



**Annual Report
Overview and LDI
Regular Activities**

July 2002 – June 2003

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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	Cantonement 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
COPIL	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 III	Environmental Program 3
ESSA	Ecole Supérieure des Sciences Agronomiques
ETN	Eco-Tourisme Nord
FCP	Fonds de Commercialisation de Paddy
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
MAEP	Ministère de l'Agriculture, de l'Elevage et de la Pêche
MARP	Méthode Accélérée de Recherche Participative
M&E	Monitoring & Evaluation
MINENVEF	Ministère de l'Environnement et 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
PSDR	Projet de Soutien pour le Développement Rural
PST	Projet Sectoriel de Transport
RFPD	Regional Forestry Plan Director
RN	Route Nationale
RNT	Route Nationale Temporaire
RRA	Rapid Rural Appraisal
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
UNDP	Programme des Nations Unies pour le Développement
WWF	World Wide Fund
YNC	Young Naturalist Clubs
ZSI	Zone(s) Stratégique(s) d'Intervention
ZIE	Ecotourism Investment Zones

1. Overview

We are glad to report that the LDI team was able to reach all targeted goals during the year from July 2002 to June 2003, while successfully launching a series of new initiatives in the aftermath of the political and economic crisis of 2002. This year was particularly difficult, because we had to maintain our staff united, focused and motivated during the final phase of LDI, despite some sense of uncertainty about the future. At the same time, we continued to successfully implement our activities and initiate response and recovery interventions to address the urgent needs of rural communities adversely affected by the political upheaval. The following achievements are the results of our most significant actions:

1.1 Program

Throughout our different interventions, at the local, regional and national levels, we never lost sight of our eco-regional approach aimed at designing and carrying out development and conservation activities that are likely to have the best impact on the well-being of small farmers and the protection of priority ecosystems. In that spirit, we helped set up viable structures and mechanisms, and we put together different actors through thematic or spatial linkages, in order to decrease pressures on key habitats by promoting sustainable and profitable alternatives to destructive practices.

Kolo Harena Associations

One of our main sources of satisfaction was to see the results of our efforts come to fruition with the emergence of the Kolo Harena associations as a national and credible movement that represents a sound foundation for further expansion of the eco-regional approach. There are now more than 20,000 members of Kolo Harena associations regrouped in 26 federations that have decided to adopt a status of cooperatives, which is a more adequate legal tool for commercial and financial transactions. In November 2002, the first Congress of Kolo Harena associations was organized in Antananarivo, and in April 2003 the Confederation of Kolo Harena was officially constituted, with the mandate to represent the movement and deal with partners such as the Government and donors at the national level. One can now say that this movement is well rooted, beyond the critical threshold, and is ready to expand in partnership with NGOs, eco-enterprises and governmental institutions.



The Kolo Harena National Congress held in November 2002 attended by large numbers of Kolo Harena, partners, NGO private operators and donors

“Paysans Vulgarisateurs and Animateurs”

We have completed the selection and training, through a participatory process, of more than 600 “Paysans Vulgarisateurs and Animateurs”, whose mission is to train farmers and support Kolo Harena associations in our zones of intervention. Among them, around 400 will be officially recognized by the Government and immediately certified by the Ministry of Environment, Water and Forest, and by the Ministry of Agriculture, Livestock and Fisheries. They will provide low cost and sustainable assistance to farmers who will be appropriately trained, environmentally sensitive and capable to respond to market opportunities.

“Green Communes”

Since August 2002, the new administration has taken a series of unprecedented steps to strictly enforce laws and regulations against bushfires, which considerably facilitate our task, broaden the impact of our actions and encourage rural communities to actively seek alternatives to *tavy*. In that context, we teamed up with the Ministry of Water and Forest, local communities and ten communes in our zones of intervention, to promote a campaign against *tavy* and launch a small-scale reforestation program. Those communes will soon be certified as “Green Communes”. This initiative deserves special attention and should be replicated at a larger scale, because it demonstrates how a drastic change in governmental policy can induce a much

more conducive framework and lead to productive partnerships that can effectively reduce bushfires and tavy.

Rice Commercialization Fund

Another area of fruitful cooperation with the Government was the creation and management by LDI of the “*Rice Commercialization Fund*”, endowed with an initial capital of \$1,1 million from the Government and aimed at helping small farmers as well as rice millers, especially in the Lac Alaotra region. This credit mechanism, first designed as an innovative way to help farmers and rice millers emerge from the crisis, achieved remarkable results in a short period of time. The capital was fully reconstituted, thanks to a repayment rate of 100%; more than 2900 farmers benefited from high farm gate prices and a 25% income increase, on average; rice millers exhausted by the crisis were able to resume their activities. The Fund will finance a new rice campaign, beginning in July 2003, under the management of a Malagasy board, with the technical, administrative and logistic support of LDI.

Ecotourism

LDI was also the main implementing partner of the Ministry of Tourism for ecotourism promotion and has designed, to that end, a comprehensive plan that includes marketing, training, investment promotion and institutional capacity building. LDI helped tour operators participate in the World Travel Market 2002 and the “Environmental Awareness Day” in London, and has ensured a large diffusion to the film “Madagascar, Paradise of Ecotourism” as part of an international marketing campaign to promote the Malagasy destination. We also helped tour operators attend, in March 2003, the largest international tourism event in Berlin and provided useful communication tools to professionals involved in that sector. We hosted a very successful workshop on ecotourism in April 2003, which led to key recommendations for ecotourism development, including measures to boost investments, streamline administrative procedures and enforce strict norms and standards.

Eco-enterprises

More generally, we continued to provide demand-driven, technical, material and financial assistance to eco-enterprises and we helped more than 5000 farmers establish commercial relationships with buyers. In linking farmers to agribusinesses we try to foster mutually beneficial and long lasting business relationships that generate new economic opportunities for rural communities. We also opened a second window in the “Fonds d’Investissement pour les Entreprises Favorables à l’Environnement (FIEFE),” to provide short-term credit to eligible eco-enterprises, on a case by case basis. The FIEFE supported more agribusinesses than before and became an increasingly efficient credit mechanism for small and medium-size enterprises that generate value from natural resources in an ecologically correct manner. An important milestone was the launching of the “*Natiora*” label for high quality natural products from Madagascar, in March 2003, in collaboration with Rutgers University. The label was registered as a collective trademark with the *Office Malgache de la Propriété Industrielle*, and belongs to the PRONABIO association, which acts also as the certifying body to guarantee that eligible products are natural and meet specific standards. The trademark was initially registered for 3 types of products: essential oils, spices and medicinal plants, but does not exclude certification and registration of other types of natural products in the future. The first “*Natiora*” certificates were delivered in May/June 2003.



Privatization and Rehabilitation of FCE and the Port of Manakara

In another area, LDI has pursued all administrative and legal works necessary to move as quickly as possible for the privatization of the “*Fianarantsoa Cote Est*” railway, in close partnership with the Government of Madagascar and the World Bank. These include providing financial and technical assistance in the studies for the preparation of the Dossier d’ Appel d’ Offres, organizing *campagnes de sensibilisation* to ensure and facilitate local community input into this complex process and marketing the project to potential

investors. One of the important outcomes of the *campagne de sensibilisation* has been the recognition that the community institutions (AD-FCE, OPCI, etc.) would have more influence participating as institutional members of the oversight committee for privatization than as minority shareholders in the company. On another front, we are glad to report that at least one foreign company and a powerful Malagasy group have expressed strong interest to take over the concession of FCE and the port of Manakara.

We can say that FCE is ripe for privatization because we have now reached a state where the results of investments made by USAID through the FCER project are translating into dramatically improved service on the line. For the first time in more than 20 years, the FCE began running “crossed trains” in November 2002 and the average travel time from Fianarantsoa to Manakara significantly decreased. Following intense training of FCE’s administrative staff and installation by LDI of a new software package for payrolls, inventory and sales, the southern railway has shown a positive cash flow for the past 10 months, which didn’t happen for many years. More frequent and reliable trains are encouraging more travelers on the line and 2003 statistics show a 66% increase in passengers trains over the pre-cyclone period (1999).

The Government has decided to grant a joint concession for the FCE railroad and for the port of Manakara. It has recently issued a call for expressions of interest aiming at potential operators, which specifies that a tender will be launched early September 2003 and will offer two options: either an immediate *mise en concession* or a management contract over a four year period. It has clearly indicated its preference for the first option.

In order to ensure the sustainability of the Fianarantsoa-Manakara axis, the Government is investing approximately \$12 million in the railway and \$3 million in the port of Manakara, with the support of the World Bank, the African development Bank and the European Union. In that context LDI, has played a key role to coordinate and facilitate rehabilitation works, by working closely with the *Projet Sectoriel Transport* (PST) and providing technical assistance in the identification of works, preparation of technical dossiers, and provision of information during site visits for bid packages. We also share responsibilities with the European Union and the Government for the management of funds affected to rehabilitation works on the Fianarantsoa Manakara axis.

Madagascar Green and Healthy Communities

MGHC is a project funded by a \$2 million grant from the Packard Foundation to promote integrated population/health and environment activities.

MGHC contributes to control population growth, while helping farmers manage their natural resources in a more sustainable way.

Activities are carried out in LDI’s zones of intervention and are oriented towards four objectives: increase the use of modern contraceptives; improve natural resource management and slow environmental degradation; increase farmers’ income and food security; and improve the population’s health status. LDI provides managerial, technical and logistical support to this project, through fast track activities that are carried out in 13 villages in the communes of Tolongoina and Ikongo in Fianarantsoa and 18 villages in the communes of Andasibe, Beforona et Ambatovola in Moramanga. Initially planned for 6 months, fast track activities have been extended until September 2003.



1.2 Administration

From an administrative viewpoint, two main events occurred during the past twelve months:

Contract Modification

Chemonics obtained in April 2003 a contract modification that provided additional funding to, and extended, the project for six months until December 31, 2003. This contract modification enabled the LDI team to:

- Complete unfinished activities caused by the 2002 political crisis and respond to new demands at the local, regional and national levels, during a delicate phase of fragile recovery and transition.

- Bring LDI beneficiaries back to a pre-crisis situation and draw on lessons learned from our field experience to consolidate our impacts in terms of poverty alleviation and sustainable management of natural resources.
- Contribute to a seamless transition towards EPIII and the next USAID Country Strategic Plan that will start early 2004.
- Complete the privatization of FCE railroad and the port of Manakara, in close partnership with the Government of Madagascar and the World Bank, and provide the necessary technical support until the new company takes over the management of the railroad.
- Provide an additional seven months of rehabilitation and maintenance supervision to FCE railroad and roads rehabilitated under the ReCAP project, so that these infrastructures are in better shape to be sustainably managed without USAID support.

Integration of FCER and ReCAP activities

As of May 1, 2003, LDI absorbed most FCE-R staff to coordinate all administrative and technical work, and assure the leveraging of additional funds needed to maintain the rolling stock and carry out priority rehabilitation works for FCE and the port of Manakara.

ReCAP activities were also transferred to LDI in April 2003. Responsibility for the work was subcontracted to Lalana NGO, the local subcontractor that has had primary responsibility for this work since the beginning of ReCAP. Transferring the work to LDI in April rather than at the official end of the ReCAP contract, in June, made the transition smoother and avoided confusion in Lalana's role. Final inspection of the rehabilitated roads occurred in June 2003. Inspections were carried out by Lalana, working under contract to LDI, whereas the guarantee payments to the construction companies (approximately \$150,000) were charged to the ReCAP contract, which remained in force through June for this specific purpose.

1.3 Success Stories

Fianarantsoa

Transport Rehabilitation and Conservation – an Example of Ecoregional Scale Interventions. The Fianarantsoa forest corridor is threatened primarily by the advancement of slash-and-burn agriculture (*tavy*) into the rich tropical forests of both the eastern and western sides of the thin band of forest stretching from the Ranomafana National Park to the Andringitra National Park. Unless farmers are provided with alternatives to *tavy*, little hope exists to arrest the high rates of forest conversion. Hence, LDI promoted agricultural intensification, conservation enterprise, and community based natural resource management activities the length of the corridor as a way to increase and diversify rural incomes while at the same time reducing reliance on *tavy* agricultural practices. Early on in the LDI program, it became evident that without a functional transport system, farmers would not be able to bring agricultural surpluses to the market nor would agricultural inputs arrive to these remote communities. Unless key elements of the regional transport system were rehabilitated, farmers would remain isolated in the backwaters of the regional economy and forever be condemned to practice non-sustainable livelihood activities. As INSTAT/Cornell University studies have so well shown, rural poverty and environmental degradation would remain in those areas situated far from transport infrastructures.

The regional transport infrastructure near the Fianarantsoa forest corridor was in a highly fragile and dilapidated condition at the outset of the LDI program. Nearly all of the roads, the railway, and the port of Manakara faced imminent collapse from lack of maintenance. When the cyclones Gloria and Eline hit the region in 2002, the railway failed, the north-south RIP 4 closed, other feeder roads fell into ruin, and the Port of Manakara was significantly damaged. Faced with the total breakdown of the regional transport system, LDI worked with many partners in government and donor circles to begin a transport reconstruction program along the forest corridor. Applied research was launched following the cyclones to analyze the interrelationship between transport rehabilitation and conservation. These studies conclusively showed the interrelationship between transport, rural poverty, and environmental degradation and thus served as the conceptual foundation for launching requests for



emergency funding from USAID, the African Development Bank, the European Union, and the World Bank to rehabilitate the FCE railway, the major road arteries feeding into the railway, and the port of Manakara. Through many persuasive presentations, workshops, study tours, field visits and other advocacy activities the LDI team watched government and donor transport reconstruction projects gradually emerge along the corridor.

Three years after the catastrophic cyclones, the transport infrastructure along the corridor is dramatically improved. Roughly \$15 million has been invested by government and donors in the reconstruction of the railway, the port of Manakara, and the key feeder roads along the corridor. The speed and efficiency of travel has progressively improved to the point where local communities recount how the network now approaches the state of the 1960s – the pinnacle of the Malagasy transport infrastructure. Indicators of economic rejuvenation now emerge. As one USAID study recently recounted (Successes and Potential Sustainability of USAID's Cyclone Recovery Program, 2003), the total of economic benefits accrued to the different economic agents amounts \$7 million of which the producers have the largest part since 2000. Transport costs have dramatically fallen, but at the same time, road, railway, and port traffic have increased significantly. Despite the collapse of international coffee prices and the highly erratic market for other export crops, farmers are nevertheless in a position to diversify agricultural production. Through the existence of a now functional transport system, LDI can promote production for new market opportunities like essential oils, ginger, and potatoes while encouraging the expansion of traditional cash crops like bananas. But equally significant, the improvement in the transport system has facilitated the expansion of social services to rural communities along the corridor. Various donor financed projects now find access so much easier to communities along the corridor. New schools, clinics, and markets are now being built in many of the formerly remote areas. Health services, like vaccination and family planning campaigns are now being implemented in the once isolated villages. Finally, attention is turning to ways to promote intermediate means of transport – foot paths, boats, and bicycle and ox cart transport – as a way to increase the integration of rural communities into market relationships.

The Fianarantsoa forest corridor is now in a more secure situation than five years ago. Despite continued threats from illicit forest extraction, mining, and indeed forest conversion from *tavy* agriculture, the “coveted corridor” is now the object of focused regional and national attention. The many partners of LDI have succeeded in raising the profile of the corridor in policy making circles in part because the role of the corridor is now well understood in terms of the ecosystem services provided by these biologically rich resources. This recognition of the critical place of the corridor in the economic and social development of the province has galvanized considerable investment in the promotion of sustainable forest use, agricultural development, conservation enterprises, and public health services. Evidence is now emerging that in those areas practicing the full array of integrated environment, development, and public health activities *tavy* is indeed coming to a halt. Whether *tavy* is permanently stopped in these relatively few sites is too early to tell. Yet, so much more is now known about what it takes to bring about conservation of the corridor.

Synergies between LDI and World Bank PSDR Project. The capacity building component of LDI has long sought to strengthen the ability of the Kolo Harena associations to apply for development assistance funds outside of the realm of the USAID circles. The Kolo Harena throughout the region of Fianarantsoa have applied for funding of small projects from the World Bank funded PSDR program. Kolo Harena of Lokombay successfully developed project proposals and now account for 40% of all PSDR funding in this commune. PSDR now views LDI sites as “privileged areas” for project investments because of the high degree of organizational abilities of Kolo Harena associations. Through constructive dialogue with PSDR, LDI Fianarantsoa has encouraged both PSDR and the World Bank FID project to finance the preparation of *Plans Communal de Développement*. PSDR now finances the PCD's in LDI sites of Miarinarivo, Androy, Ialamarina, and Tolongoina.

