies with improved varieties and transplanting of seedlings during the jebly season. These rice paddies were also weeded. - Management of lemon nursery : 8 m², potting of seedlings - Management of eucalyptus nursery, potting of seedlings Credit <ul style="list-style-type: none"> - Number of beneficiaries : 35 members from 7 Kolo Harena - Creation of an input supply center managed by the federation Infrastructure <ul style="list-style-type: none"> - Identification of a site to install a barrage 	EAM
	GCRN : <ul style="list-style-type: none"> - Concrete development of management tools (contract, record book and Dina) in anticipation of management transfer. - Pre-validation of management tools at the level of the CLB - Awareness-raising of CLB members on the transfer of management - Technical development of a management plan for the Belalitra forest - Creation of a definitive list of CLB members 	CANFORET
	Environmental education : <ul style="list-style-type: none"> - Installation of 23 village animators and 11 listening groups - Distribution of lambahoany - Radio emission - Projection-debate 	CCEE
	Reinforcement of local capacity <ul style="list-style-type: none"> - Creation and officializing of 18 KH re-grouped in a federation called " Mahaso" - Creation of three new Kolo Harena - Training of people responsible for associative management - Training of KH on the use of ploughs and discs - General assembly of federation members - Discussions with KH for the development of a contract with PROBO 	FENU
Tsarahasina - Area : 922 Km ² - Population : 13.165 - Density : 14,3 hab./km ² - #Villages/hamlets : 47 - #Fokontany : 7 - Ethnic composition : 15 groups with domination of Tsimihety	<i>Agricultural Intensification</i> <ul style="list-style-type: none"> - <i>Preparation of asara agricultural campaign</i> - Potting of lemon seedlings - Management of potted wildlings : 572 pots - Potting of eucalyptus seedlings: 1280 pots - Transfer of 24 kg of peanut seeds Credit <ul style="list-style-type: none"> - Number of beneficiaries : 5 members from one Kolo harena - Creation of an input supply center managed by the federation Infrastructure <ul style="list-style-type: none"> - Cleaning out of 1500m of derivation canal at the Bemololo barrage 	
	GCRN <ul style="list-style-type: none"> - Development of a management contract for the Marosely forest - Training of CLB on associative management - Development of PV following burning started by a neighboring village during which a large section of the Marosely forest was destroyed - Revitalization of the committee to stop bush fires in Bemilolo 	CANFORET MIRAY
	Environmental education <ul style="list-style-type: none"> - Installation of 14 village animators and 11 listening groups - Projection-debate - Radio emission - Distribution of lambahoany 	
	Reinforcement of local capacity <ul style="list-style-type: none"> - Creation and officializing of 15 KH regrouped in a federation called Tsarakolo - General assembly of the federation - Support of the functioning of the KH in the realm of renovating the office - Creation of two new Kolo Harena - Training of people responsible for associative management - Training of KH in the use of ploughs and discs 	BEST
Ambalakida - Area : 521 Km ² - Population : 9.048 - Density : 17,3 hab./km ² - #Villages/hamlets : 17 - #Fokontany : 7 - Ethnic composition: 9 groups with domination of Sakalava	<i>Agricultural Intensification</i> <ul style="list-style-type: none"> - <i>Preparation of the asara agricultural campaign</i> - Potting of lemon seedlings - Management of potted wildlings for the reforestation of the Anosimijoro forest - Potting of eucalyptus seedlings Credit <ul style="list-style-type: none"> - Number of beneficiaries : 29 members of 3 Kolo harena - Creation of an input supply center managed by the federation 	

	<p>GCRN</p> <ul style="list-style-type: none"> - Creation of a management contract for the Anosimijoro forest - Training of the CLB on associative management - Establishment of a committee against bush fire 	CANFORET MIRAY
	<p>Reinforcement of local capacity</p> <ul style="list-style-type: none"> - Creation and officializing of 4 KH regrouped in a federation called " Fitaratra" - Training of members of the federation on the management of the centers (analysis of project feasibility, management of credit, monitoring and recovery of credit, accounting). - Training on the organization and functioning of an association, including themes on the different roles of different organs of an association, running a meeting, development of PTA and provisional accounting (CPE), keeping compatible documents, the procedure for acquiring credit (material and financial) and the establishment of formulas for requesting credit. . - Training the KH of the use of ploughs and discs - Holding a general assembly of the federation 	BEST

6. Moramanga Région

6.1 Lessons learned

During the preceding phases, LDI Moramanga essentially oriented their efforts towards the diffusion and establishment of the necessary elements and tools within partner farmer associations for the achievement of activities like agricultural intensification, the promotion of associations favorable to the environment and the preservation of the environment.

It's been stated that this approach presents a hazard, which is to have kept quiet the interdependence of the three sectors : each activity has its particularities and its own importance, but there is only a fine line between them. Consequently, the KH associations have and will serve as tools and as transmission drives to make the most of this interdependence, for which the stakes (necessary elements and tools) are :

- preservation of the water cycle
- misdemeanors of fire or overexploitation of natural resources
- the incidence on the quantity or quality of production as compared to the degradation of the landscape
- the solidarity of civil rural society as compared to development

In the intensification of agriculture, the principle lesson learned is that of "selling a speculation before the plantation," which is to say that it is important to instill the KH with the notion of economic and commercial value of a mediocre speculation without forgetting the many benefits which can be given to the environment.