Synergies between LDI and FID. The LDI Fianarantsoa program has long developed a constructive relationship with the World Bank, FID project. On the suggestion of LDI staff, FID has financed road rehabilitation in the Sahanambo valley and thereby facilitated the promotion of ecotourism in this beautiful part of the western side of the Andringitra National Park. On the urging of LDI, the Programme Sectoriel de Transport tendered out bids for road repairs of a section not financed by FID. In the Tolongoina and Ikongo communes on the eastern side of the corridor, the MGHC project worked with local communities to design foot path bridges at key points along major pathways leading to rich cash crop growing areas. Three out of ten footpath bridges were built with MGHC funds. Highly popular among the rural communities, the communes then turned to FID to request funding of the remaining bridges. FID accepted the propositions and is now financing the remaining LDI designed bridges. Following the creation of the FID Social Fund program designed to create short-term labor intensive projects, LDI encouraged WWF Andringitra and ANGAP to work together to generate a proposal to rehabilitate the Ambalavao – Namoly road leading to the

Andringitra National Park. This road, reconstructed by CAP, had fallen into disrepair during the 2002 political crisis. WWF and LDI staff prepared with local NGOs and the road user's associations four project proposals to FID. WWF proposed a cost-sharing arrangement whereby it would cover about 300 million FMG of construction costs, LDI would provide technical assistance from its road engineer, and ANGAP would provide the institutional leverage. This constructive working relationship led to the financing of the road repair project. Work has now nearly completed on the road, road user's associations are once again functional, and all parties jealously protect the investment!

Moramanga

Fish Farming. This relatively recent activity is extremely popular with the Kolo Harena farmer associations throughout the region. To support the growing enthusiasms for fish production in LDI zones of activity, the CDIA produces fingerlings for initial stocking purposes, while it trains farmers in pond construction and fish production techniques. Production of Carpe Royale and Tilapia improves farm family nutritional status (through easy access to animal protein) and generates additional revenue through sales of mature fish in local markets and fingerlings to neighboring farms for stocking purposes. During the first production cycle, 10,000 fingerlings were produced and sold, and 40 farmers were trained. These farmer-fingerling producers, trained at the CDIA, have established fingerling production facilities throughout the region (12 in the Beforona, 10 in Ambatovy, 7 in Brickaville, 5 in Fenerive, 3 in Ambatondrazaka, and 3 in Antanandava) and will continue to address the increasing demand for fish production specialists and fingerlings in the Toamasina region.



Vetiver. This deep-rooted perennial grass has proven to be very effective in reducing erosion and stabilizing hillsides, increasing yields of horticultural crops and generating additional revenue for Kolo Harena farmers. The CDIA has demonstrated the usefulness of *vetiver* and popularized its use since 1998. Farmer demand for vetiver is significantly increasing (i.e. for watershed protection in Ambatondrazaka, ecological ginger production in Beforona, and as cash crop in Ambatovy), as is the private sector demand (150,000 sets were sold to the Madagascar Green Healthy Communities Project for slope stabilization along the TCE railroad and an order for 3,000,000 sets from the *Savonnerie Tropicale*). To meet this increasing demand the CDIA continued to produce and sell vetiver, but at the same time trained 20 farmers in vetiver use and nursery production techniques. These farmers, working through their respective Kolo Harena Cooperative structure, are now contracting directly with development projects and private sector enterprises to meet their needs.

Linking Production with Marketing through *Kolo Harena* Initiatives. The *Kolo Harena* Federation in Ambatovy is very active in horticultural production and marketing. During the past year, member farmers were able to collect and sell their produce in quantity (30 million FMG worth of onions and 2.3 million FMG worth of watermelons were sold to stores in Tana, Toamasina and Fenerive). This quantity represents a 3.2 fold increase in sales from the previous year. Initially, LDI staff helped the *Kolo Harena* Federation to establish these commercial linkages and transport their produce, but now they arrange their own transportation and negotiate their own contracts. Given the *Kolo Harena* Federation's demonstrated capacity to respect agreed upon quantity, quality and delivery dates for their produce, buyers from Antananarivo and Toamasina travel to Ambatovy to place orders directly.

Accessing External Resources. With assistance from LDI staff, the *Kolo Harena* Federations have begun submitted requests to the World Bank-funded PSDR project for grants involving as much as 60 million FMG. These grants help the farmers develop new, or expand existing production activities (e.g. ducks, peanuts, fish farming) which are implemented with LDI and farmer extension agent support. Grants approved thus far to *Kolo Harena* total 20 billion FMG. By preparing budgets, proposals and farm management plans for the grant requests farmers are able to engage in more modern agricultural practices while keeping in mind efficiency, profitability and sustainability.

1.4 Summary of LDI 2002-2003 targets

Indicators	LDI July 2002 – December 2003 targets		Cumulative Results as of June 2002	LDI Annual results	Cumulative results since 1999	Units
	Planned Activities	Additional funding				
Agricultural Intensification						
Percentage of yield increase	10%	10%	Annual average 48%	50%	48%	%
Percentage of income increase	10%	15% from in season and 20% from off season	34%	52%	43%	%
Number of farmers adopting new techniques	50%	50%	48%	63%	55%	%
Number of « paysans vulgarisateurs » and « paysans animateurs »		400	329	403	732	farmers
Tons of paddy collected through commercialization funds	4,800	5,000	0	4775	4,775	tons
Tons of seeds and inputs distributed through commercialization funds	500	400	0	750	750	tons
Number of farmers reached through commercialization funds		2500	0	2931	2,931	farmers
Number of input supply centers built and operational	n/a		24	0	24	units
Number of CDIA	n/a		3	0	3	units
Promotion of Eco-enterprises						
Number of EFE supported by LDI	9	4	87	38	125	EFE, of which 3 requests from Tana
Total of EFE investments supported by FIEFE *	200,000	300,000	1,341,000	449,085	1,790,085	\$. These amount do not include investments induced by LDI support
Amount of FIEFE funds disbursed	150,000	80,000	169,850	255,910	425,760	\$
Number of farmers having relation with EFE	2,000	1,000	3,095	5,080	8,175	farmers
Number of business trips						trips
Number of eco-enterprises using the natural product label	5	5		3	3	EFE
Ecotourism						
Infrastructure Development						
Number of water supply systems set up near or in the investment zones	2 fully operational			2 fully operational (Ankarana and Montagne d'Ambre)		
Number of investment zones created		3 fully operational	3	3 created, 2 of them "bornées"		
Number of rural roads rehabilitated in or around the national parks						
Ecotourism promotion						
Number of participation in fairs and travel events	1 (Berlin)			3 in Berlin, WTM London and London Press trip to Madagascar)		trips

Number of regional associations created for ecotourism promotion						
Number of workshops on ecotourism		1		one national workshop in Tana to relaunch the Tourism sector and one special ecotourism national plan		
Number of communication materials developed	Ongoing distribution	Ongoing distribution		Ongoing distribution during fairs		
Number of tourists visiting national parks		120,000				numbers
Ec lodge Development						
Number of "Village lodges" built		Relaunch 2 village lodges in Ankarana				
Number of ecolodges assisted		2 new open in 2003	7	One fully operational (Nature Lodge)		ecolodges
Capacity building						
Number of institutions directly assisted		Office of ZIE fully operational				
CBNRM						
Number of signed contracts	11		9	8	17	contracts
Surface of natural resources covered by signed contracts	1,100		6,121	4,530	10,651	hectares
Number of villages involved in community-based conservation activities			366	80	446	villages
Number of members joining COBA/CLB	423		1,233	923	2,156	members
Promotion of "Green Communes"	6	4	-	11	11	communes
Capacity building						
Number Kolo Harena associations supported by LDI	140	60	428	199	627	associations
Number of Kolo Harena members supported by LDI	3,400	1,600	14,450	3,542	23,079	members
Number of Kolo Harena federation	10	5	17	9	26	federations
Number of Kolo Harena confederation	1		-	1	1	confederation

Les principaux résultats de LDI

Fonds de Commercialisation de paddy

- 4,775 tonnes de paddy collectés
- 750 tonnes d'urée et de semences mises à la disposition des paysans
- 2,931 paysans touchés par l'opération

Gestion communautaire des ressources naturelles

- 17 contrats GCFs signés
- 2,156 membres de communauté de base
- 10,651 ha de forêts primaires classées
- 11 Communes Vertes

Appui régional

- Elaboration de plan stratégique de développement national et régional sur l'écotourisme
- Promotion du Label NATIORA
- Appui à la mise en concession de FCE et Port de Manakara
- Trois centres de diffusion pour l'intensification agricole (CDIA), recherches avec plusieurs universités locales et étrangères
- Appui au réseau d'information régionale et promotion de la radio rurale
- Développement des filières prioritaires : huiles essentielles, produits naturels, écotourisme, gingembre, ...

Renforcement de capacité

- 627 associations Kolo Harena de 8,696 membres, 216 AUE de 9296 membres financés par le fonds cyclonique
- 26 Fédérations d'association Kolo Harena.
- 10 coopératives Kolo Harena
- 581 paysans vulgarisateurs et 136 paysans animateurs pour la mise en oeuvre de l'approche farmer-to-farmer dont 58%

Activités intégrées de Santé-Environnement-Population

- 31 villages d'intervention
- 98 animateurs de développement communautaire opérationnels
- Construction de latrines et de fosses à ordures dans 12 villages
- Adduction d'eau pour alimenter 30 villages et construction de ponts de franchissement
- Reboisement et stabilisation des collines
- Dotation de matériels et médicaments dans 5 CSD/SSD
- Mise en place des communautés championnes au niveau de 10 villages
- Promotion des foyers améliorés, pisciculture, arbres fruitiers

Entreprises Favorables à

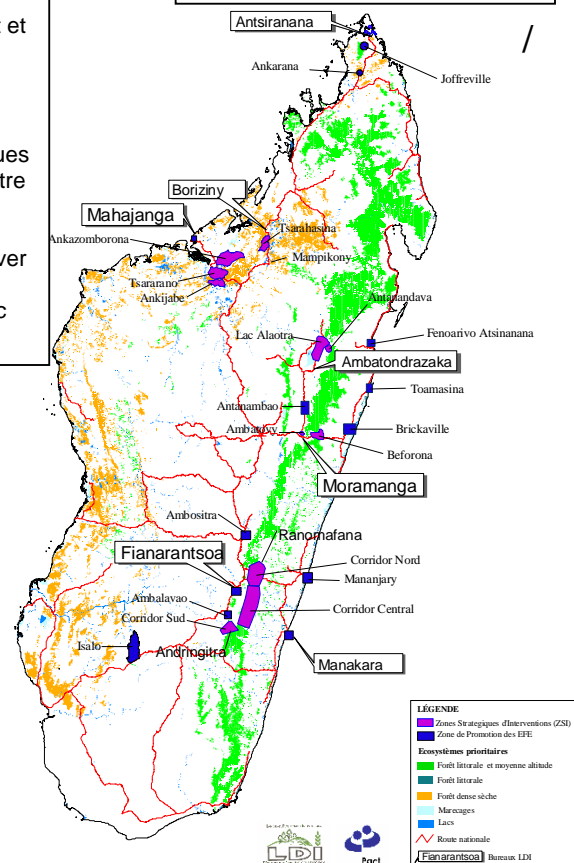
- 125 EFEs appuyées par LDI dans les filières huiles essentielles, épices, cultures de rente, intrants agricoles, écotourisme.
- Volume d'investissement des EFEs: \$1,790,085
- Volume de FIEFE trésorerie déboursée: \$425,760
- 8,175 paysans en relation commerciale avec les EFEs
- Création de 3,500 emplois dans les filières prioritaires.

Intensification agricole

- Augmentation de rendement:
- 38% pour le riz
 - 91% pour les autres cultures
- Augmentation de revenu moyen entre 2001-2002 de 52%

Zones d'investissement écotouristique Isalo

- Création d'une ZIE de 3235 ha
- Plan d'aménagement et constitution de la réserve foncière
- Structure de surveillance des normes éco-touristiques
- Réhabilitation du centre d'interprétation
- Réhabilitation des pistes pour désenclaver les villages périphériques du parc
- Bornage de la ZIE



Education environnementale et

- Production et projection du film sur la pisciculture
- Mise en forme et distribution de brochure sur 20 questions autour de la mise en concession de la FCE.
- Lancement du programme "Centre d'info" au niveau du centre d'approvisionnement d'Ambatovaky avec le Parc Ranomafana (Poster, brochures, revues).
- Distribution et vente des journaux Koloharena 3 et 4.
- Lancement et mise en oeuvre du programme "Communes vertes" dans 11 communes.
- Panneaux d'affichage sur les villages d'intervention à Tolongoina.
- Mise en place et opérationnalisation de la commission environnementale au sein de la Fédération.

2. Antananarivo Region

2.1 Agricultural Intensification

2.1.1 Kolo Harena Farmers

The Kolo Harena associations now include more than 20,000 farmers and in the last nine ; the movement has taken on a national dimension. The Kolo Harena Confederation, called SAHAVANONA, was set up following a decision made by the associations and federations during the National Congress held in November 2002. This Confederation has begun to establish relations and to identify the types of collaboration possible with partners and donors, such as the *Tany Meva* Foundation, the Rural Development Program (PSDR), the SEECALINE Program, the Ministry of Agriculture, Livestock and Fisheries, the NGO *Voahary Salama* and UNDP. Integration of the Kolo Harena into the *Coalition Paysanne de Madagascar* will facilitate promotion of the Kolo Harena movement and environmental awareness at the national level.



Rajaonarivelo Jules (on the left), the President of the SAHAVANONA Kolo Harena Confederation, with the National Executive Staff

The decision of the Kolo Harena federations to transform themselves into Kolo Harena cooperatives further strengthens the economic potential of the federations, the key to sustainability of the Kolo Harena. The following table gives the breakdown of the Kolo Harena by region.

The ever increasing number of Kolo Harena farmers supervised by LDI has contributed to a reduction in the average cost of assistance by LDI, in comparison to other organizations for activities similar to those undertaken by LDI. The study shows that LDI recorded an average unit cost of supervision that is 22% less than SAF/FJKM (see the summary at §2.1.11 below; a separate report is also available at LDI).

Breakdown of Kolo Harena associations								
	Fianarantsoa		Mahajanga		Moramanga		Total	
	# KH Ass	# members	# KH Ass	# members	# KH Ass	# members	# KH Ass	# members
Kolo Harena Regular fund	316	3,385	59	872	252	4,439	627	8,696
Kolo Harena COBA	6	1,542	5	275	6	339	17	2,156
Kolo Harena CRP*	14	2,206		-	202	7,090	216	9,296
Kolo Harena RCF (IPPTE and LDI fund)								2,931
Total	336	7,103	64	1,147	461	11,868	861	23,079**
Kolo Harena Federation		9		5		12		26

* Plus FCE farmers for Cyclone Recovery Program in Fianarantsoa

** Plus 2,931 farmers from Rice Commercialization Fund

2.1.2 Agricultural Yield

Yields have been quite good this year. Since the 1999 – 2000 season, farmers have steadily adopted improved techniques. The average yield for all crops combined has increased annually by 48% since our first year of field work. This year, yields have increased by 38% for rice (SRA and SRI techniques) and 91% for other crops.

Average yields (Tons/ha)	Fianarantsoa		Moramanga	
	2001	2002	2001	2002
SRI	4.24	4.34	2.50	5.33
SRA	3.37	3.99	2.88	3.21
Maize	1.72	3.90	2.86	3.36
Cassava	-	46.15	9	10

Potatoes Tanety	13.82	-	9.62	11.2
Potatoes off season	14.01	14.47	7.73	20.09
Haricot Tanety	1.22	1.05		
Onion				14.44
Haricot off season	1.14	1.84		
Ginger	0	12.07	7.25	10.46
Peanuts	0.7	1.88	1.27	1.52

2.1.3 Farmers' income

The average income between 2001 and 2002 increased by 52% for both Fianarantsoa and Moramanga regions. Moramanga registered an average increase of 83% in incomes due to the Rice Commercialization Fund operation just after the 2002 crisis when the paddy was sold at a high average price of 1,338 Fmg per kilo.

Revenue (in Fmg)	2001	2002	Increase
Fianarantsoa	837,029	1,088,138	30%
Moramanga	601,570	1,101,416	83%
Average	719,300	1,094,777	52%

2.1.4 Adoption of Agricultural Methods

The adoption of improved agricultural methods is increasing, given the 4 successive agricultural campaigns to which the Kolo Harena have actively participated, selectively at first, then more broadly. In Moramanga, 60% of Kolo Harena have adopted improved practices compared to a rate of 55% in 2001. In Fianarantsoa, 70% adopted improved practices this year compared to 40% in 2001.

2.1.5 Rural Credit

This year is of major importance for micro credit under the LDI Program. All the funds allocated to financial partners (OTIV, BOA, *Entreprendre à Madagascar*) under this partnership with LDI are ultimately to be used by the Kolo Harena, while at the same time respecting the partners' mode of allocation. The results of five years partnership are shown in the following table:

REGION	Summary of micro-credit disbursement				
	Fund disbursed up to June 2002	OPERATION 2002/2003			Funds available
		Recycled	New disbursement	TOTAL	
Fianarantsoa	145,707,150	52,160,818	38,468,837	90 629 655	165,707,150
Moramanga	149,483,072	89 857 000	49,584,384	139,441,384	199,067,456
Mahajanga	42 128 250	ND	ND	ND	42,128,250
TOTAL	337,318,472	142,017,818	229,071,039	230,071,039	425,371,693

These amounts do not include the funds allocated as working capital for the Supply Centers (\$5,000 to each Center), nor the energy credit for substitution of charcoal that was initiated in Mahajanga in collaboration with *Entreprendre à Madagascar* and VITOGAZ..