SRI/SRA has satisfied and is spreading soundly among farmers, Kolo Harena or not

This message has been more or less well understood by the actors-beneficiaries, as a result of a good communication network, quantitatively and qualitatively. The sector EE/C progressively takes importance for assuming more responsibility and thus the sustainability of actions/activities that have been started.

The exchanges (partnerships between farmer associations or with operators), the circulation of information (bulletins, radio ...) and training (CDIA or in the field) have started to give fruit and constitute the basis of this ensemble strategy, with among other things the "farmer-to-farmer" and the meetings of "Farmers – Operators".

6.2 Performance according to the indicators

Indicators 2001-2002	LDI Moramanga accomplishment	Notes on the Indicator
Activity Level		
Agricultural Intensification		
- Increase in production	- in process	<p>The increase in production and revenue is based on figures collected from "cahiers de ménages". The results will be completed by June 2002. Reaching the goals is thinkable based on the serious use of given techniques, the quality of used seeds, the weather, and the work quality of our field agents.</p> <ul style="list-style-type: none"> - Potatoes : 1.5 to 1.8 T/Ha - Beans : 0.4 to 1.4 T/Ha <p>- Gross income varying from 30,000 to 150,000 fmg was reported depending on culture (litchi, vegetables, watermelon)</p> <p>The poor volume granted is a consequence of the application of a series of criteria that can be attributed to the grant committee, the utilization of credit for intensification (increase of area and/or application of techniques). An increase in volume is expected with the arrival of new requests from Fenerive and Brickaville-Vatomandry that are currently being developed.</p>
- Increase in revenue	- in process	
- Allocate credit	- \$3,024 disbursed in rural credit	

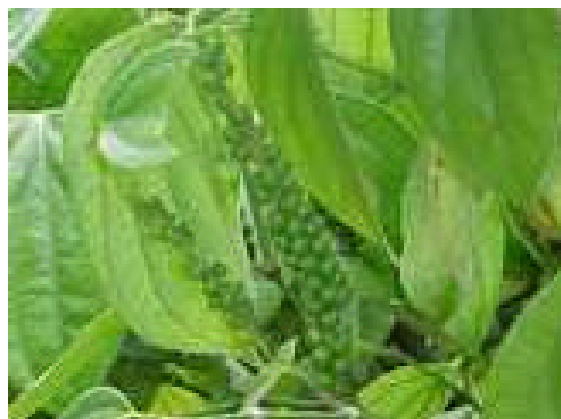
<p>Environmental Education</p> <ul style="list-style-type: none"> - Carry out EE&C activities which target the Kolo Harena - Carry out evaluations of the activities 	<ul style="list-style-type: none"> - 4 activities - 1 evaluation per ZSI 	<p>Outdone objective, 5 activities performed :</p> <ul style="list-style-type: none"> - Rural fairs in Moramanga, Ambatovy and Amparafaravola with the participation of Kolo Harena Federations - Broadcasting of various themes : LDI's activities, environment, alternative techniques to tavy, Health-Environment integration, OTIV, improved stove. - Sensitization sessions about environment - Green school and in school EE session - RAMSAR workshops <p>Evaluation sessions will be performed by april 2002</p>
<p>Community Management of Natural Resources</p> <ul style="list-style-type: none"> - Number of contracts drawn up - number of villages concerned in the community conservation - number of villages concerned in the sustainable use of natural resources - implemented of signed contracts 	<ul style="list-style-type: none"> - 2 contracts completed - 46 villages - 167 villages - 	<p>10 villages in contracted forest management, and 36 of our intervention villages. Area concerned by contract complete a total of 180 ha.</p> <p>All LDI Moramanga villages of interventions are involved. 47 villages more added up to the 120. Management plan is now implemented, although the process goes by step. For the moment, activities include management of community right-to-use and plant reforestation (reed, eucalyptus).</p>
<p>Promotion of EFE</p> <ul style="list-style-type: none"> - number of EFE supported by LDI - total investments by supported EFE - expenditure of FIEFE funds - establishment of commercial relations between EFE and Kolo Harena 	<ul style="list-style-type: none"> - 21 EFE - \$ - \$ - 1630 farmers 	<p>Outdone objective. Efes concerned are : Madakoho, FIMPIMO-gemo, assoc amis 2 lacs, gaim, Volaso, label CBD, Tsara Aromatika, Soalandy, koperativa MLA, Plantation Lamahoana, Plantation Beando, Biosave-trimeta, MENDRI, Eleveur SA-ICS, Ranomanitra, Phael flor, Plantation Mondésir, Pronatex, Phelps Dodge, Homéopharma, Fanalamanga.</p> <p>4 financed EFE (Mondésir, Mendri, Phael flor, Tsara aromatika)</p> <p>In progress (Phael flor and Mondésir)</p> <p>The AKH associations earned 457.071.200 fmg from transactions concerning the following speculations : cinnamon, BRF, Onion, Ginger, rice for export, essential oil, dried fruit</p>
<p>Capacity Building</p> <ul style="list-style-type: none"> - Work with Kolo Harena associations - Work with members of Kolo Harena associations - establish a system of farmer-to-farmer educators - Number of Federations of Kolo Harena associations reinforced with capacity-building activities 	<ul style="list-style-type: none"> - 70 associations KH IF, 3 coba, 8 DURRELL associations totaling 2294 members - 42 trained educator farmers - 8 experts juniors 	<p>These indicators are cumulative.</p> <p>With the differentiation of the ZSIs, with Fénérive, Brickaville-Vatomandry- Mahanoro not considered under regular funds, their KH are counted under other funding sources.</p> <p>To assure the sustainability of activities, the paysans vulgarisateurs and animateurs villageois are selected by the KH members and will be trained by LDI to do technical extension and socio-organizational for the other members. Federations are operational in Agricultural input supply centers management and other socio-organization related activities</p>
Sub-level Outcomes		
<p>Reduce the expansion of agricultural land in the priority ecosystems</p> <ul style="list-style-type: none"> - monitor the evolution of pressures in the ZSI 	<p>1 pilot site: Ambalavero</p>	<p>Tavy monitoring report is now completed. Process will be adapted and replicated in other SZI.</p>
<p>Increase incentives for sustainable use of natural resource</p> <ul style="list-style-type: none"> - inventory EFE transgressions in the LDI regions - evolution of turnover of the supported EFE - Number of created job opportunities 	<ul style="list-style-type: none"> 15 (In progress) In progress 1065 job created 	<p>There were no quantifiable objectives given that show the results of LDI support in promoting the EFE. Madakoho, FIMPIMO-gemo, assoc amis 2 lacs, gaim, Volaso, label CBD, Tsara Aromatika, Soalandy, koperativa MLA, Plantation Lamahoana, Plantation Beando, Biosave-trimeta, MENDRI, Eleveur SA-ICS, Ranomanitra. Those are EFE that came into existence without the support of LDI.</p>