For the credit that is managed by the Kolo Harena, 16,785,000 Fmg of credit have been allocated, and we have observed early repayment by 3 members of the Kolo Harena in Fianarantsoa.

2.1.6 Equipment Credit

The grant agreement signed with *Entreprendre à Madagascar* was expanded to enable a credit to be granted for rural material and equipment. Three hulling machines were purchased at a cost of 51,800,000 Fmg, two for the two federations in Lake Alaotra, and one for the Ambatovaky federation in Fianarantsoa.

The equipment credit which provided a hulling machine for Ambatovaky, resulted in a turnover of more than 24 million FMG, for 244 tons of hulled paddy. Ambatovaky recorded a profit of 13 million FMG during the

first year of exercise. The federation saw its management capacity improved. Exchanges visit took place with other Kolo Harena concerning community management of economic projects, e.g., the hulling machine in Talata Ampano. This federation has a transportation problem for its supply of fuel and lubricant.

2.1.7 Input Supply Center

The Supply Centers managed by the federations are operational and continue to function, to supply and serve the Kolo Harena associations, and members in the villages. This year, 136 Kolo Harena associations with more than 1,100 members benefited from a credit amounting to 267.5 million FMG, of which nearly 71 million FMG are new credit for seeds and input in the 6 Supply Centers in Fianarantsoa. The latter recorded average cash sales of 22.9 million FMG by center, with a minimum of 13 million FMG and a maximum of 28 million FMG. On average a federation holds an available resource of 94 million FMG.



The hulling machine for Ambatovy Federation registered in a turnover of more than 24 million FMG, for 244 tons of hulled paddy

In Moramanga, in the 14 supply centers that are in operation, the average credit in seeds and input is 28 million FMG for this year, i.e. an average increase of 186% each year since 1999 – 2000.

2.1.8 Farmer-to-Farmer Approach

There are two categories of agents: extension agents and instructor farmers. At the start, LDI helped the Kolo Harena associations to include 'farmer experts' in each association, who are responsible for technically and socially helping the base Kolo Harena.

This year, at the request of the Kolo Harena federations, farmers have been identified, selected and trained, and their technical and organizational capacities tested, for them to become *paysans animateurs* and *paysans vulgarisateurs* for the federations at the commune level. They are recognized by governmental entities. A tripartite agreement protocol between MINENVEF, MAEP and LDI, was drawn up for official recognition of this training, and thus of the certification and monitoring assessment procedures. A ceremony is planned for each region during July – August, 2003, to hand over certificates to 71 *paysans animateurs* and 348 *paysans vulgarisateurs*.

In all there are now 352 *paysans animateurs* and *paysans vulgarisateurs* in Fianarantsoa, 68 in Mahajanga and 312 in Moramanga.

2.1.9 Rice Marketing Fund

The Rice Marketing Fund (FCP) has been in operation since September 2002 in the Lake Alaotra region. This fund was set up by the Government, with a total of 7 billion FMG, to provide emergency aid to the agricultural sector which was experiencing major difficulties because of the economic and political crisis that shook the country during the first six months of 2002. The FCP functioned as a revolving fund, i.e., eligible farmers delivered their paddy to selected hillers and were paid on the spot, whereas the hillers repaid the FCP several months later, in accordance with the terms of the agreement which links them to the manager, LDI.

The Government entrusted management of the FCP to the USAID/LDI Program for the 2002/2003 campaign. LDI exercised good management and mobilized important human and logistics resources, and through an excellent working partnership between the farmers, the collectors and the Government, all the objectives were achieved:

- The farmers were able to sell their paddy at an average weighted price of 1.338 FMG / kg, and so obtained an increase of 445,000 FMG of their income compared to the previous year ;

- The hillers rapidly received the necessary campaign funding, and repaid the credit that they had been allocated 100% ;
- The partnership between the hillers and the farmers' associations was strengthened, with the aim of helping small producers to improve their farming methods and to increase their yield, while protecting the environment. The hillers' contribution towards FCP management costs was 3% of the credit they had obtained ;
- Paddy quality was emphasized, by favoring long-grain varieties that bring in a bonus when purchased.

The FCP capital was fully repaid, which is a unique example of successful use of the IPTE funds. The 2003 / 2004 campaign will be able to start under optimal conditions, under the direct supervision of the fund management committee, since the LDI Program will terminate at the end of the year. In collaboration with local banks, the Government and the LDI Program have studied ways in which to set up a much bigger fund that could be substituted for the FCP in the future, and enable the mobilization of banking resources on a much bigger scale, particularly by basing it on the principle of *tierce - détention*. Such a fund would enable the rice sector to be covered, and also some cash crops to be funded with the collection and storage of raw materials and finished products, by priority targeting of small and medium enterprises operating in these sectors.



2.1.10 Revival of Agricultural Production

The disruption of input supply networks during the political and economic crisis resulted in a situation in which farmers could neither locate nor afford to purchase the agricultural inputs they so badly needed for their off-season or cash crops. In addition, given the slow pace of resource mobilization to help farmers during the post-crisis period, even the next rice campaign that has begun in November could be jeopardized by the lack of available inputs. Therefore, it was crucial that farmers obtain necessary inputs and benefit from short-term credit much quicker than usual, in conjunction with strong technical assistance from LDI.

In light of these constraints, LDI has already launched a series of activities in all Strategic Zones of Intervention in order to help Kolo Harena associations produce off season or cash crops and get ready for the next rice campaign.

We provided about \$ 120,000 worth of seeds (mainly for potatoes, beans and rice), small agricultural tools and fertilizers to "Input Supply Centers" managed by Kolo Harena federations, which in turn sell these supplies to their members under a nine to twelve month credit arrangement. LDI has helped farmers buy 300 T of seeds and 250 T of fertilizers in bulk, at discounted prices, and establish sustainable business relationships with suppliers. In Lac Alaotra, Kolo Harena associations decided to use money from the LDI Commercialization Fund to acquire inputs before the next rice campaign. Based on the experience of 2002, the Kolo Harena federations used the revolving fund to make group purchases of 22 tons of seeds, and 283 tons of fertilizer, for the 2002-2003 agricultural campaign. The federations plan to purchase nearly 160 tons of seeds and fertilizer for the 2003 / 2004 campaign. Therefore, funds injected by LDI in July in that region were recycled twice in less than 6 months to help improve sales of paddy, boost rice processing and purchase key inputs at a large scale.

2.1.11 Study and Comparison of the Intervention Costs of the LDI Program

To assess the possibility of reproducing LDI interventions on a much larger scale, Chemonics International has mandated a consultant to carry out a comparative study of the intervention costs of the Organizations and Programs that operate in the same zones of intervention and areas of competence as the LDI Program.

This study examined the details of the intervention costs of the LDI Program during the first year (1999-2000), and the third year (2001-2002) of its execution. The results have been compared with those of SAF /

FJKM, the only Organization that offers a level of service and technical package similar to LDI's interventions, and with available detailed data.

The costs of intervention of the LDI Program (US\$ / beneficiaries) and of the SAF / FJKM are summed up in the following table:

		1999-2000		2001-2002	
		Fianarantsoa	Moramanga	Fianarantsoa	Moramanga
LDI Program	Total cost in US\$	484 696	346 840	428 064	439 408
	Number of beneficiaries	17 200	33 286	176 158	133 966
	US\$ / Beneficiary	28.18	10.42	2.43	3.28
SAF/FJKM	Total cost in US\$	126 103	168 250	-	-
	Number of beneficiaries	4 420	9 075	-	-
	US\$ / Beneficiary	28.53	18.54	-	-

The costs of LDI intervention in 2001-2002 are much lower than the costs of intervention in 1999-2000. These results were obtained thanks to the ever-increasing number of families that adopt the program. The SAF/FJKM costs are higher than the LDI costs for 1999 / 2000. Although the costs to SAF / FJKM are not as high as those of LDI for the period under consideration, the number of beneficiaries that have been instructed by LDI, is much higher than those made aware by the SAF / FJKM.

The parameters that influence the costs are: the number of beneficiaries, the rate of the dollar, the expenditures engaged by accounting item, and the costs occasioned by the intervention of service providers. To better position itself in relation to its peers and to take up the challenge of a new phase, LDI should involve a maximum of participants in its interventions and manage its exploitation costs in a rational way.

2.2 Community-Based Natural Resources Management

This year 8 contracts have been signed, 4 in Fianarantsoa and 4 in Moramanga. These new contracts cover 4,530 ha., and are under the responsibility of, and for the benefit of 923 members of the population. This gives a total of 10,651 ha. of forest transferred to 2,156 COBA members. The strategy is to implement the contracts signed thus far. LDI equipped forestry animators to monitor management of these forests, to prepare and to implement annual work schedules that include forest development and follow-up of the *cahiers de charge*.



Some COBA members of the Ambalagoavy GCF

Region	Site name	Type of the natural resources	Surface	COBA members	Date of signature
Mahajanga	Anosimijoro	Dry forest	572 ha 245 ha 922 ha	127	14/12/00
	Marosely		680 ha	58	27/6/01
	Belalitra		56 ha	90	29/5/02
Subtotal Mahajanga			2,475 ha	275	

Region	Site name	Type of the natural resources	Surface	COBA members	Date of signature
Fianarantsoa	Miarinarivo	Classified Primary Forest	2755 ha	700	30/6/01
	Alatsinainy lalamarina Ampatsy		434 ha	167	15/7/02
	Ikongo Ambalagoavy	Classified Primary Forest	214 ha	171	7/12/02
	Ikongo Antsatrana		304 ha	103	
	Ikongo Ambodiara		836 ha	147	
	Ranomafana Ambendrana		1497 ha	254	January 03
Subtotal Fianarantsoa			6040 ha	1,542	
Moramanga	Ambohimiarina	Zetra	142 ha	50	19/10/01
	Belempona		315 ha	41	19/10/01
	Antanifotsy		800ha	40	31/10/02
	Andreba		235ha	118	31/10/02
	Ambatomanga		87,6ha	35	25/9/02
	Ambatofotsy		555,9 ha	55	25/9/02
	Andranomangarika		Ongoing		
Subtotal Moramanga			2,136 ha	339	
Total of signed contracts		17 contracts	10,651 ha	2,156	

2.3 Environmental Education and Communication

The IEC/EE component remains faithful to its objective to support the activities of the other components.

On the national level, assistance was provided to help organize the Kolo Harena congress, and to launch the NATIORA label.

The section produced supports for the **Kolo Harena National Congress**, including cases kited with the congress book, notebook, a pen, magazines, T-shirt and cap, all with the Kolo Harena name printed on them.

The 7 minute Kolo Harena film has been produced in French, Malagasy and English. This film was shown on local television in Moramanga, and will be used as a tool to present the Kolo Harena, resuming discussions, press notes and group work, and the resolutions made at the National Congress.



To launch the **NATIORA label**, the IEC/EE helped the EFE component to organize and produce the brochure, 'Natural Products of Madagascar'.

Media coverage prior to, during and after these two events, was entrusted to a communications agency, but closely monitored by the section.

At the local and regional level, LDI produced posters related to the following themes:

- *Tilapia Fish Farming*, with 2 posters 40 x 60 cm (4-color), to encourage the Kolo Harena to adopt new methods for improved yield, and thus to earn more money while protecting the environment;
- A poster to inform about the *fight against bush fires* and the *promotion of green communes* (an information tool that is in line with government instructions);
- A poster on *apiculture* is in the course of being designed for production.

The 4th edition of the magazine 'Gazety Kolo Harena', was published in April 2003 with the active participation of the Kolo Harena farmers from 3 LDI regions. The Kolo Harena federations themselves distribute the magazine, based on quantities agreed at discussions that took place during the effective implementation of the Kolo Harena National Confederation.

Based on the recommendations of the Kolo Harena themselves, the magazine has undergone considerable change. It is written entirely in Malagasy. Some articles inform and encourage, and others cover agricultural methods.

In Ambatondrazaka, the section largely contributed to several events, such as the Ivakaka inaugural day, which brought together more than 2000 people, including 500 Kolo Harena in uniform, a mass event that is unprecedented.

For the information campaign on the fight against bush fires and reforestation launched by the President of the Republic of Madagascar, the IEC/EE helped the CBNRM component to promote 'green communes' in the Alaotra region; information was disseminated in 6 communes, starting with the local population, then the villages, the communes and the prefecture, and they have been made aware, informed about the launching of 'green commune' activities. This information session was carried out in partnership with the Ministry of Water and Forests and its decentralized departments. LDI has signed an agreement protocol with the Ambatondrazaka Water and Forests Circumscription to implement activities to fight bush fires.

For the Akon'Ambanivolo Radio (RAA), its range was increased to 20 km around Beforona; this action was carried out with MGHCP funding. RAA produces tapes and broadcasts programs on technical themes such as agricultural intensification, environmental education, healthcare in collaboration with *Voahary Salama*. This radio is a tool for sustainable development with the farmers, while continuing the economic and environmental objectives launched by LDI.

In Fianarantsoa, films were produced about fish farming and fish fattening.

2.4 Promotion of eco-enterprises and FIEFE

2.4.1 Promotion of eco-enterprises and FIEFE

- The official launch of the group label, 'NATIORA – Natural Products of Madagascar' was held at the Madagascar Hilton on March 13, 2003, in the presence of four government ministers. Prof. Jim Simon from the Rutgers University and some 200 guests, attended the ceremony. An *Expert Junior* has been hired by the Program, within the PRONABIO group, who will be responsible for certification. His role will be to manage the requests for certification and to promote the label. A technical workshop was held on May 27, 2003, to better inform operators about the steps to take to obtain certification. Awareness on the regional level began with Manakara and Mananjary.

Abroad, a round table will be organized by Rutgers University and the Home Office of Chemonics International to launch the NATIORA label in the United States. Besides U.S. operators, there will also be some PRONABIO representatives.

Registration of the NATIORA label in France and the United States is on course. So far, 3 batches of products presented by 2 eco-enterprises, have been authorized to use the NATIORA label. This label is an essential tool for the promotion of natural products from Madagascar, because it is a guarantee of



quality for foreign buyers.

- The LDI assists travel for purposes of commercial promotion. It helped PRONABIO to participate in the IFEAT international event in October 2002. The Program is convinced that a major challenge to the Agribusiness sector in Madagascar today is as much improvement of production, as well as productivity, quantity and quality. It is easy to contact potential buyers, but much more difficult to acquire their confidence so long as product quality and deliveries remain irregular and insufficient.
- Setting up the FIEFE *Trésorerie* fund to help stimulate EFE activities enabled assistance to more than one enterprise that found itself in financial difficulties following the national crisis. FIEFE began to work with the revolving fund, thus proving the efficiency of the funding system set up. The CMB (Compagnie malgache de banque) has adhered to the FIEFE system.
- In collaboration with the Ministry of Tourism, a workshop was organized to draw up suggestions for revival of the eco tourism sector.

2.4.2 Assistance to the EFE

Forty one new requests for assistance were received during the year, the list is attached in Annex 1. This makes a total of 125 EFE. The requests cover:

- Feasibility studies (13),
- Financial assistance (49)
- Research of partners (10)
- Infrastructure assistance (2)
- Technical study (18)
- Request for *experts juniors* (6)
- Eco lodge architectural studies (3)
- Training (5)
- Information research (5)
- Marketing study (11)
- Set up relation with farmers (14)
- Travel to promote products (2),
- Environmental impact studies (6),
- Study tour (2)

The list of EFE that were helped by LDI is attached in Annex 1.

In Fianarantsoa, 1820 farmers were able to set up commercial relations with EFE: sale of honey to the JB enterprise and the 'Pépinère de la Mania' (170), biological chili to the CEVOI enterprise (400), dry ginger to the SOGEP enterprise (500), oranges and potatoes to wholesalers and restaurants. These exercise provided a turnover of \$16,320.

In Moramanga, nearly 3260 farmers established commercial relations with 24 EFE during this exercise, with a turnover of \$233,152. The products range from paddy (Lake Alaotra), to raw materials for the production of essential oils.

2.4.3 FIEFE (Investment Funds for Eco-enterprises)

With the new FIEFE *Trésorerie* window, two enterprises obtained loans (SIDEXAM and AFAFI). In all, funds were released for 6 requests during this exercise (2002-2003):

- SIDEXAM (Fianarantsoa) for an operation loan to prepare the tea campaign for the next crop;
- BIOSAVE (Moramanga) to acquire new equipment to produce essential oils;
- Fontenay Resort, a luxury hotel establishment in Joffreville, to renovate buildings for more bedrooms;
- Homeopharma (Moramanga), for investments to increase the production capacity in essential oils;
- AFAFI (Fianarantsoa), operating in agricultural production (supply of seeds and input), to help financially;
- Camp Catta (Fianarantsoa), to renovate and extend the ecolodge in Andringitra.

In all, the FIEFE released U.S.\$425,760 to contribute to:

- Phael Flor, essential oil production from cinnamon leaves in the Brickaville region, \$30,820;

- The Mondésir plantations, essential oil production and spices in Fénériver Est, \$44,110;
- Nature Lodge in Antsiranana, \$94,920;
- BIOSAVE, essential oil production in the region of Fénériver Est, \$32,940;
- SIDEXAM, an advance on tea stocks, \$67,800;
- Fontenay Resort, increase the number of rooms at the ecotourism establishment in Joffreville, \$57,550;
- HOMEOPHARMA (Moramanga), investments to increase essential oil production capacity, \$48,810;
- AFAFI (Fianarantsoa) for an overdraft of \$13,560 of FIEFE refunding;
- Camp Catta, ecolodge near Fianarantsoa, for investments funds, \$35,250.

The last two requests were granted credit from the FIEFE revolving fund.

Three projects have begun repayments of loans to FIEFE:

- The Mondésir plantations;
- SIDEXAM;
- Phael Flor.

The FIEFE account totals nearly \$57,960 at the moment, following these repayments and interest credited.

The FIEFE projects are presented in a table in Annex 2.

2.4.4 Ecotourism

Among eco-enterprises, eco-tourism has been the most affected sector by the political crisis. The image of Madagascar as unique destination has been severely damaged and it will take some time to bring tourists back to the country. LDI has worked in conjunction with the Ministry of Tourism, la Maison du Tourisme, the association of tour operators and hotels owners to develop a comprehensive strategy aimed at revitalizing this sector over an eighteen month period.

Results to date

To boost the Ecotourism sector, LDI had supported the organization of a national workshop in August 02 which led to a series of practical recommendations. One of these recommendations was the urgent necessity to highly promote the Madagascar Tourism / Ecotourism destination. Therefore, LDI had helped tour operators participate in various international fairs such as the World Travel Market (WTM) in London in November 02, the ITB in Berlin in March 03, the MUBAPLUS in Switzerland in April 03, the "Foire de Lyon" in France also in April 03 and the INDABA fair held in South Africa in May 03. LDI had also developed miscellaneous communication materials such as tapes, leaflets, brochures and posters for these fairs.



An other national workshop aimed to elaborate action plans for the development of Ecotourism in the country was also organized by LDI and the Ministry of Tourism with their different potential partners like the Ministry of Environment, water and forest, ANGAP and WWF-MIRAY. An ecotourism guidelines book which contains general principles and norms in Ecotourism / Ecolodges was edited on that occasion.

Support was also given to the Ministry of Tourism to reinforce or build the capacities of their principal agents in the evaluation of ecolodge projects. And a draft of architectural and environmental norms of ecolodges was proposed to be inserted in the new Tourism Code.

Conclusion and Recommendations

It was evident that LDI supports were of capital help for the private operators and the Ministry of Tourism to re-launch the sector. The Malagasy Government did not have any budget to finance such kind of projects and the private operators were severely affected so that it was clearly impossible for both of them to undertake such important actions.

The two national workshops pinpointed that a real development of the Tourism / Ecotourism sector would depend on the following aspects:

- Institution capacity building should be seriously undertaken in the Ministry of Tourism level to improve especially the management of the Tourism / Ecotourism Investment Zones (ZIE) and the implementation and control of Tourism Ecotourism norms.
- Effective synergies between ministries, donors, NGO's and private operators should be reinforced in terms of elaborating and implementation of national strategies so that adequate measures (roads rehabilitation, telecommunication, health, fiscal procedures, site conservation,...) are commonly taken in the most potential Tourism / Ecotourism spots.
- Technical supports should be given to private operators to help them access to different financial credits and the financial institutions should review their condition of credibility to motivate the Tourism Ecotourism sector.
- National strategies for the promotion of Madagascar destination should be elaborated and supported
- Partnership should be created between local and international training institutions and the politic of decentralization should be implemented.

2.5 Local Capacity Building

The recommendations that were made at the Kolo Harena National Congress in November 2002, have been followed, or are in the course of being carried out.

Among the major achievements are:

- Setting up and officialization of the Kolo Harena National Confederation which groups all the Kolo Harena federations from the regions of Moramanga / Toamasina, Fianarantsoa and Mahajanga. This national body is the main interlocutor of the Administration, of partners, such as private operators and other national farmers' bodies. It ensures representation on a national level. The bureau members of the new confederation have made courtesy calls to the national representatives of the institutions and / or organisms that work for rural development and the environment. They identified possible areas of collaboration when they visited the Fondation *Tany Meva*, the PSDR, the SEECALINE program, the Ministry of



Agriculture MAEP, the NGO *Voahary Salama*, and the UNDP. This is an indication of the Kolo Harenas' serious intention to make their contribution to these different development bodies;

- Conversion of the Kolo Harena federations into Kolo Harena cooperatives, in order to facilitate the economic activities that the latter should undertake, which are a key condition of the sustainability of the KH movement. There are 10 cooperatives: 6 in Fianarantsoa, 3 in Alaotra, and 1 in the Mahajanga region. Constitution dossiers have been submitted to the State departments concerned. Among the main tools available to them figure the supply centers. Rural credit is an activity that is presently ensured by the financial institutions that are LDI partners, it could also become an activity of these cooperatives;
- The financial inventories of all the Kolo Harena federations are being audited at the moment, in order to list the assets of each federation: the 6 federations in Alaotra, and the 6 in Fianarantsoa have the results of their audit. Each federation in Alaotra has an average of 143 million FMG credit (with a minimum of 51 million FMG, and a maximum of 247 million FMG). In Fianarantsoa, the average credit of each federation is 56 million FMG (with a minimum of 10 million and a maximum of 89 million FMG).

The evaluation of the Kolo Harena bodies was carried out by LDI partners to strengthen local capacity. This assessment enabled assets and constraints to be identified, in approach, structure and self-promotion, and to professionalize the Kolo Harena. Recommendations and possible reorientations, were submitted concerning two particular areas, land and partnership.

2.6 Counterpart Fund (FCV)

PIP 2002

The USAID FCV budget was 600 million FMG. Work carried out in 2001 was officially accepted in 2002, the outstanding payments to the enterprises therefore figured on this 2002 PIP. Some other works were also carried out, such as :

USAID FCV				
REGION	INTITULE DU MARCHÉ	MONTANT HT (FMG)	SITUATION DE PAIEMENT	OBSERVATIONS
NOUVEAUX TRAVAUX				
ANTSIRANANA	Reinforcement work for the rehabilitation of the water supply system in Joffreville	23,899,030	100%	
	Update of the studies and researches for reinforcement work in Joffreville	7,370,000	100%	
	Control and monitoring of the reinforcement work in Joffreville	15,120,000	100%	
FIANARANTSOA	Elaboration of the dossier d' Avant projet and the dossier d'appel d'Offres for the rehabilitation of the Miarinarivo bridges	19,712,000	100%	
	Rehabilitation of the bridges in Miarinarivo			Work launched during the second semester 2003
	Control and monitoring of the rehabilitation of the bridges in Miarinarivo			Work launched during the second semester 2003
USAID	Verification of the utilization of the USAID/FCV account	37,190,000	100%	Contract jointly signed by USAID, CAE, Ministry of Environment

Work funded by the Japanese FCV was also officially accepted, and the outstanding payments were paid to the enterprises.

During the first quarter of 2003, some work was also officially accepted.

The following table shows the outstanding payments made, by each source of funding as well as for new work begun in 2002.

RELIQUATS				
USAID FCV				
REGION	INTITULE DU MARCHÉ	MONTANT HT (FMG)	SITUATION DE PAIEMENT	OBSERVATIONS
ANTSIRANANA	Rehabilitation of the water supply system in Ankarana	14,924,562	100%	
	Rehabilitation of the water supply system in Joffreville	14,757,838		CONTRAT RESILIE
	Control and monitoring of the construction of the water supply system in Joffreville	2,205,800	100%	
	Control and monitoring of the construction of the water supply system in Ankarana	2,237,450	100%	
MAHAJANGA	Civil engineering work for the stabilization of two lavaka in Androtra	5,087,577	100%	
	Biological protection of two lavaka in Androtra	9,225,000	100%	
	Rehabilitation of the road connecting the RN4 and Bekobay	102,909,215		CONTRAT NON TERMINE
FIANARANTSOA	Rehabilitation of the road Faraony Nihaonana	13,131,043	100%	
	Control and monitoring of the rehabilitation of the road Faraony Nihaonana	1,499,630	100%	
	Work of rehabilitation of the road belt around the Isalo ZIE	16,232,088	100%	
	Control of rehabilitation of the road belt around the Isalo ZIE	2,497,000	100%	
MORAMANGA	Rehabilitation of the perimeter and the CPRD of Antsahambary Amparihitsokatra	20,579,019	100%	
JAPANESE FCV				
FIANARANTSOA	Completion of the rehabilitation of roads at Ranohira Bas	10,183,095	100%	
	Rehabilitation of the road at Ranohira Piscine-Ranohira Namaza	15,000,473	100%	
	Rehabilitation of the road Ranohira - Ranohira Bas (Entreprise DIMBY)	16,500,473	100%	

PIP 2003

The USAID FCV budget in the 2003 PIP is 300 million FMG. This amount was allotted for the rehabilitation of the Miarinarivo bridges (works and follow-up).

The call for tender was launched during June, and members of the technical and financial commissions studied the offers.

An outstanding amount of 183 million FMG from previous budgeting will be allotted to funding works outside the 2003 PIP.

2.7 Monitoring and Evaluation

The LDI monitoring and evaluation team terminated the first phase of study of 'tavy' monitoring in the LDI ZSI, particularly in the sites where LDI undertook full activities in agricultural intensification, the transfer of management of natural resources to the local community, and environmental education to Kolo Harena

farmers. The analyses are being made, and the results will be compared with two other studies planned for the second semester of 2003. One is the evaluation of 'tavy' where LDI undertook only agricultural intensification activities, the most commonly observed, and the evaluation of 'tavy' in the villages and areas similar to the ZSI where LDI did not intervene at all. Other analyses and qualitative evaluations are also planned, and the results will be integrated into the report on 'tavy'.

2.8 LDI Partnership with Institutions and Organizations

2.8.1 MGHC, JSI and Voahary Salama

The integrated activities of 'Population – Healthcare – Environment' are financed by 'The David and Lucile Packard Foundation', through JSI, and executed by LDI. This MGHC project targets 5% of the population of the targeted communities to adopt integration activities and work in 13 villages in the communes of Tolongoina and Ikongo in Fianarantsoa, and 18 villages in the communes of Andasibe, Beforona and Ambatovola in Moramanga.



Photo of the Community agents during the Champion Community Festivity

Four specific objectives define the activities :

- Increase the use of modern methods of contraception,
- Improve management of natural resources,
- Increase farmers' income,
- Improve the health status of the population.

LDI uses and makes the most of its experience in these ZSI with which it is familiar (Kolo Harena farmers, instructors, etc.) and adopts an integration approach in active collaboration with local partners, particularly in matters of healthcare such as SAF/FJKM or MICET

Promotion of transverse activities is part of the implementation of the Project, through the intermediary of promotion of integrated messages (radio programs, manual radios, etc.), and setting up social marketing strategies through the creation of Champion Communities.

The achievements are grouped by specific objective, and spread out by commune, as shown in the following table :

Zone	Achievements
1. Increase use of Family Planning services	
Fianarantsoa	
Tolongoina & Ikongo	29 Community Agents trained in the 13 integration villages. The rate of use of a contraception method is 8.26%.
Moramanga	
CSB Beforona & Andasibe	Equipped with 2 tensiometers, 2 scales, 2 stethoscopes, 5 speculums, 250 cycles of Lofeminal, 250 doses of Con fiance and 50 cycles of Ovrette
2. Improve management of natural resources	
Fianarantsoa	
Tolongoina & Ikongo	Initiation to set up green communes was carried out in the 2 communes, and 4 artisans were trained in the use of improved cooking stoves. 3 communities were set up, with 411 members. Three contracts for contracted management of forests were signed, and 1340 ha. of forest transferred.
Moramanga	

Andasibe, Beforona & Ambatovola	1 site of 760 ha. was set up in the villages of Andasibe and Ambohimarina, and 5 sites were set up for stabilization of hills in Ambodinikaoma, Ambatovola and Antsiraniana. 10 farmers were trained in the use of improved cooking stoves.
3. <i>Increase farmers' Income</i>	
Fianarantsoa	
Tolongoina & Ikongo	2 Private fingerling producers have been set up. The promotion of cash crops other than coffee (81.18 ha.), SRI / SRA (22.73 ha.), other food crops (38.01 ha.), as well as development of 'tanety' (fallow land) (15.3 ha.). 4 fording bridges were rehabilitated and built.
Moramanga	
Ambatovola, Beforona & Andasibe	60 demonstration sites for ginger farming were set up in Beforona. 75 Kolo Harena farmers and instructors for community development were trained in pig farming, integrated protection of crops, chicken farming, market gardening and off season farming, tree farming, SRI / SRA, coffee farming. 9 demonstration sites for fish farming are being set up, and 20 litchis and 280 orange trees are being planted to stabilize the hillsides, as well as 16 tons of ginger to promote ecological ginger farming. A fingerling production center is nearly finished in Ambatomasina.
4. <i>Improve the Health Status of the Population</i>	
Fianarantsoa	
Tolongoina & Ikongo	56 community development instructors have been trained, and more than 25.000 IEF kits and 3900 health books have been distributed to the healthcare centers. The centers have been provided with medicines to combat the 'flu epidemic. 3 gravitational water supply systems are being built, and 5.000 liters of water tanks have been renovated or built in the SSD. A solar system has been set up for the Ikongo SSD.
Moramanga	
Ambatovola, Beforona & Andasibe	42 Community development instructors have been trained in culinary demonstration. A gravitational system has been set up in Madiorano, and others are being built in 12 villages. 4 latrines and 6 garbage trenches have been built. 62 children have been vaccinated, and medicines and food to fight the 'flu epidemic have been distributed.

Some difficulties delayed the implementation of integrated activities :

- The policy of the Ministry of Healthcare on establishing an agreement protocol with the Healthcare Department of the district to help healthcare centers with healthcare equipment, slowed us down in our support actions, because this protocol was signed rather late, and we could not carry out our direct material assistance until later, when we were aware of those of the Ministry.
- The action requires contribution from the farmers, particularly when building clean water supply systems, and the construction of CICV ; these are held up by the slow organization of the farmers.
- The small area covered by Radio Akon'Ambanivolo has been enlarged. This should greatly improve broadcasting integrated messages to all the integration villages. But delivery of the manual radios to the farmers' groups is late.
- Some activities, such as stabilization of hillsides in the area of the Ambatovola Kolo Harena associations, are middle term action (planting *vetiver* and fruit trees), and still require supervision and much stricter monitoring. The same goes for the Ambohimarina and Andasibe GCF sites.

2.8.2 Ministry of Environment, Water and Forests

Collaboration with the Ministry in charge is very good. This year was marked by LDI program support to rural communes to promote green communes. The long term objective is achieve rural communes covered with healthy forest (no 'tavy', no 'zetra' fires, no bush fires, etc.), with a population that is responsible for management of the ecosystems, and a direct beneficiary of the economic fallout from reforestation.

Six communes in Moramanga, and 5 in Fianarantsoa are active and at work to become green communes. The program was set up at the beginning of the campaign, in conjunction with the Water and Forests circumscriptions (Fianarantsoa and Alaotra) and the LDI Program. Each commune organized its 2002-2003 campaign to set up its own plan. The main actors in each commune are :

- The local population living in the previously named communes ;
- The Kolo Harena associations and the members of the population in the contractual management of the forests, who ensure awareness action during the whole campaign. Since their creation, the Kolo Harena have initiated the constitution of fire brigade committees in the 'fokontany', in accordance with their 'dina' (agreement) ;
- The commune and local authorities who are responsible for the logistics and instruction organization ;
- The Water and Forests Circumscriptions (Ambatondrazaka and Fianarantsoa), for technical supervision ;
- The LDI Program which ensures coordination for the whole 2003 campaign ;
- The permanent monitoring and evaluation committee responsible for drawing up criteria for evaluation, evaluation operations, and the suggestions for the winning rural communes to the Ministry in charge of forestry administration.

These communes have reforested more than 75 ha., i.e. about 220,000 trees planted. The operations to replenish formerly planted perimeters have been carried out. Pine and native species mainly for Fianarantsoa, with 70% bush species for plant cover, and Grevillea sp. for Alaotra. During the fire period in 2002, no uncontrolled fires were observed in 2 of the 6 communes in the Alaotra region. In Fianarantsoa, 2 of the 5 communes assisted by the LDI Program suffered fires. The other communes had some fires, but the surface area has clearly diminished in comparison to previous years, by several, even hundred ha. at the commune level, to less than 5 ha for this last period.

The evaluation criteria defined in February 2003 are grouped in:

- The existence of a medium term plan (5 years) set up by the commune to promote green communes. This plan includes the reforestation objectives linked to the pressures / threats in the commune concerned;
- The participatory method and arrangement set up;
- The methods of intervention (reforestation, fire fighting);
- The results (of reforestation, reduction of fires).



In the Amparihitsokatra (Alaotra) commune, awareness has reached the point where schools have become bodies for prevention and eradication of uncontrolled fires.

The decree which described the measures to encourage prevention and eradication of bush fires was adopted in August 2002. LDI decided to assist the green communes in October 2002, fairly late in relation to the season for uncontrolled fires, and the season for planting nurseries. Discussions between the rural communes, the forestry department and the LDI Program were an urgent necessity. The price, quantity and quality of plants offered on the private nursery market had to be accepted.