Reinforce the capacity of Kolo Harenas to undertake sustainable practices <ul style="list-style-type: none"> - Number of people using the technique package - number of Kolo Harena members who participate in conservation and development activities 	<ul style="list-style-type: none"> - 1260 farmers - 1994 farmers 	<p>55 % (1260 paysans) of KH members are using at least 2 suggested technique packages.</p> <p>The associations which have their work plan participate in activities and follow-up evaluation of plans and participate in training which cover the themes. No available information about Durrell's associations.</p>
Intermediate Results		
Sustainable Use of Natural Resources <ul style="list-style-type: none"> - incidence of tavy - incidence of fire 	<p>Tavy monitoring has been completed in Moramanga pilot site.</p>	<p>Outcome is now available for this first study.</p>

6.3 Regional support

6.3.1 Promotion of the EFE

Until now enterprise efforts that have put operators from the private sector in direct contact with farmers, especially KH members, can be credited with prompting improved self-responsibility in each contracting party. The enterprise approaches have permitted the KH to succeed in the sale of KH 36.4 tons of ginger to varied companies (Volaso et Volamena) interested in the exploitation of this plant. Kolo Harena in Fénérive-est and Brickaville-Vatomandry, as well as those in the region of Fianarantsoa, are also interested in producing this cash crop. Transactions in ginger have enabled producing associations and the Federation in Beforona to earn more than 62 million Fmg.



Promotion of cashcrops, here blackpepper, is a major activity of LDI on the coastal region, from Fénérive Est to Ilaka Est

In the realm of essential oils, the number of operators has continued to grow. For an improved extension of this activity, more partnerships have been formed with partner companies (*BIOSAVE-Trimeta, Ranomanitra, plantation Mondésir, Béando et Lamahoana, Tsara Aromatika*, etc) , trips to find prospects for new contacts have been made to other countries (South Africa and the USA), and LDI has given support for elaborating business plans and putting enterprises in contact with local banking institutions. The extension of the market, improvement of the quality of the products, increase in production, putting an increased value on natural resources, and including farmers in the rational and sustainable management of their natural resources are all expected impacts as a result of these approaches.

New promotion activities were underlined. This was the case with the cultivation of onions in Ambatovy (in the test phase), in silkworm breeding near Lake Alaotra and in the cultivation of papaya for the extraction of latex along RN 44. These initiatives are off to a big start in these regions and the results until now are impressive. More thorough economic studies and a collection of pertinent information should be completed before subsequently promoting all the approaches.

In the realm of ecotourism, our initiatives have interested a number of tourism operators. Fitamihavo, an association in Ranomafana-est, specializes in the making of dried fruit and has opened its activities to the realm of tourism for the promotion of local tourist sites. This approach has been initiated by the village groupement as part of the establishment of local development plan connected to a GELOSE process. A better clarification of the situation by the members is necessary and a general assembly of the association is recognized as being necessary before the plan completely evolves.