The exceptional weather conditions this year, in the whole country, marked in particular by abundant rainfall, slightly aggravated the situation. Transportation of plants was severely affected.

2.8.3 Ministry of Agriculture, Livestock and Fisheries

LDI responded positively to a request from the Ministry of Agriculture to help set up the "Project Coordination Unit" (PCU) that will initiate, promote and monitor rural development projects and activities managed or followed by the Ministry. We believe that the MAEP needs a good organizational structure and sound procedures to collect and analyze a broad range of relevant information and play a catalytic role to boost and coordinate the implementation of agricultural projects, in order to reach national goals and objectives. This is the main mission of the PCU, which benefits from LDI's assistance in three areas: organization and planning; monitoring and evaluation; database and geographic information system management.

With PACT and the consultant firm FTHM, LDI has set up :

- The new administrative organization that corresponds to the priorities set by the Ministry, particularly development of partnership with the private sector and macro economic planning ;

- The new system of monitoring and evaluation that enables them to monitor the 55 development projects under the responsibility of the Ministry;
- The new GIS that enables them to monitor the achievements of the different projects and to reach decisions in a rational way.

Unfortunately, the Project Coordination Unit was closed in February 2003. The administrative organization and the M&E plan suggested to the MAEP now await a decision from the Ministry for implementation.

2.9 FCE and the Port de Manakara

2.9.1 Mise en Concession of the FCE and the Port of Manakara :

LDI continued to play a key role in facilitating the mise en concession by:

- bringing key decision makers (Ministry of Transport/ Vice Primature, Secretariat Technique de Privatisation, Société Logistique Pétrolière) to the table to discuss and more forward on key issues and highlighting the stakes,
- keeping regional interests informed and involved,
- organizing information workshops regionally and nationally for business interests,
- providing assistance in packaging the mise en concession in a positive fashion,
- providing logistical support, context and guidance to international consultants,
- engaging consultants to provide guidance on key, time sensitive issues (i.e. inventory of the FCE, the legal structure of SBM, etc.).



LDI invested in having key studies done on dredging the Port of Manakara so that this process could move forward and not jeopardize the mise en concession. LDI was also able to leverage approximately \$300 000 in IPPTE 2002 funds for the dredging of Manakara. PST requested that LDI manage these funds directly.

2.9.2 Leveraged Funds

Since May 1, 2003, LDI has taken on key activities necessary to ensure the continued rehabilitation of the FCE and Port of Manakara and rapid and appropriate use of funds allocated by the European Union (365 000 Euros) and the GOM using IPPTE 2003 (18 billion FMG or approx. \$3 million) funds. The FCER Unit has been working with PST and the EU to complete the memorandums of understanding and *devis* programme, workplans and budgets and get them approved.

European Union – 7 bid packages for 365 000 Euros in EU funding have been prepared and released for track work, drainage work, supplying the necessary materials for these works and their management. Bids will be evaluated and awarded in August for works to start in September. LDI is providing the financial and administrative management for an advance account as well as the technical assistance for this funding.

IPPTE 2002 – LDI managed the use of these funds for dredging the Port of Manakara in time for the lychee season in November 2002, rehabilitating key port equipment, the first stage of rehabilitating the dredge at Nosy Varika (which will eventually be assigned to the Port of Manakara), and purchasing urgently need parts to ensure the continued functioning of the locomotives and draisines on the FCE.

IPPTE 2003 – The memorandum of understanding was signed July 23 for this funding which is roughly allocated as follows:

- 12 billion FMG for urgent railroad rehabilitation (drainage and track work) and rehabilitating passenger and freight cars so that the FCE can increase its revenues and demonstrate its potential to future bidders on the concession agreement.

- 4.5 billion FMG for rehabilitating a dredge from Nosy Varika and dredging the Port of Manakara as well as repairing tugboats, lighter boats, cranes and other equipment to increase the functionality of the Port.
- 1.5 billion for management of the project, which will include a Port specialist and financing local staff of the FCER unit to continue managing these funds beyond the end of LDI.

Bid packages will be released in August for railroad works for work to start in September. The Port specialist will coordinate the finalization and validation of the plan for Port works before bid packages are completed and released. LDI is providing technical assistance to PST for these funds.

2.10 RECAP Project

The ReCAP project, executed by Chemonics International and ONG Lalana achieved the following results:

- The rehabilitation of the 93 km RIP 4/RNT 14 from Ifanadiana to Ikongo in the province of Fianarantsoa



RNT 14, Lot 2. PK 51, October 2001

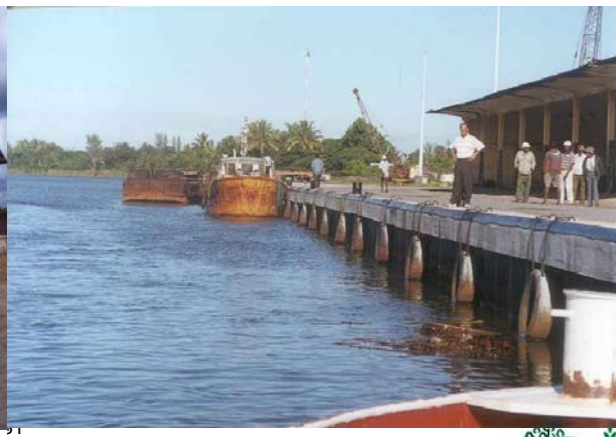


RNT 14, Lot 2, PK 51, August 2002

- The rehabilitation of 76 km of tertiary roads in the province of Fianarantsoa which include:
 - RP 1103 F from the RN 12 to Sahasinaka (12.150 km)
 - RP 1102 F from Sahasinaka to Bebaka (26.5 km)
 - RP 1102 F from Bebaka to Bekatra (17.5 km)
 - RP 1102 F from Bekatra to the RN 12 (14 km)
 - RP 4 Fa from Andemaka to Manampatrana (6 km)
- The rehabilitation of 64 km of tertiary roads in the Ambatondrazaka region of Tamatave province which include:
 - Ankasina to Antendrondrano (11.4 km)
 - Ambohijanaharikely to Kaloara (7.3 km)
 - Ambavahadiromba to Antsahalemaka (13.5 km)
 - Ankazotsaravolo to Antanandava (11.4 km)
 - Tsarahonenana to Betsianjava (6.21 km)
 - Andromba to Ambatomafana (13.82 km.)
- The creation of 8 road user associations (AUPs) along the RIP 4/RNT 14
- The creation of 25 road user associations (AUPs) along the tertiary roads in Fianarantsoa and Tamatave province
- The rehabilitation of three warehouses at the Port of Manakara
- The rehabilitation of the north wharf at the Port of Manakara



Manakara Warehouse Export #2



North wharf at the Port of Manakara: After rehabilitation

While the project was originally scheduled to end by December 15, 2002, the end date was extended to June 30, 2003 by USAID on November 4, 2002. The extension was required in order to complete the wharf work, prolong the guarantee periods for the roads and to provide additional support to the AUPs. The AUP targets were also amended in February 2003 from 20 to 8 along the RIP 4 and from 30 to 25 along the tertiary roads.

The LDI project will continue to provide support to the ReCAP AUPs until November 2003.

2.11 Intervention Fund

2.11.1 Management of Intervention Funds

No changes have been made to the procedures for management and administration of the Intervention Funds.

However, the Cyclone Rehabilitation Fund (Part 1 and Part 2) has been closed, and consequently there has been a reduction in personnel this year in the IF Unit.

The second semester was marked by greater collaboration, not only with the Regional Directors, but also and above all, with the technicians, in budgetary management. This collaboration will develop even more as the LDI Program approaches termination, in order to ensure:

- Realization of all the planned activities, and this in respect of assigned procedures and duration;
- Respect of budgetary limitations;
- Closing in accordance with procedures and within the prescribed time of all activities financed through the Intervention Fund.

2.11.2 Achievements

a) The sub-contracts and grant agreements Signed, Terminated and Cancelled

During the period July 2002 to June 2003

In all, 33 sub-contracts and 1 grant agreement have been signed.

The following table shows the number of new sub-contracts and grant agreements signed, fully terminated and cancelled during the semester.

***Number of sub-contracts and grant agreements Signed, Terminated, Cancelled
From July 2002 to June 2003 (Regular Fund)***

REGION	CONTRACT			GRANTS		
	signed	completed	terminated	signed	completed	terminated
MORAMANGA	12	17	0	0	0	0
FIANARANTSOA	14	13	0	0	0	0
DIEGO	1	1	0	0	0	0
ANTANANARIVO	6	4	0	0	0	0
CONFONDUE		3	0	1	0	0
TOTAL GENERAL	33	38	0	1	0	0

Since the beginning of the LDI Program

Globally, 190 sub-contracts and 17 grant agreements have been signed within the framework of the Intervention Fund since the beginning of the LDI Program. Details are given in the following table.

***Number of sub-contracts and grant agreements Signed, Terminated, Cancelled
Since the Beginning of the LDI Program (Regular Fund)***

REGION	CONTRACT			GRANTS		
	signed	Completed	Terminated	signed	completed	terminated
MORAMANGA	51	46	2	2	0	0
FIANARANTSOA	71	59	3	6	0	3
MAHAJANGA	31	14	15	2	0	1
DIEGO	12	5	2	0	0	0
ANTANANARIVO	14	7	0	0	0	0
CONFONDUE	11	8	1	7	0	0
TOTAL GENERAL	190	139	23	17	0	4

Fast Track Activities in the MGHC Project

21 sub-contracts have been signed to date under the fast track activities of the MGHC Project, of which 10 for the sub-region of Fianarantsoa with a total amount of 75,673, and 11 in the Moramanga region for a total value of \$99,533.

Fast track activities have been extended up to August 31, 2003, with an additional budget of nearly \$50,000.

b) Payments Made

The following table shows the payments made locally during the year.

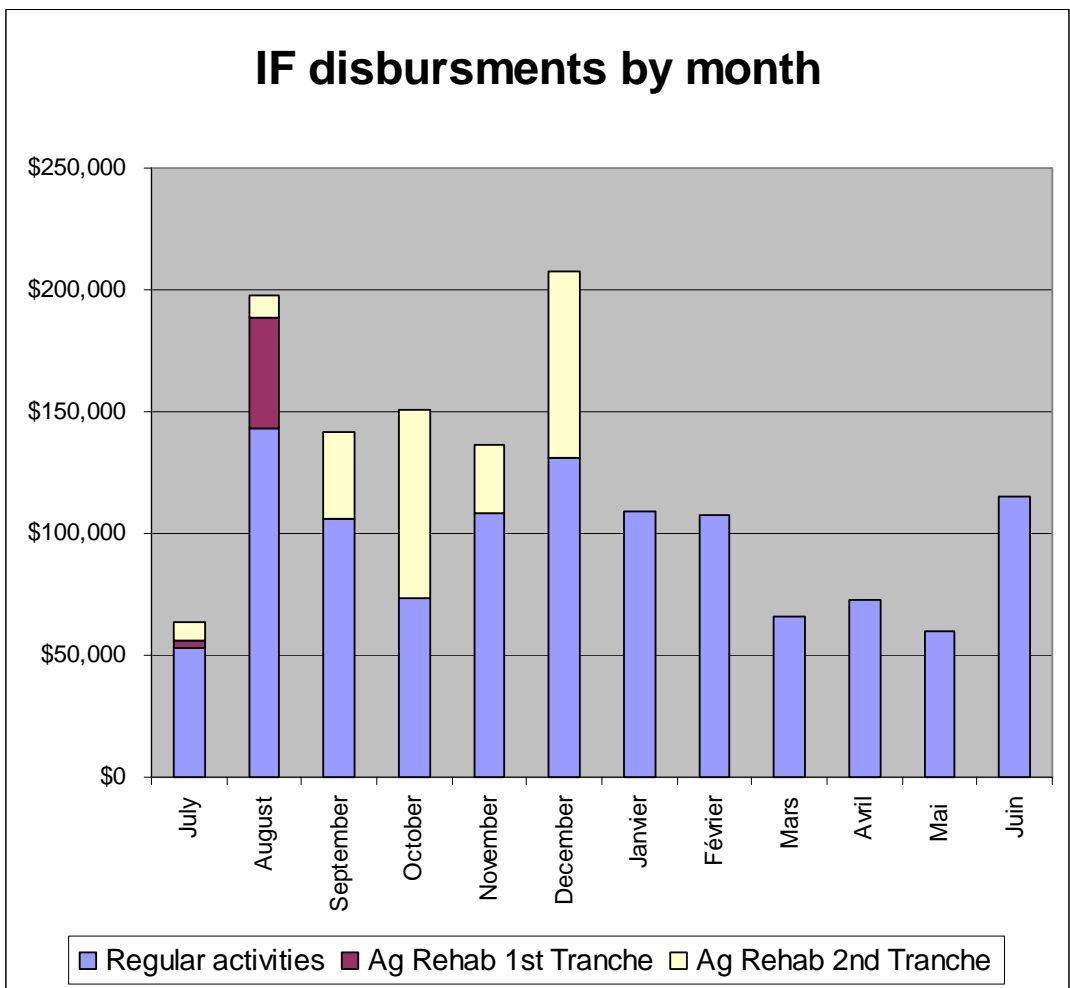
Intervention Fund Disbursements July 02 – June 03

	Technical Assistance	Credit	Direct Material support	Research	Total
Agricultural Intensification	\$147,168	\$13,675	\$244,364	\$4,721	\$409,928
Community Mgmt of Nat Resources	\$21,859		\$3,223	\$135	\$25,217
Environmental Education	\$15,821		\$7,932		\$23,753
EFE Promotion	\$128,683	\$192,529	\$7,351	\$687	\$329,250
Reinforcement of partner capacity	\$318,037		\$3,352	\$120	\$321,509
Privatization and rehabilitation of FCE and Port of Manakara	\$36,435		\$650		\$37,085
TOTAL	\$668,003	\$206,204	\$266,872	\$5,663	\$1,146,742

c) Details of Expenditures

Rate of Payment

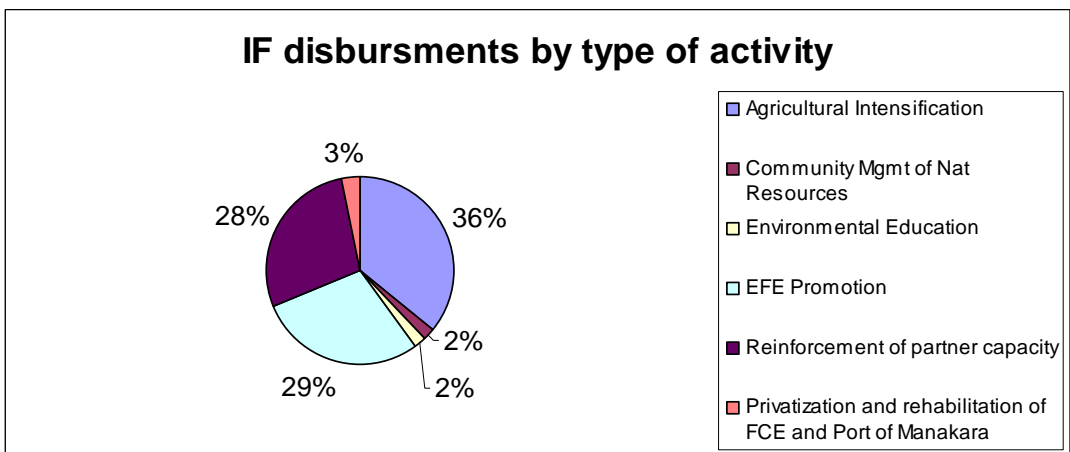
This year the rate of payment is at \$119,000 each month, and reflects a drop of about 4% in comparison to the previous year. It should be noted that the average rate during the first semester was much higher (about \$150,000 / month), due to expenses involved in the cyclone rehabilitation activities.



Expenditures by Type of Activity

A study of expenditures made by type of activity, reveals that the tendencies of previous years have been maintained. Agricultural Intensification activities are still those for which the LDI Program spends the most. Expenditures for EFE promotion activities, as well as strengthening the capacity of partners are practically each of the same proportion. Expenditures for privatization of the FCE and Manakara Port, are higher this year compared to previous years.

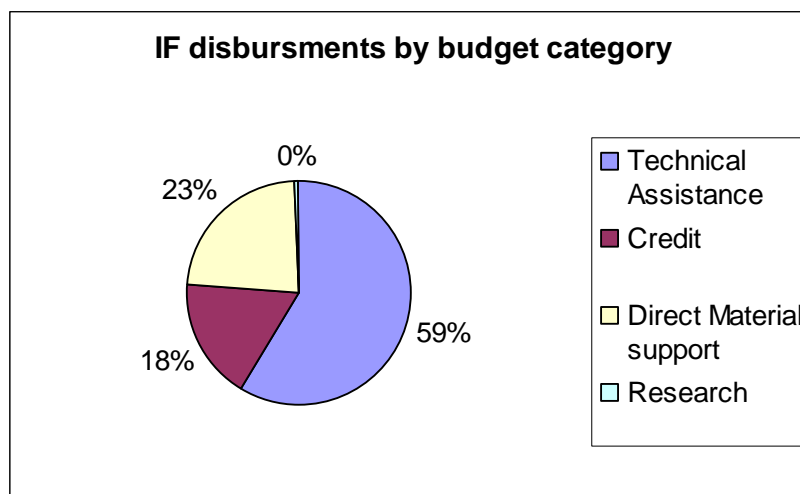
The graph below gives expenditures by type of activity.