For the conservation of the Rasoabe site in Manambato, the association 'Amis 2 lacs' submitted their application to LDI for support in developing the economic potential of local natural sites. The intervention is underway. Concerning the MENDRI application, following an adjustment of the investment needs, it is currently being considered by BTM-BOA. In the expectation that they will accept the application, the promoter has started his project extension by constructing a new restaurant.

The "Alaso ecotourism" application is stalled and awaits the completion of a PREE and our support for the development of a business plan.

In any case, the activities accomplished by this component have permitted the creation of 1065 of new EFE posts and has benefited 1630 farmers thanks to the established KH-EFE relations, for a total of more than 457 million Fmg.

6.3.2 Partnerships with institutions and organizations

The synergy of actions between LDI and the other institutions was reinforced across the co-financing contracts aimed at improving the infrastructure at the base of conservation actions. An example of this work is the rehabilitation of a barrage for crop irrigation in Ambohimananarivo-Ambatovy financed by FID for an approximate value of 150 million Fmg. The participation of the farmers is 30% of the global amount. This community contribution, in labor (carrying materials, manual labor, planting of coffee seedlings) and in cash, was honored 100% by the local population. The role of LDI in this process was centered on social awareness-raising, development of applications, the administrative process and putting the community in contact with the funding agency and the other actors. This accomplishment is a major asset which will permit a number of additional families to have an increased surface area of land that can be cultivated and additional rice production thanks to techniques taught by LDI field agents.

Following our philosophy for concrete regional development and the conservation of priority ecosystems, the autonomous province of Toamasina has put its confidence in the LDI program and has made contributions to two different projects : the rehabilitation of a barrage in Manerinerina, the commune of Andevoranto in Brickaville and the rebuilding of the railroad, including the Andasibe-Ambila portion. A portion of the financing will be used for the work and the other part will be used for the social organization, a task that comes back to the socio-organizational component of the program. Until now, the regional team has been able to make an inquiry visit for a better understanding of the current situation in order to better plan the actions that will be undertaken.

Voahary Salama and SAF are working with LDI in the promotion of integrated actions in the Beforona zone. Three of the villages in which we intervene (Antandromby, Maromitety, Ambinanisavolo) have started up activities integrating environment and health. A majority of the population are interested in these activities, both Kolo Harena and non-Kolo Harena, and an extension of the activities to other villages is anticipated thanks to the PACKARD financing that will start up in 2002.

Showing a pronounced ascendancy at the regional level, the Kolo Harena Federations have come unto their own and are known for their vitality. Many followers are now members of the farmers college within the GTDR of each Fivondronana and other KH members are integrated within the chamber of commerce in their respective regions.

6.3.3 Other regional activities

Research and training at the CDIA in Beforona

Open to the public, the CDIA in Beforona was visited by 126 farmers coming from all over the island. The breakdown was as follows : 44 partner farmers from the Haut Bassin Mandrare project, 2 Peace Corps Volunteers, 78 model farmers from ADRA and 2 visitors from the CDIA in Miadana Mahajanga.

In the realm of training, 15 training sessions took place within the CIDA over the course of the last semester and benefited 275 people, including Kolo Harena members, technicians and other people. The topics of the training concerned socio-organization, cultivation of organic ginger, SRI, vetiver cultivation, aquaculture, communication, environmental education, health and nutrition and reproductive health.

In the realm of research, LDI Moramanga is in close collaboration with universities both in Madagascar and abroad, local institutions (BEMA) and institutions abroad (CIIFAD). The following is a breakdown of student and where they are from :

- LDI in collaboration with ESSA : 12 engineering students
- LDI in collaboration with the University of Cornell and CIIFAD : 9 researchers
- University of Antananarivo in collaboration with BEMA : 8 researchers
- BEMA in collaboration with institutions abroad (University of Heidelberg, University of Berne, HEPHO) : 5 researchers

Three students from ESSA – Antananarivo actually did their senior thesis research for their agricultural engineering degrees at the CDIA. A brief summary of their research is given in the annex.

Coming from an overseas university, Jacques Pollini (CIIFAD - CORNELL University) did his research in the region of Beforona (Ambodilaingo) on the theme : "Tavy, management and improvement"

Frédéric Coget (Haute Ecole of the Province De Hainault Occidental, in collaboration with BEMA and ESSA - Tanà) did his studies on the theme "Medicinal plants of the Eastern Forest Corridor."

The regional communication plan

The environmental problems at the corridor level have are many. Studies have concluded there are five categories of problems : the practice of tavy, the sedimentation of Lake Alaotra, non-rational exploitation of forest resources, mining exploitation and trafficking and hunting wild species. The regional communication plan was developed to create a synergy of the actions of different actors and environmental organisms intervening around the corridor stretching from Zahamena to Anosibe an 'Ala. The actions that have been undertaken are related to the human dimension of the causes and are concerned with the knowledge, attitudes and human comportment in regard to natural resources. The plan of operation includes training sessions (radio or TV animators and people responsible for village cultural centers), the establishment of village cultural centers, the diffusion of thematic messages and communication activities (radio and TV emissions) and events (fairs, vako-drazana, competitions).



Kolo Harena associations participate actively to the Zetra Festivities for the conservation of the Lake Alaotra

Some of these planned activities were made concrete during the last semester of the year, in particular, the radio emissions that are now at the level of the respective radio stations. The themes treated tavy, illicit forest exploitation and mining exploitation (graphite and cobalt-nickel). One benefit of broadcasting these diverse themes is providing listeners with background information. In the realm of village infrastructure, the village cultural center in Ambodiriana is now functional for the zone

north of Alaotra (Imerimandroso et Antanandava). LDI proceeded to supply furniture.

6.4 Accomplishments by ZSI

6.4.1 ZSI of Beforona

ZSI BEFORONA	
Associations:	16 KH (399 members) + 1 AUE (56 members)
Intensification agricole :	
Tanety cultivation:	8.5 ha of organic ginger 56 practitioners of which 14 KH and 8 non-KH 3 ha planted with 523 different fruit trees 3 non-KH 9.5 ha of 5114 coffee trees and 1180 bananas 5 members of 3 KH and 6 non-KH
Vegetable cultivation :	3.45 ha of beans 19 members of 11 KH and 4 non-KH 9 ares of potatoes planted 2 members KH and 2 non-KH 25 ares ground nuts cultivated 3 practitioners non-KH 5.4 ares peanuts 2 non-KH 6.5 ares diverse market gardens 1 member KH and 3 non-KH
Village community granary :	4.3 tons of lowland rice worth 4.3 Millions FMG 18 members implicated
Credit granted :	14,136,000 fmg benefiting 23 members
IEC/E :	
-	Participation of the federation in a regional fair
-	Diffusion of 7 thematic emissions on the activities of LDI and Voahary Salama
EFE : Commercialization :	organization of meetings between the KH federation and 4 essential oil operators (Henri Fraise, Phael-Flor, Label CBD ET Biosave Trimeta) in the commercialization of organic ginger, with the sale of 24 tons by 58 members from 13 KH.



Farmers in Ambalavero Beforona took it upon themselves the tavy monitoring of the Vohidrazana forest

It's been agreed that LDI has made a positive contribution in putting a check on practices harmful to the environment. This is the conclusion of the evaluation of these LDI activities on the population of Ambalavero-Beforona, the pilot site for monitoring tavy. Farmers within the Kolo Harena have had a revenue increase of at least 10% and a production increase of at least 20%. At the same time, the KH members engaged in the improved activities have little time left over for other occupations. Locally, the access to the neighboring forest is surveyed by the community and local authorities, and the KH farmers are members of the environmental commission in the ZSI, and entity within the KH federation.

In the cultivation of organic ginger, the local KH have been able to establish commercial relations with different EFE operators and with their colleagues in Fianarantsoa. Within the ZSI, the ginger cultivation demonstrations executed in collaboration with the NGO BEMA are on the right track and have aroused a lot of interest. Independently, the integrated health-environment activities have seen and expansion in the number of village interventions.

In the cultivation of organic ginger, the local KH have been able to establish commercial relations

Nevertheless, it's been observed that the intensity of activities diminished and the number of active members has declined within many associations. An improved organization of the local team will be put into effect in order to boost and revitalize the team. At the same time, the Radio Akon'Ambanivolo is underway and steps are now being taken to make the essential component operational.

Regarding commercial transactions (ginger), the farmers who have benefits are not uniquely KH members. To this effect, commercial speculators have profited.

The debt recovery of the OTIV credit system has not gone well. Afraid that the program will recuperate its loans through the sale of ginger, many KH members have declined to participate in these arrangements, and others have refused to participate in the credit system.

In conclusion, it's necessary to recognize that the negative impacts of haste in the beginning of the program are being felt now. It's necessary to start over with better communication oriented towards a more collaborative participation for development, based on exchange and mutual confidence.

6.4.2 ZSI of Ambatovy

ZSI AMBATOVOY

Associations: 17 AKH (245 members) + 2 AUE (67 members)

Agricultural intensification :

SRI/SRA 20.8 ha cultivated by 91 farmers

Coffee cultivation : 88,500 seedlings planted by 399 practitioners

Market gardens: 0,80 ha cultivated by 45 practitioners for a total production of 3.5 tons

Tanety cultivation : 0.62 ha beans cultivated by 45 practitioners for average production of 1.4 T/Ha
1.7 ha potatoes cultivated by 128 practitioners

Watermelon: 0.5 ha cultivated by 23 practitioners for average production of 10 T/Ha

Onions: 0,62 ha cultivated by 38 practitioners for average production of 8.5 T/Ha (maximum 30 tons)

Compost: 850 m³ of compost by 70 practitioners

Aquaculture: 230 kg of fish harvested from 0.15 ha of ponds belonging to 13 practitioners

Chicken raising: 650 local variety chickens sold by 35 practitioners

Rabbit raising: 88 rabbits raised by 16 practitioners

Credit granted: 23.8 Millions fmg on onions for 29 beneficiaries

GCRNR:

Agroforestry: Plantation of biomass on 16.55 ha by 13 participants

Planting of living hedges on 5.8 km by 80 participants

Plantation 2200 of vetiver slips by 12 participants

Reforestation with 14,092 eucalyptus seedlings on 6.42 ha by 399 participants

IEC/E :

- celebration of the first anniversary of the Hanitriniala KH federation by holding a fair
- awareness-raising of all the KH on stopping bush fires
- environmental information/training sessions for 5 schools
- green classroom session with an EPP on the establishment of : 300m Tephrosia hedge
5m² of Cyprus nursery
management of coffee

EFE

Medicinal plants : Monitoring and management of reforestation with pygium seedlings and a marcotting test with PDM and PRONATEX.