Expenditures by Budgetary Category

After 'Technical Assistance' which represents 59% of expenditures, 'Direct Material Support' comes in second place for the most used budget item this year. Credit expenditures are higher this year, i.e. 18% compared to 14% last year.

The following graph shows expenditures by budgetary category.



2.12 Value-Added Tax (TVA) and Import Duties and Taxes (DTI)

Following the merging of the Ministries of Environment and of Waters and Forests, a new organizational chart was set up within the new ministry, and there were also new nominations to key posts. The nomination of our manager for credits related to the Project for the Initiative for Agro biological Development, 6.00.44.002.2 (LDI) became effective June 6, 2003, in accordance with Law N° 9026 / 2003 / MINENVEF, which named Mr. Germain Refeno, Secretary General of the Ministry of Environment, Waters and Forests. Up until then, there had been no commitment by the Office for Controlling Agreed Expenditures (CDE – Contrôle des Dépenses Engagées). Regularization of the VAT for the period 2003 will be carried over to the next report in December 2003.

Sub- Paragraph	TVA			DTI		
	Payment Credit	Credit Consumed	Balance	Payment Credit	Credit Consumed	Balance
Financing Group A (State-State)						
20172 Water, Electricity, Telephone	240,000,000	28,756,709	211,243,291			
20173 Supplies and Services	597,000,000	283,083,573	313,916,427			
20175 Maintenance and Repair	200,000,000	28,143,270	171,856,730			
20150 Studies and Research	70,000,000	251,663,480	-181,663,480			
20156 Monitoring-Control- Supervision	60,000,000	75,470,752	-15,470,572			
21240 Irrigation Work	200,000,000	130,706,999	69,293,101			
21410 Roads	1,000,000,000	3,626,939,948	-2,626,939,948			
21610 Technical Equipment	1,000,000,000	194,621,746	805,378,254	800,000,000	3,265,010,073	-2,465,010,073
21720 Vehicles						
Financing Group B (FCV)						

20150 Studies and Research	6,400,000	17,859,400	-11,459,400			
20156 Monitoring-Control-Supervision	10,100,000	33,759,520	-23,659,520			
21510 Water Supply System	8,800,000	50,852,504	-42,052,504			
21520 Sewage System	3,000,000	57,250,303	-54,250,303			
21410 Roads	100,000,000	317,061,857	-217,061,857			
21240 Irrigation Work	600,000,000	59,839,070	540,160,930			
Total	4,995,300,000	5,155,999,131	-160,699,131	800,000,000	3,265,010,073	-2,465,010,073

2.13 Administration

The LDI Documentation Center in Antananarivo.

The Center holds all the documents related to reports and studies carried out by consultants since the beginning of the LDI Program, as well as the reports and studies made by other partners and institutions, and which are shared with LDI. In September 2002, the Program hired the services of an archivist to carry out computer processing, filing, archiving, and research for documents that could be useful for the activities of the Program. Other documents are also available: magazines, reviews, periodicals, bulletins and newsletters, films and CD-ROM, and pamphlets produced with LDI support for other bodies. The reading room is also for visitors (students, trainees, consultants), and there are more than 1000 referenced works. The books are catalogued according to the sector of activity, with sub-categories.

3. Antsiranana Region

3.1 Principal Activities undertaken in Antsiranana

3.1.1 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 in Ankarana and Joffreville, 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. Despite the 2002 crisis, the two water supply systems were installed and completely operational. In Joffreville, one part of the works was directly managed by the local beneficiaries grouped into a water users association. This association will ensure the maintenance of the water supply system. In Ankarana, the water system is managed by the surrounding communities with the technical support of ANGAP local representatives.

Regarding the implementation of the Ecotourism Investment Zones (ZIE), the one in Joffreville was officially delimited by the act of "bornage" which is totally securing the zone and will facilitate the "bornage" of each parcel by future potential investors.



The street fountain #15 located at the tail of the water supply system

3.1.2 Assistance for investors to develop ecolodges and other activities related to ecotourism

The Fontenay Resort received \$54,000 through the FIEFE credit. This is a potential project for a high category ecolodge equivalent to 4 stars hotel service. The restaurant and some bungalows of the Fontenay Resort are already opened for tourists.

On the other hand, the MDA Nature Lodge had officially opened its doors in April 2003 thanks to LDI technical and financial supports. Nature Lodge received \$86,200 through the FIEFE credit in June 2001.



The Nature Lodge bungalow and the drawing

3.1.3 Development of basic lodges by Village association

This project was pending due to the catastrophic reduction of ecotourism activities at the national level. Therefore, few rehabilitating works are needed and will be undertaken soon to get the lodges ready for the 2003 tourism season. One malagasy tour operator is ready to help the villagers association promote and manage the project. A project contract is under preparation to relaunch the project as soon as the lodges are ready.

3.1.4 Education in the new concept of Ecotourism/Promotion of Madagascar as ecotourism destination

A film titled: "Madagascar: Paradise of Ecotourism" was produced and dispatched to large public especially in international level. 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



also presents the main aspects of real ecotourism, as it is a new concept in Madagascar. Other communication materials like leaflets, brochures and posters were also edited to promote the Tourism/Ecotourism destination of the country. These materials were distributed in various tourism international fairs (World Travel Market during the Environmental Awareness Day in London, International Tourism Fair in Berlin, Mubaplus in Switzerland, Indaba in South Africa,...) where Malagasy private tour operators participated. An Ecotourism guidelines book was also edited, presented and dispatched to national private operators during a special Ecotourism workshop organized in April with the collaboration of the Ministry of Tourism, the Ministry of the

Environment and Water Forest, ANGAP and WWF-MIRAY.

3.2 Accomplishments July 2002 –June 2003

Indicators	July 2002 – June 2003 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.	One project of partnership between the villagers association and Jacaranda Madagascar, one tour operator based in Antananarivo with local representative in Antsiranana, is preparing the promotion of the "cases villageoises".	Waiting for completion of the lodges rehabilitation.
One Ecolodge established in Joffreville or Ankarana	The Nature Lodge in Joffreville is opened in April 2003	One ecolodge (Fontenay Resort) received the FIEFE credit and is partially operational
Technical assistance to rehabilitate the water systems in Joffreville and in Ankarana	The two water supply systems are done and operational.	

Les réalisations de LDI dans la provinces de Fianarantsoa

Gestion communautaire des ressources naturelles

- 6 contrats GCFs signés
- 1542 membres de communauté de base
- 6040 ha de forêts primaires classées

Entreprises Favorables à l'Environnement

- 18 EFEs appuyées par LDI dans les filières huiles essentielles, épices, cultures de rente, intrants agricoles, écotourisme.
- Volume d'investissement des EFEs: \$94,915
- Volume de FIEFE trésorerie déboursée: \$116,610
- 1820 paysans en relation commerciale avec les EFEs
- Création de 649 emplois dans les filières prioritaires.

Zones d'investissement écotouristique Isalo

- Création d'une ZIE de 3235 ha
- Plan d'aménagement et constitution de la réserve foncière
- Structure de surveillance des normes écotouristiques
- Réhabilitation du centre d'interprétation
- Réhabilitation des pistes pour désenclaver les villages périphériques du parc
- Bornage de la ZIE d'Isalo.

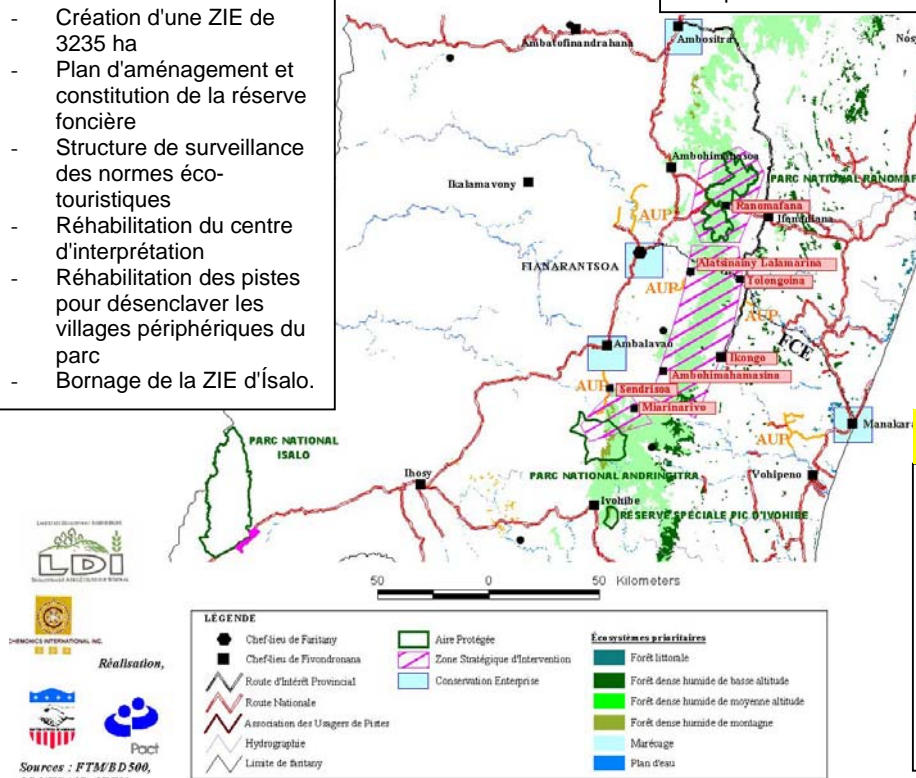
Appui régional

- Elaboration de plan stratégique de développement régional de l'écotourisme
- Promotion du Label NATIORA
- Appui à la mise en concession de FCE et Port de Manakara

Intensification agricole

- Augmentation de rendement en:
- En riz de 1.18 T/ha en 3.99 T/ha
 - En pommes de terre de 1.5 T/ha à 14,47 T/ha
 - En haricot de 0.46 T/ha à 1,84 T/ha
 - En maïs de 0.485 à 3,9T/ha

Augmentation de revenu moyen annuel de 31%



Réalisation,



Sources : FTM/BD 500, LDI/USAID, IEFN

Education environnementale et communication

- Production et projection du film sur la pisciculture
- Mise en forme et distribution de brochure sur 20 questions autour de la mise en concession de la FCE.
- Lancement du programme "Centre d'info" au niveau du centre d'approvisionnement d'Ambatovaky avec le Parc Ranomafana (Poster, brochures, revues).
- Distribution et vente des journaux Koloharena 3 et 4.
- Lancement et mise en oeuvre du programme "Communes vertes" dans 5 communes.
- Panneaux d'affichage sur les villages d'intervention à Tolongoina.
- Mise en place et opérationnalisation de la commission environnementale au sein de la Fédération.

Renforcement de capacité

- 316 associations Koloharena
- 3385 membres dont 3060 financés par le fonds d'intervention, 325 par le fonds additionnel.
- 2206 membres groupés en 14 AUE financés par le fonds cyclonique
- 9 Fédérations d'association koloharena.
- 4 coopératives mises en place.
- 242 paysans vulgarisateurs et 75 paysans animateurs pour la mise en oeuvre de l'approche farmer-to-farmer.

4 Fianarantsoa region

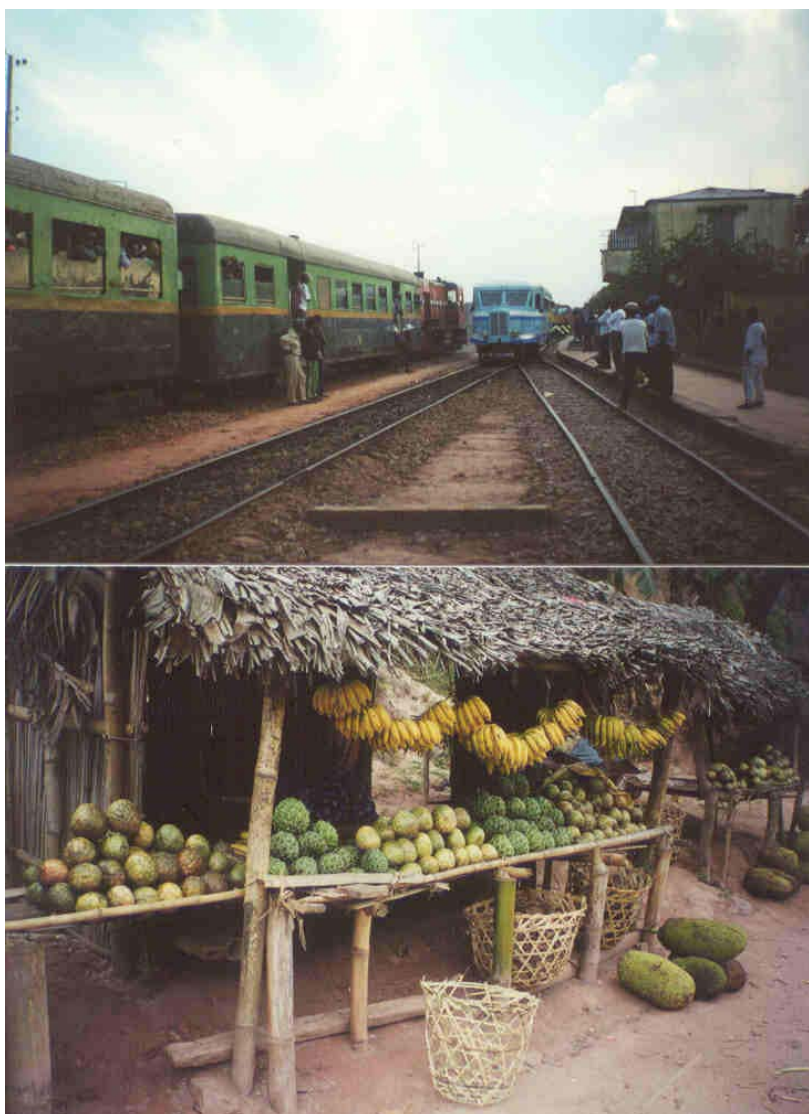
4.1 Main Results

4.1.1 Overview

The LDI Fianarantsoa program entered into its final year of activity confronted by the opportunities and strains of the 2002 political crisis. The year was marked primarily by a series of activities designed to help jump-start the regional economy buffeted by fuel shortages, a collapse in the regional transport system, a breakdown of effective regional government presence, and serious public health crises. The program was forced to evaluate on several occasions the most useful form of interventions needed to maintain the twin goals of the program – poverty reduction through sustainable management and conservation of the Ranomafana – Andringitra forest corridor resources. Despite the many institutional and economic constraints confronted by the program, considerable achievements were made in improving rural production and income while at the same time slowing down rates of forest conversion. Perhaps the period can best be described as the “Year of Synergies” because the Fianarantsoa program was so actively involved in constructing financial and institutional partnerships to generate added value to the communities living along the forest corridor.

4.1.2 Ecoregional Support

From an ecological perspective, Fianarantsoa ecoregion of low, medium, and high altitude tropical forests emerged from the 2002 political crisis rather unscathed despite the many tumultuous events of the past year. From an ecological perspective, the rates of forest conversion seem to have slowed down considerably due to the combined forces of new government policy to reduce *tavy* and bush fires and the adoption of the package of incentives employed by LDI and other partners to reduce human pressures on the natural resources. Research conducted by LDI Fianarantsoa on the eastern side of the corridor strongly demonstrated that *tavy* in the LDI Strategic Zones of Intervention has indeed come to a halt though not without certain social and economic consequences. Pressures on both sides of the corridor have probably been reduced due to changing government policy centered primarily around arresting the issuance of forest clearing permits and condemning strongly unchecked bush fires. LDI has been playing a central part in communicating this new policy through the mechanism of the Kolo Harena and the Communautés de Base (COBA). But at the same time, considerable efforts by LDI and



Ecotourism, transportation and farmers' income are served by the FCE railway

others partners to rejuvenate the regional economy have played an important part in encouraging rural populations to reduce dependence on forest extraction and conversion.

The LDI Fianarantsoa program continued to provide strategically targeted interventions designed to stimulate the regional economy. The Chemonics projects LDI, FCER, and ReCAP worked together to concentrate efforts on keeping the rural transport infrastructure along the corridor operational. Without a functional transport system, farmers would have had no alternative but to partake in slash-and-burn agriculture to meet food security needs. The three projects kept the FCE railway open, improved dramatically the operations of the port of Manakara, and repaired the north-south corridor road axes of the RIP 4. At the same time, the opening of the Sahasinaka – Bekatra road by ReCAP contributed significantly to creating favorable rural economic conditions. Through a grant of 1.6 billion FMG by the government of Malagasy IPSTE 2002 (EPIC) funds to a consortium of LDI, the Port of Manakara, and the Société de Batelage for emergency port dredging work, the port operations have improved considerably through rehabilitated tug-boats and intermediate technology dredging practices. These interventions by USAID funded projects have led to dramatic improvements. As a report commissioned by USAID entitled “Successes and Potential Sustainability of USAID’s Cyclone Recovery Program” concluded that the economic benefit generated by the transport sector amount to 2.5 billion FMG of which 80% come from the increase in returns from FCE. At the Port of Manakara, port traffic has increased by 15% over the same measurement period (January – May) of the past five years. Discounting the unusual traffic patterns of last year when Manakara was the only functional port in the country, embarkation and disembarkation has increased by 25%.

As a response to the economic crisis caused by the political turmoil of the past year, LDI concentrated considerable resources and staff time on strengthening the commercial and market sectors of the rural economy along the forest corridor. As will be reported in more detail below, efforts focused primarily on assisting the Kolo Harena to sell agricultural surpluses and to provide farmers with agricultural inputs like seeds, fertilizers and agricultural knowledge. Agribusinesses suffering from liquidity constraints due to inability of the banking system to provide normal credit arrangements avoided bankruptcy through the LDI emergency credit programs. Since ecotourism is such an important part of the regional economy, LDI Fianarantsoa invested much time and effort in helping the sector to recuperate from the sudden drop-off in tourism. Despite the war in Iraq, tourism is now on the rise as demonstrated by a quite respectable tourist presence in April. The FCE alone reported very heavy tourist use in April and May while many of the top quality hotels in the national parks were reasonably well occupied.

In effect, LDI Fianarantsoa staff played a central part in rebuilding the confidence of many regional actors to take risks, invest in developing new economic opportunities, and rehabilitate existing infrastructures. The program continued to work closely with regional government actors to valorize their skills and competency. New institutional relations were constructed with the regional representatives of the ministries of water and forests, agriculture, privatization, and transport. Despite considerable political turmoil and rural insecurity in the Fianarantsoa province, the moral support and encouragement offered by LDI staff has played a central part in recreating the team spirit among the Fianarantsoa regional actors. The old sense of cooperation and enthusiasm is not yet totally rekindled, but without the consistent encouragement of LDI a sense of depression and malaise might have depended.

The concept and practice of ecoregional conservation and development along the Ranomafana – Andringitra forest corridor is still very much alive and integrated into the agendas of the regional governance structures. Thanks to the informational campaigns launched by LDI and its partners, the “corridor coincée” remains the buzzword of the region. But added to this is the new concept of the “Fianarantsoa – Manakara Economic Corridor.” LDI Fianarantsoa and the FCER project succeeded in building excitement within the Programme Sectoriel de Transport (PST) around the concept of promoting economic growth along the FCE railway and feeder roads that in turn serves to conserve the Ranomafana – Andringitra forest corridor. This concept was successfully integrated into the PST rural transport program as one of its three programmatic pillars.

Along this road and railroad corridor, remarkable improvements in the rural livelihoods are unfolding. Many donor projects now use the improved opportunities for access provided by the railroad and improved roads to construct new rural development programs. The World Bank PSDR and FID are building new schools, irrigation projects, and markets at the railroad station villages. The European Union FED program and STABEX are now rehabilitating feeder roads leading into the railroad stations and the two road axes reconstructed by ReCAP. Government is rebuilding bridges on the RIP 4 road through IPSTE 2002 funds. The Tiavo credit program has set up new credit facilities in some of these villages. Public services, like provision of medical supplies and family planning services are once again functioning in the villages along the railroad and reconstructed roads. The foundations of a rejuvenated regional economy are indeed being put into place thanks to the investment of USAID resources.

4.1.3 Agricultural Intensification

The agricultural intensification program continued to expand considerably over the past year despite the difficult market environment. Rice surpluses continued to be generated through the adoption of SRI/SRA agricultural techniques, but enthusiasm was dampened considerably by the difficulty of acquiring fertilizers and other inputs. Farmers confronted not only a lack of supply but also severe liquidity restrictions. Lack of fertilizer in the country nevertheless contributed significantly to heightened interest in composting techniques! Rice prices remained low all year due to lack of transport and commercial purchasing power, though the LDI rice commercialization campaign organized by the COCOM committees played a significant role in helping those Kolo Harena involved in the program. Four Strategic Zones of Intervention and the Kolo Harena federation in Manakara profited from this initiative that generated 90 million FMG of gross revenues through the sale of 83,000 kg of rice and profits of at least 10 million FMG for the Kolo Harena associations.

At a time when LDI was attempting to resolve severe market constraints, the rural credit program continued to expand. The agricultural supply centers in Ialamarina and Ambatovaky lent out 70 million FMG of credit during the last season. But in other centers, the managers decided not to offer credit until arrears were paid back. Despite the economic down-turn in the region, the Entreprenre à Madagascar lent out 73 million FMG to 126 Kolo Harena members for fish culture expansion and community granaries. LDI Fianarantsoa also worked with the Kolo Harena federations on the eastern side of the corridor to develop a federation managed credit program. This responds to the problem that on the eastern side of the corridor, banking institutions continue to refuse to work in the area due to the distance and travel constraints to Fianarantsoa city.

The dry season agricultural intensification program continues to expand dramatically. Farmers are now actively involved in off-season vegetable and potato production. This year, the Kolo Harena successfully organized the purchase and distribution of high quality potato seed. The agricultural supply centers continue to sell vegetable seeds to women's associations, Kolo Harena members, and other producers. Dry season agriculture in lowland rice fields (bas-fonds) continues to expand because farmers possess some labor surpluses at this time to invest in gardening and they receive the residual impacts of soil fertility improvements made during the dry season on the subsequent rainy season rice harvests.

The fish production initiative similarly continues to expand rapidly along the length of the corridor. Following the closure of the Ampamaherana fish production center operated formerly by the ministry of animal resources, the Kolo Harena sold over 40,000 fingerlings last year despite considerable transport

constraints. Many of the buyers were other projects like the ANAE, PSDR, PNUD, and even the Service de Pêche in Mananjary. But interesting new innovations are



Turnover in sales of fingerling is about 30 million FMG for nine Paysans Producteurs d'Alevins (PPA)

emerging. Urban farmers in Fianarantsoa are buying Royal Carp fingerlings from fingerling producers in lalamarina and then fattening them in local fishponds for eventual sale at the Zoma market. In the Ikongo eastern corridor zone, demand for fingerlings is skyrocketing. Supply cannot adequately meet the demand for fingerlings. The strategy to put in place a network of Producteurs Piscicoles d'Alevins (PPA) is nevertheless paying off because the centers help each other deal with unexpected production short-falls. For instance, in Ikongo the PPA efforts to mate Royal Carp failed, but the producer in Tolongoina was able to meet the local demand of Ikongo Kolo Harena. Yet the previous year, the Ikongo producer met the entire demand from Tolongoina at a moment when the PPA in this area suffered catastrophic losses from cyclone damage.

Honey production on the western side of the corridor continues to expand in Strategic Zones of Intervention like Andry and lalamarina. However, along the eastern side of the corridor, technical constraints have not yet been overcome. The variety of bees in this area do not remain in the hives promulgated by LDI. Considerable debate exists on why bee production on the eastern side does not yet work well. LDI Fianarantsoa is currently encouraging a private honey entrepreneur to experiment with bee production in the Tolongoina and Ikongo areas in an effort to determine how to raise better bees in this environment.

Considerable investments of time and resources were placed in the design and implementation of the new farmer-to-farmer agricultural extension system. The extension system originally set up by LDI had reached the limits of its utility. Agricultural agents could only serve a limited number of farmers. Some type of new arrangement needed to be found to extend information and services to the rapidly growing numbers of farmers clamoring for assistance. The agricultural director, Anicet Ranaivoarison was sent to the IIRR in the Philippines to learn how these systems are set up in other parts of the world. Upon his return, the new approach was put into place in nearly all of LDI's Strategic Zones of Intervention. A network of Paysans Vulgarisateurs (PV) has been put in place (over 159 PV in Fianarantsoa). These farmers have received additional training, some equipment, and other incentives to carry out their work. The PV specialized in fishculture have experienced the greatest successes. They are often producers of fingerlings that sell or barter not only the fingerlings but associated technical advice. Other PV farmers sell services through receipt of small cash amounts or a pre-determined amount of produce. These PV are supported also by Paysans Animateurs who help set up and legalize Kolo Harena, assist in the development of market arrangements, and provide other organizational support.

4.1.4 Conservation Enterprise

The conservation enterprise component of LDI Fianarantsoa played a strategic role in relaunching economic activities along the corridor following the severe political crisis of the past year. The principal focus of activities have of activity were:

Commercialisation: The Kolo Harena federation structure called the COCOM developed an effective funding mechanism to facilitate the sale of agricultural commodities. About 83,000 kg of rice was purchased at a reasonable price from Kolo Harena farmers and then resold at a higher price later in the season. This generated 91 million FMG of gross revenue with a 12% rate of return for the fund. The fund now possesses about 84 million FMG that can be reinvested in similar purchasing arrangements through the newly created Kolo Harena cooperative system. Other commercialization initiatives were also launched this year. In Manakara, LDI worked closely with litchi exporters and Kolo Harena producers to develop direct market linkages between producer and exporter. By cutting out the middlemen, the exporters obtained a higher quality of litchi and the Kolo Harena obtained nearly a 75% increase in the price of the product. The Kolo Harena federation in the Manakara area provided 24 hour loans to producers to rent vehicles to carry the produce directly from the grower to the exporter in Manakara. Unfortunately, yields were low this past year and inclement weather led to other losses. Nevertheless, the port of Manakara exported a respectable 2500 kg of litchis.

Emergency Credit to Agribusinesses: The conservation enterprise fund FIEFE provided emergency credit to the tea company SIDEXAM and the agricultural inputs store AFAFI to help relieve liquidity constraints. This initiative protected the jobs of over 400 workers at the SIDEXAM company located near the corridor in the Sahambavy commune. The 320 million FMG low interest credit was quickly reimbursed and this was subsequently directed to assistance to AFAFI to expand its stock of agricultural inputs sold throughout the region.

Promotion of Income Diversification: The collapse of the international price for robusta coffee grown on the eastern side of the corridor has continued to generate profound impacts on rural communities. LDI Fianarantsoa continued its initiative to develop new market opportunities for alternative crops. The most

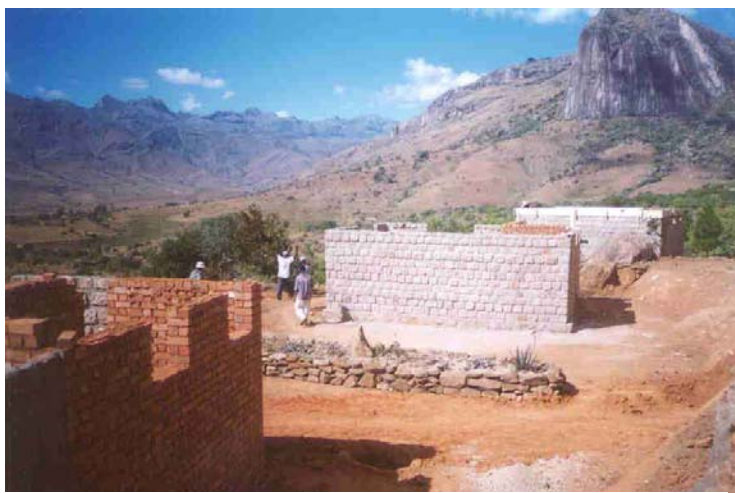
promising initiative on the eastern side of the corridor is the creation of a partnership between CEVOI and the Kolo Harena in the Manakara area to grow hot pepper following ECOCERT certification standards. CEVOI provides technical assistance, seeds, and the cost of certification to Kolo Harena who in turn produce pepper for sale to the ready market provided by the exporter. Three Kolo Harena associations in Lokomby and Ambodimanga are now involved in this new activity. Other actors are beginning to enter into the venture such as the AGROMAN farm supported in the past by LDI as well as surrounding villages. Expansion is anticipated along the railway and up into the corridor areas near Ikongo and Tolongoina.

The conservation enterprise component is also working closely with the agricultural intensification team to valorize further the surplus grasses produced by the vetiver grown along the railway and at the various sites along the corridor. LDI studies are showing that thatching and weaving material is becoming scarce along the corridor. Encouragement is being provided to women to experiment with vetiver. In Manampatrana, the Kolo Harena women's cooperative is now making hats, mats, and traditional clothing with vetiver. As an other example of synergies between projects, the FCE and FCER project has granted these women rights to manage vetiver plots along the railway. The cut grasses are then woven into products sold to tourists. Similar examples of synergies are also emerging along the CAP built road near Sendrisoa where women are now selling beautiful vetiver mats. Initiatives are underway by LDI Fianarantsoa to expand the product line as well as markets for vetiver products in Fianarantsoa and through the Eaux de Coco NGO to emerging markets in northern Europe. Meanwhile, vetiver straw is increasingly used as roofing material by Kolo Harena members living along the railway because its straw repels rats and is more resistant to rot.

On the western side of the corridor, LDI continues to support the development of the medicinal and aromatic plants sector. At this time, 5000 *Aloe macroclada* plants are being grown in the Ambalavao zone on an experimental 1 hectare plot. Farmers from sites along the western side of the corridor are beginning to ask for stock in order to enter into this venture. The expansion of the Bulgarian Rose continues through cooperation with Mac & Frères. The plants are now well adapted to the cool but semi-arid zone, tests of oil quality have been conducted, and plans are underway to expand production to surrounding villages. Three villages will begin to out-plant the roses in October. The agricultural university program ESSA continues to monitor the roses and works with the Mac & Frères technical to test new soil fertility techniques such as mulching with vetiver.

Natural Products Label: The roll-out of the natural products label "Natoria" has been launched in the Manakara and Mananjary area. As these are spice growing areas (pepper, ginger, cinnamon, cloves), exporters recognize the possibilities of obtaining better prices through linkages generated by the Natoria label. LDI Fianarantsoa has worked with government and local enterprises to explain the advantages of the label, the new market opportunities existing in Europe and North America for natural products, and the challenges of penetrating these new markets.

Ecotourism: Immediately following the resolution of the political crisis, LDI Fianarantsoa worked with partner ecotourism operators, the regional Ministry of Tourism department, and the ANGAP to develop a series of measures to relaunch the tourism sector. LDI contributed to a city-wide program to publicize the tourism potential of Fianarantsoa. This was followed by technical assistance to the GIFT coalition of tour operators to market tourism potential in Europe. A new website for the FCE railway was set up that now generates about 250 hits per week. Intense lobbying was carried out to repair the Fianarantsoa – Ranomafana road in time for the tourism season as well as the Ambalavao – Andringitra road. LDI created a coalition with ANGAP and WWF to apply for Social Funds from the FID to repair this road. LDI coordinated the preparation of the project proposals that led to over \$40,000 of funding to NGOs now using labor intensive techniques to repair the vital road to Andringitra National Park. Resources were also invested in working with consultants and local government to



Camp Catta received loans from FIEFE and renovates the ecolodge in Andringitra

delineate in a socially sensitive fashion the boundaries of the Zone d'Investissement Ecotouristique (ZIE) around the Isalo National Park. Efforts continued to collaborate with WWF Andringitra and the private sector to build an ecolodge on the boundaries of the park. The team worked with the potential investor to incorporate ecotourism considerations into the building design. Finally, LDI succeeded after several years of work to facilitate a credit of 260 millions FMG for the Camp Catta ecolodge in the Sahanambo valley. This meshed well with its efforts to have the access road from the national highway to Morarano rebuilt with funds from the PST and FID.

The conservation enterprise component continued its active involvement in the FCE privatization process. LDI Fianarantsoa launched a public education campaign in collaboration with the Ministry of Transport and the Ministry of Privatization to inform local actors of the steps and considerations involved in railroad and port concession processes. This complemented the work carried out by the LDI Fianarantsoa program in collaboration with Manakara actors to help government expend the 1.6 billion FMG of IPPTE/EPIC funds for emergency work on the port of Manakara. In August 2002 the port indeed faced permanent closure due to siltation at the mouth of the Manakara river, the dilapidated condition of the tugboats of the Société de Batelage, and financial insolvency. This injection of funds has led to a 14% increase in port traffic of primarily imports of key consumer products (salt, cement, fuel) at lower prices than road travel.

4.1.5 Community-Based Natural Resource Management

The community-based natural resource management program obtained major results despite the institutional turbulence encountered in the region. Over the past year, the CBNRM component signed 4 new *Gestion Contractualisée des Forêts* (GCF) contracts. The six GCF are now fully functional following the preparation of their annual work plans. These plans developed between the forestry service and the local forest management committee (Communauté de Base – COBA) include *Plans d'Aménagement* or forest management agreements. LDI Fianarantsoa provided technical assistance to the COBA through the interventions of *experts juniors* forest specialists.

The rural communities involved in the establishment of community forestry agreements jealously protect these primary forests. These forests are viewed as the guarantors of water availability for irrigated rice fields, a source of secondary products like medicinal plants, fruit, and construction wood, and honey collected from the wild. The “dina” or traditional community arrangements are the foundation of the system because they spell out restrictions and uses to protected and multiple use zones. These dina describe as well sanctions and fines. Sanctions are enforced by a *Polisin'ala* or forest police – young people who observe forest uses and inform the public of the dina arrangements. But they are also backed up by the forestry service and the judicial system.