Commercialization : Organization of meetings between KH federation and two operators (Eleveur and ICS) and support of research coming out of Tana and on the east coast.

Progress can be attested to by KH members who have begun to feel the benefits of their perseverance. Thanks to technical support and the considerable quality of our training, the farmers no longer need to look for new land or to engage in other practices that threaten the environment, like making charcoal or using laborers to exploit the forests. The farmers have planted trees and invested their efforts for the future in planting coffee. Today, the land is better utilized, the techniques for improving soil quality by the use of BRF and compost have been mastered and are known as successful by the local population. For improved rice cultivation, we have the precious support of a local Peace Corps Volunteer. The small animal husbandry activity is on the right track and KH families have earned extra income.



Timbering for commercial purpose plays a key role as a pressure on the corridor and drawing farmers as labor

The KH federation has had a good attitude and taken responsibility in researching commercial relations for local products (onions, watermelon, BRF), and for the first time the members have not engaged in individual commerce or collection of their products. In the functioning of the input supply center, the KH farmers have profited from our organizations and purchased surplus materials. Ambatovy, though recently initiated, has already launched the farmer-to-farmer system. Ten farmer trainers are working and sharing their knowledge with their peers.

The number of KH has steadily increased, and for organizational reasons, members have begun to form new organizations,

and the farmer-to-farmer system is venturing into new territories.

In relations with the partners, the collaboration with Phelps Dodge and MIRAY on the GCRN has stagnated, making it necessary to seriously consider the objectives of the association in order to achieve a synergistic effect.

In the realm of onions, the versatile comportment of our partner ICS/TA could have unfavorable consequences on the collaboration LDI- Kolo Harena - Partner. Better planning of actions is needed from the operator.

The rain was late in coming, and this impacted the preparations for the rice season, something with may result in lowered production this season.

6.4.3 ZSI of Lac Alaotra

ZSI ALAOTRA
Associations: 12 KH (400 members) + 1 AUE (700 members) + 3 COBA (385 members) + 8 associated with Durrell (300 members)

Agricultural intensification :
SRA 35 ha cultivated by 34 practitioners : production from 2.5 to 4.0 T/Ha
Tanety cultivation : 8 ha of peanuts cultivated by 7 practitioners; production from 0.7 to 1.3 T/Ha
 5.75ha of corn cultivated by 24 practitioners; production from 2.2 to 4.5 T/Ha
Off season crops : Potatoes : 0.33 ha cultivated by 7 practitioners; production of 18 T/Ha
 Beans: 47.5 ha cultivated by 53 practitioners ; production from 0.5 to 0.8 T/Ha
 Tomatoes : 0.90 ha cultivated by 13 practitioners; production from 1.5 to 12.5 T/Ha

GCRNR:
GCF : 2 contracts signed for 300 ha of zetra
 1 contract in the process of being finalized
Replanting of the zetra 2 ha by 200 participants who are members of COBA
Stabilization of lavaka 4 sites by 14 KH members and 26 students

IEC/E :
 - Regional RAMSAR workshop
 - Awareness-raising sessions with environmental films

EFE :
Mulberry-Silkworm Cultivation : Supplying a trainee from the Kaoperativa Mpiompy Landy Alaotra for the feasibility study for cultivating mulberry bushes.
Cultivation of geraniums : Support for the company RANOMANITRA in the finalization of its application requesting FIEFE financing from BTM-BOA

The unpredictable climate and the negative effects burning the zetra on the lake and natural resources are issues motivating the local population to preserve the environment, in particular the lake, which

supplies the livelihood of most households. Its also recognized that the lake and marshlands are home to an endemic biodiversity. In the sense of sustainable management, two contractualized management accords for the zetra have been signed by the local forestry authority to the benefit of the community. Already, other communities are interested in the GCF and have expressed their strong desire to put a halt to destructive practices.



LDI and communities concluded the GCF process for 2 zetra areas of the Lake Alaotra bank by the signing of the contracts

Awareness-raising sessions on the theme 'fetin'ny zetra' have reached the target population. Burning of the adjacent zetra has diminished and the commune and COBA have seen a significant return in money.

In other realms, with earnings made by new agricultural intensification techniques and our valuable trainings, the KH has been able to

have a surplus in revenue thus are no longer engaging in destructive practices. Nevertheless, the late arrival of rains might result in poor rice production this season.

Fishing represents a new orientation for local KH activities. In actuality, about 80% of KH members living in villages next to the lake are engaged in this occupation. Until now the LDI approach has been

oriented towards the reinforcement of agricultural activities that the population could be interested in engaging in, but recent problems (moderate production, lack of rain, measured enthusiasm of members) have resulted in limited response. Subsequently, new activity orientations are underway to better respond to the needs of the farmers in the fight against poverty and the durable management of lake resources. A increased professionalism of KH fishermen is also expected, as well as commercializing of production.

Along with fishing activities, small animal husbandry and handicrafts are other alternatives being promoted. Economic studies done by the local team have shown the potential of these speculations and a new focus has been oriented towards making these new enterprises concrete.

At the same time, it's been noticed that the number of active members within the KH has shown a slow decrease. Since it's now understood that the program is not there to give handouts, some members are disappointed and have lost motivation. A reformulation of our messages will be made, focusing on the responsibility and vitality of each person, rather than giving so much focus to granting credit, distribution of seeds or financial support. These new messages will be spread by members chosen by the staff.

In other realms, the LDI program vision shouldn't be limited to lake resources and the immediate environment, but should include the surrounding environment. Therefore actions have been taken towards preserving the surrounding hillsides. The team has planned various activities for replanting the denuded hills with the help of the KH associations (old and new) volunteering communities situated on the hills.

The sector IEC/EE has aimed to support our interventions in the GCF process for the zetra. Diffusion of information to the Antsihanaka population on the existence of the DINA and the establishment of processes to help the communities understand the objectives of its execution have aroused interests and prompted other demands. In addition, the effectiveness of IEC/EE sector activities have improved with better program planning and better orientation of objectives.

A study will be released on the benefits resulting from the use of natural resources by the community. Our partner DWCT did a biological survey with in the sites included in the GCFs and the results obtained will help us in the accomplishment of our own investigations. The goal will be to gain valuable information on the sustainability of conservation and development actions to share with the communities.

6.4.4 ZSI of Antanandava

ZSI ANTANANDAVA	
Associations: 25 AKH (556 members) + 4 AUE (1201 members)	
Agricultural intensification :	
Off season crops : Potatoes : 2.5 ha by 38 practitioners; production from 1.5 to 18T/Ha	
Market gardens : 1.8 ha by 27 practitioners; production of 0.88 T	
Beans : 3.0 ha by 19 practitioners; production from 0.4 to 0.9 T/Ha	
Onion (test) : 42 m ² by 1 farmer; production of 6 T/Ha	
Garlic (test) : 75 m ² by 3 farmers; production of 15.5 T/ha	
IEC/E :	
- Held a regional RAMSAR workshop	
- Participation in the Alaotra regional fair at Amparafaravola	
- Awareness-raising sessions with the projection of documentary films on the environment followed by debates	
GCRNR :	
Organic soil management : training and demonstration on the techniques of zero labor, mulching and "ecobuage".	
Lavaka stabilization : 6 sites identified	
EFE :	
- Tests in several locations of hybrid onions	
- Survey on the zone's potential for the production of spices.	

With the lateness of the rains, there was an increase in bush fires and fires in the forest of Zahamena as the end of the semester approached. Farmers who have long suffered the consequence of activities destructive to the environment have aligned themselves with LDI to protect the environment and fight poverty. Since there hasn't been an agricultural technician in their area for a very long time, the local farmers have been very happy to benefit from the support of the LDI program in their zone. Agricultural

production has increased, crops have diversified and part of their efforts has been directed toward reforestation and stabilization of lavakas.

In off-season cropping activities, potatoes have lead with production double that of the past (17.5 T/ha vs 7 t/ha). Factors that have lead to these results are good quality seeds available at the right time, as well as technical training and organizational strength. The same success is expected for bean cultivation. In small animal husbandry, with a resumption of collaboration with CIREL, success is also expected.

Thanks to an exchange visit with their colleagues in Fianarantsoa organized by LDI, the local farmers gained new perspectives on the cultivation of fruit trees and the processing of peanuts. In Lovoka, the cultivation of "de luxe" rice lead to commercial exchanges with a local operator. But at this point, an epidemic of "puriculariose" is threatening to have serious consequences on production.

Regarding the GCRN component, a COBA was formed in Andranomangatsiaka for the protection of a local marsh that possesses endemic biodiversity and constitutes an reservoir for the downhill expanses.

New Kolo Harena have been formed following the conclusion of information session carried out in new hamlets.

Unfortunately, certain weakness have been noted within the CA office which could weaken the progress of activities. A functional training of those interested as well as the support of a junior expert supplied by LDI has been strongly proposed to lead to better management and division of responsibilities.

For IEC/EE, the feedback received has denounced the lack of organization and objectives in the activities of this component. A better organization, elaborated in a participative manner with the farmers and local staff is needed, as well as better synergy with other activity components.

In regard to partner relations, (CIREL, Tanimaitso, ANA, AKAMA) a decisiveness is asked for in order to accelerate the administrative issues to the LDI level.

6.4.5 ZSI de Fénérive Est

ZSI FENERIVE EST	
Associations :	22 KH (324 members) + 2 AUE (450 members)
Agricultural intensification :	
Cash crops :	Start of village nurseries for litchis, cloves, pepper, cinnamon, coffee, corosol, eucalyptus and pine. Establishment of pilot plots for pepper, cloves, litchis, cinnamon and ginger
Vetiver cultivation :	Demonstration plots for bean cultivation and market gardens
Credit :	establishment of accounts for various activities
GCRNR :	
Reforestation :	1000 eucalyptus saplings planted by 37 people from the Commune of Maromitety
EFE : Improved skills :	Validation of document studies Validation of implantation sites
Partnerships :	Signature of protocol accords with VOLASOA et BIOSAVE-TRIMETA
Organic ginger :	Training and cultivation by Plantation Mondésir, Plantation Namahoana and Volasoa
Organic agriculture :	Arrival of two business-plan applications for Plantations Namahoana and Beando.
Reinforcement of capacities :	
-	Community support for the establishment of local development plans.
-	Support for the joining of the KH to the Chamber of Commerce
IEC/E :	
-	Diffusion of themes on local radio on LDI activities and on protecting and improving soil
-	Information sessions and projection of films on stopping tavy and other LDI activities
-	Information/awareness-raising sessions on credit by OTIV
-	Information/training sessions on making and using improved stoves

Since colonization, the Fenerive-Est region has been reputed for its cash crops, but for a while now the local population have been confronted with many obstacles due to a number of factors (consecutive cyclones, price fluctuations, old plants) that have seriously effected the social and economic development of this region. To reduce this deficit and improve the productivity of products to be consumed and sold, LDI proposes the teaching of new agricultural techniques, the development of market gardens and the revitalization of cash crop cultivation. Along with this, the program aims for the

protection of the Zahamena forest in collaboration with a local NGO, and insists on the preservation of the environment, in particular resources of the littoral forests.

To achieve these goals, specific trainings have been held for the Kolo Harena to improve the production of cash crops and food crops. Already some farmers have sold their market garden crops within the Fenerive market and the demand continues to grow. In addition, the litchi season was lucrative in the region, both for KH and non-KH farmers.

Nevertheless, we have found that more training on the objectives and strategies of LDI will be necessary for the staff, which for the most part has been newly recruited. Also, the formation of a Kolo Harena federation is a pressing priority. The grand scheme is to sub-divide the zone into three federations for the north, littoral and south zones.

6.4.6 ZSI de Brickaville-Vatomandry-Mahanoro

ZSI BRICKAVILLE-RANOMAFANA-VATOMANDRY	
Associations :	sub-zone Vatomandry : 38 KH (363 members) + 1 AUE (1000 members) sub-zone Brickaville : 20 AKH (248 members)
Agricultural intensification :	
SRI/SRA :	30 demonstration sites established for 5 KH with 30 participants 10 ares of rice shared by 5 members KH
Beans :	11 demonstration plots totaling 2 ares done by 15 members de 3 KH 0.47 ha cultivated by 10 members KH
Market gardens :	32 demonstration plots established 33 ares cultivated by 15 farmers
Cash crops :	23 demonstration plots planted with 720 litchi trees, 320 cinnamon and 250 cloves, plus 12 sites totaling 8.75 ares of organic ginger
IEC/E :	projection of films on the environment
EFE :	
Cinnamon cultivation :	Monitoring of the project advancement and the use of FIEFE
Commercialization :	Organization of meetings between farmers producing cinnamon in the zone d'llaka-Est with Phael-Flor.
Reinforcement of capacity :	training on management tools

With the arrival of the hot season, bush fires multiplied in the region. Aside from fire and the practice of tavy, the excessive exploitation of raffia is also an important pressure on the natural resources.

The collaboration with a local operator and the farmers have resulted in improved management of the cinnamon forest and an increase in diversified agricultural activities. Cash crops (litchis, ginger, cloves) have improved and more demonstration nurseries are open to the local populations. In addition, training in specific and functional agricultural techniques have responded to the wants and needs of the farmers while at the same time made LDI activities available to a greater portion of the population. Until now, monitoring has affirmed that there is an adhesion to improved techniques by associations trained by LDI.

Thanks to organic ginger activities, vegetable production, SRA improved rice cultivation and aquaculture, the increase in revenue will be significant. Families have already had an increase in revenue from their first market garden harvests and the litchi season.

In the GCRN component, action was solicited for a new activity relating to the exploitation of raffia in Ranomafana-Est. In the same intervention sector, it is interesting to note that ONE was able to establish a GELOSE process, which until now is awaiting execution.

In addition, it's been noted that certain KH are not participative. The causes evoked declare the distance of their villages. In certain localities, the agents have diagnosed the misunderstanding within the population. The technicians have also noted that the majority of KH members never had the opportunity to have an essential basic education, so there is within the groups a pronounced difference in the level of comprehension and in the group discussions. Some KH are not functioning well and need to resume their meetings. An on occasion, the technicians are unexpectedly called to the regional office for a training or meeting announced at the last minute. In this regard, the farmers can become frustrated. To overcome these problems, planning of monthly activities is needed at the regional level to encourage better communication, exchanges and cooperation.

In the reinforcement of capacities sector, none of the associations in Ranomafana-Est or Brickaville have reached the administrative formalization stage. Focus will be given to avoiding any unfavorable circumstances due to these circumstances, particularly in regard to the activities of other sectors or accompanying measures (credit, input supply centers).