In those communities where forests have been placed under a GCF management agreement, evidence is mounting that *tavy* is coming to a halt. No slash-and-burn agriculture takes place within the GCF forest. Around these forests, forest conversion appears to be also slowing down considerably. But the pressure on the forest has not disappeared. Rather, it is even more important than before that the COBA members adopt new and improved agricultural and conservation enterprise activities to compensate for the loss of access to the primary forests. In the future, more effort must be placed in creating Kolo Harena within the COBA structure so that a broader range of people can profit by improved access to information, credit, and other services proffered by LDI.

4.1.6 Environmental Education and Communication

The environmental education program found its stride this year through the production of several influential communication tools. Through partial funding from the MGHC program, LDI Fianarantsoa contracted Fanoïtsa to produce two films on Royal Carp fish production. Produced in the Tanala language, the first film describes how to fatten Royal Carp and Tilapia in irrigated rice fields and fish pounds. The second 23 minutes film explains how to set up Royal Carp production centers. Both films discuss the linkages between forest conservation, water availability for fisheries, marketing, and public health. These films have been shown on national and regional television and they are used widely in rural animation activities. Other donor projects have purchased copies from Fanoïtsa. Both films have helped to stimulate the purchase of fingerlings from the 9 PPA centers along the corridor.

LDI Fianarantsoa also worked with the PST of the Ministry of Transport to produce a 9 minutes film on the Canal de Pangalanés. Through funding from the IPPTE 2002 Port of Manakara funds, a French graduate student from the Sorbonne scripted and edited the film linking the rehabilitation of the canal, the port of

Manakara, and the railway to the broader environmental agenda of resource conservation in the provinces of Tamatave and Fianarantsoa.

The environmental program also produced educational materials for the GCF forestry component. The Fianarantsoa LDI team repaired technical sheets on the steps for community management of forests, a reader of environmental and forestry laws, and background information on procedures to secure land security. The COBA of Miarinarivo, Ambendrana, Ampatsy and Ikongo have all utilized these materials to reinforce their rights and responsibilities to the forests. For the first time ever, farmers are citing chapter and verse of forest law and they confront public authorities with legal arguments regarding forest uses. These educational materials are in high demand from other actors such as mayors, presidents of *fokontany* and project staff.

The environmental education component promotes with the ministry of water and forests the “Commune Verte” program. Designed to eradicate totally fire from the landscape, LDI launched the pilot program in five communes (Miarinarivo, Ialamarina, Androy, Kelilalina, and Tolongoina). LDI staff served as a liaison between the ministry in Tana, regional offices in Fianarantsoa and the rural communities. Results are thus far impressive. No forest fires occurred in four of the communes last dry season. Tree planting has increased by 15-25% over previous years though availability of finances for tree planting has been a severe constraint. While this program promises to be of considerable interest to local communities so long as government recognizes their efforts, questions are surfacing regarding the economic and environmental consequences of banning fires. Rodent populations may dramatically spike with the result being greater destruction of human food supplies or expansion of disease vectors such as the plague. Labor demands for clearing fields may also increase dramatically if authorities and villagers perceive that fire cannot be used as a management tool.

Other simple communication tools were developed over the past year. With funding from MGHC, public announcement signs have been built in the Tolongoina commune as a way to allow the posting of information in villages scattered around the commune. Communication of public information is such an obstacle that LDI Fianarantsoa has continued to stimulate the debate on how to construct a rural radio system for the eastern side of the forest corridor – a zone that receives no local radio coverage. Despite the political crisis, a vision is gradually emerging of where and how to build a rural radio network serving the interests of Kolo Harena and other rural peoples. Hopefully, future financing from USAID and other donors will be able to put this system in place.

The LDI Fianarantsoa program worked closely with the Peace Corps to develop four new positions for volunteers in Ikongo and Tolongoina. For the first time in the history of Peace Corps presence in Madagascar, volunteers were sent to these new postings. Job descriptions were developed by LDI for three Environmental Education volunteers and MGHC Fianarantsoa helped put in place the terms of reference and institutional relations for a health volunteer in Ikongo.

4.1.7 Population-Health-Environment Integration

The Population-Health-Environment program financed through the Madagascar Green Healthy Comities project (Packard Funding) expanded its activities this year along the eastern side of the corridor under the management of the LDI Environmental Education and Communication component. The results of this program are reported separately under the section describing activities in each Strategic Zone of Intervention. Suffice to say that MGHC is beginning to achieve one of the long sought hopes of LDI – the introduction in a socially responsible fashion of reproductive health services into remote rural communities along the forest corridor in conjunction with the LDI approach of integrated agricultural and economic development. The major innovation introduced into the eastern side of the corridor has been the adoption of the “Champion Community” concept – a planning tool allowing the community to define precise development objectives over specified periods of time and then be rewarded through public recognition for meeting the particular health, environmental, and agricultural indicators.

Through collaboration with the new Peace Corps volunteers in Ikongo and Tolongoina, the LDI MGHC program launched testing and extension of improved charcoal and firewood stoves on the eastern side of the corridor. A fuelwood study carried out by a former Peace Corps volunteer conclusively showed that a firewood crisis does exist in the small towns along the corridor. Significant amounts of fuel wood are collected in and along the corridor and urban users import quite large amounts of charcoal from the eucalyptus plantations on the western side of the corridor. Through a collaborative agreement with the Ministry of Mines PNBE project, the water and forest ministry, and the CAF project LDI trained 8 artisans in the fabrication of improved wood and charcoal stoves and introduced 35 charcoal prototypes and 6 wood

stove models. Peace Corps volunteers are monitoring uses of these prototypes. Once the suitable model is determined, an extensive extension program will be launched through MGHC funding.

4.1.8 Local Capacity Building

The capacity building component of LDI Fianarantsoa has been devoted to four major activities over the past year:

Cooperatives: The cooperative structure has been put in place by LDI as a legal requirement to facilitate commercial transactions by rural associations. The Kolo Harena federations are being restructured along the lines of cooperatives so that they can generate in a legal fashion revenues and profits, engage in all forms of commercial transactions, and generate dividends from commercial ventures. The cooperative structure has been set up with the Kolo Harena federations in Manakara, Manampatrana, Ialamarina, and Sendrisoa. By the end of LDI, cooperatives should be in place with all of the other Kolo Harena federations. A fruitful relationship has been built with the ministry of Privatisation to provide training and technical assistance.

Fédération of Kolo Harena: Nine Kolo Harena federations are now in place along the corridor and in Manakara. The federations all belong to the national confederation of Kolo Harena – a structure that is now formally recognized by government. The federations have a public presence because other donor funded projects are now meeting with the leadership of the organizations to plan programs and activities.

Expansion of Numbers of Kolo Harena Associations: By June 2003 LDI Fianarantsoa contributed to the creation of 316 Kolo Harena associations consisting of 3385 members. Numbers of Kolo Harena have risen and fallen over the past years due to reporting difficulties and institutional realities. NGO partners have at times over-reported the numbers of Kolo Harena and thus the reporting must be rectified with a resulting decline in numbers. But in other situations, the associations disband due to internal dissensions. Field research recently conducted by LDI Fianarantsoa does show that many villagers adopt agricultural practices or profit from LDI's presence but do not consider themselves members of the Kolo Harena movement. Hundreds of thousands of people profit from the rehabilitation of the railroad, roads, and port but are not members of the Kolo Harena. Similarly, at the local scale, villagers benefiting from the cyclone recovery financed irrigation projects are not always members of the Kolo Harena despite intensive recruiting efforts.

Farmer-to-Farmer Extension System: As described the previous section, the farmer-to-farmer program has become a central element of the LDI program. At this time, 159 Kolo Harena are considered Paysans Vulgarisateurs suitable for receipt of a government authorized certificate. These are trained farmers possessing a contract with the Kolo Harena federation to provide technical training to other farmers. The PV must demonstrate skill in extension to other farmers before being formally recognized through the certification program. Twenty-seven villagers are Paysans Animateurs – Kolo Harena members who have created an association and recovered dues from members. The association must have an excellent credit rating.

4.2 Performance Analysis

4.2.1 Qualitative Analysis According to Indicators

Agricultural Yield

The following table shows the variations in yield in the Fianarantsoa :

Range of agricultural yields (Tons/ha)	Fianarantsoa Year 2002-2003			
	Min.	Max.	Average	
			2001-2002	2002-2003
SRI	0.65	12.52	4.24	4.34
SRA	2.20	9.40	3.37	3.99
Maize	2.00	4.50	1.72	3.90
Potatoes Tanety	0.18	0.47	13.82	-
Potatoes off season	1.00	26.50	14.01	14.47
Haricot Tanety	0.05	4.00	1.22	1.05
Haricot off season	0.90	6.33	1.14	1.84
Ginger	0.15	20	0	12.07

An increase was recorded between the agricultural campaigns of 2001–2002 and 2002– 2003: 18% in rice yield, and 13% for the other crops. Since the beginning of LDI, the yield has varied as shown in the following table:

Yields increase	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	1999-2000	2000-2001	2001-2002	2002-2003	Observations
SRI	0.98	1.20	3.05	4.24	4.34	23%	213%	335%	345%	% year 1998
SRA	0.98	1.20	3.05	3.37	3.99	23%	213%	246%	309%	% year 1998
Maize	1.49	0.34		1.72	3.9	-77%		16%	163%	% year 1998
Cassava	3.19	2.87		0	46.15	-10%		-	1348%	% Year 1998
Potatoes off season		1.5		14.01	14.47	0%		834%	865%	% Year 1999
Haricot tanety	0.34			1.22	1.05	757%		264%	213%	% Year 1998
Haricot off season	0.34			1.14	1.84	-		240%	449%	% Year 1998
Ginger				0	12.07			-	-	
Peanut				0.7	1.88			-	169%	% Year 2001

The increased yield during the 2002 – 2003 campaign is the result of:

- The Kolo Harena farmers are more knowledgeable and have a much better grasp of the agricultural methods. This is indicated in the increased rate of adoption, 40% in 2001–2002, and 70% in 2002–2003 for all the sites;
- Efficient supervision by partners in the various domains of agricultural intensification;
- The 2002 crises made input difficult to obtain or exorbitant, this encouraged Kolo Harena members to produce more compost, which increased from 1,789m³ in 2001– 2002, to 11,104m³ in 2002–2003 for all the sites, i.e. a 521% increase;
- Good internal organization by the federations with group purchases of fertilizer in October and November 2002; in this way the Kolo Harena benefited from a more interesting price;
- During the off-season in September 2002, potato seeds were purchased at a subsidized price, 500 FMG / Kg, half the price of that on the normal market;
- Gradually the extension farmers are working with greater precision, as indicated by the increased number of farmers who adopt, and the Kolo Harena's conviction that the new methods are more efficient. With the spread of information about the new methods, farmers who are not members can copy these new methods;
- Techniques such as SRI are a little risky, at least in the beginning, and are in danger from natural disasters such as rising water level, particularly during tropical depressions, as with 'Fari' in January 2003. Some rice fields were flooded, which damaged the young rice plants and which explains the minimum yield of 0.65T / ha. shown in the above table.

Farmers' Income

The income generated by regular activities is 1,088,138 FMG on average, per household, i.e. a 30% increase in comparison to the average income by family as of June 30, 2002. This average income differs from one ZSI to another, as shown in the following table:

Average income per farmer	ZSI Nord	ZSI Centre	ZSI Sud
2000-2001	390,900 Fmg	663,393 Fmg	478,055 Fmg
2001-2002	192,850 Fmg	600,588 Fmg	811,866 Fmg
2002-2003	594,661 Fmg	620,938 Fmg	1,609,644 Fmg

The South corridor recorded the best average income by household. This is due to:

- A considerable increase in the surface area of rice farming, after dams were built at Miarinarivo and Sendrisoa. The surface area of improved rice doubled, from 156ha. to 360 ha., i.e., 130%, between 2001 and 2003;
- The farmers recognized the benefits of chemical fertilizer on the yield (even when sold at an unsubsidized price), and also on the income, especially when the fertilizer was associated with compost. Between 2001 and 2003, the average rice yield went from 3.61 tons / ha. to 4.52 tons / ha., an increase of 25.2%;
- Trust in LDI is at its highest. The farmers no longer hide sources of income, even if the origin is tobacco or local rum. The latter represent more than 16% of global income in the area;
- The farmers have reached a stage where they have a good grasp of farming, e.g., fish farming, bee keeping, and livestock. The livestock sector represents more than 23% of global income in the zone.

The North corridor recorded inferior income, when all the activities started again in the different sectors. The efforts undertaken in rice farming are beginning to show results, 45% of the global income of the households comes from rice farming, 14% from salaried farm work, and 8% from the sale of zebus, which is a good indicator that the Kolo Harena have started to save.

The additional income of the farmers for this year, from off-season crops, will be reported in the LDI final report.

Rates of adoption

The objective was 50%. The recorded result is 70% for all the sites in June 2003, and for which the distribution by ZSI is given in the following table :

	ZSI Nord	ZSI Centre	ZSI Sud
Kolo Harena members	800	1551	726
Kolo Harena adopting	576	1256	384
Adoption rate	72%	81%	53%

Adoption has progressed since the beginning of LDI. Several factors explain this:

- Efficient supervision by the technicians or the NGOs, who have enough experience to better explain and disseminate the selected methods. This supervision is in turn disseminated by the extension farmers who have understood and appropriated the methods;
- The farmers' conviction about the efficiency of the new vulgarized methods, which translate in terms of increased yield and income;
- The availability of input and good quality seeds, delivered at the right time, which enables the farmers to follow crop farming calendars;
- With the micro credit system, the Kolo Harena can obtain input and material to increase efficient application of the improved methods;
- To avoid over production without the necessary markets, outlets are ensured. Places where the road and railway infrastructures operate and are in good condition, had no problem to sell production at a good price, without going through intermediaries.

The following table shows the progress in the numbers of Kolo Harena members, in numbers of farmers who adopt the methods, and in terms of adoption. In the course of 4 years, the number of Kolo Harena members that adopt has been multiplied by 10, whereas the rates of adoption increases by more than 110%.

Number of farmers adopting improved techniques	1999-2000	2000-2001	2001-2002	2002-2003
Kolo Harena number	760	1248	2882	3385
Kolo Harena adopting	228	436	1152	2369
Adoption rate	30%	35%	40%	70%

The Supply Centers

Among the 6 Supply centers, the 2 centers in Alatsinainy lalamarina and Ambatovaky are the most successful.

The lalamarina center was managed by the NGO GRP since December 1999, and has been transferred to the FKH, following termination of the protocol with the NGO, in September 2001. After the transfer, a junior expert was assigned to the FKH to provide technical assistance in training the Management committee (COGE) in management, monitoring and becoming responsible for the center. FKH has recruited a new manager for the center.

The Ambatovaky center, managed by EAM since May 2000, has been transferred to the FKH. The EAM manager provided training on management and monitoring of the center to COGE members. The FKH took charge of the center through a manager it had recruited. The Management Committee helps the manager.

The success factors of these 2 centers are the intensive assistance and the strengthened support from the COGE members at the start of the activity. The technicians withdrew progressively leaving the responsibility with the FKH. The latter were trained in:

- Enterprise management (calculating profit, interest rate, cost price, etc.),
- The monitoring and supervision of accounting (storage inventories, manager control, etc.),
- Being responsible (decisions during meetings, recovery of loans, minutes, communication between KH and FKH, etc.),
- Motivation of the managers who are COGE members,
- The rigor of the COGE members to abide by the Statutes, the Procedures Manual of the center,
- Funds available in the center to go into revolving fund.

The factors for lack of success in the other centers can be resumed as the lack of transfer of *savoir faire* to the managing members of the FKH and the COGE. The technicians carry out all tasks in their stead, such as supply, management, recovery. They also call meetings in place of the presidents, in order to achieve the results described in their terms of reference. With the Kolo Harena behaving passively, the perpetuation of the FKH structure and / or the Cooperative is not ensured.

The most successful products in the centers are:

- For the western corridor: fertilizer (not subsidized) for off-season crops and for rice farming, potato and bean seeds, small agricultural equipment, such as a weeding hoe for SRI / SRA, subsidized bee hives, and market garden seeds;
- For the eastern corridor: seeds for ginger, corn, beans, pulses, small equipment such as 'goro' and 'angady' (traditional spade).

The rates of credit repayment in the supply centers are resumed in the following table, for the last 4 years. Repayment is generally on the rise, particularly in Alatsinainy lalamarina and Ambatovaky.

Sites	June 2000	June 2001	June 2002	June 2003
Sendrisoa		50 %	50 %	58,7 %
Miarinarivo		66 %	66 %	64,5 %
Alatsinainy lalamarina		100 %	95 %	99 %
Ambatovaky	Opened in May	100 %	72 %	93 %
Tolongoina		11 %	31 %	58,5 %
Ikongo	Opened in July	42,6 %	42,6 %	52,7 %

The repaid credits and the revenue from cash sales are put in the CEM or the TIAVO, and are an investment.

Sites	June 2000	June 2001	June 2002	June 2003
Sendrisoa	Managed by GRP	Managed by GRP	7 178 280	12 038 215
Miarinarivo	xxxxxxxxxxxxxx	11 829 818	27 376 747	44 393 727
Alatsinainy lalamarina	Managed by GRP	Managed by GRP	25 495 448	44 649 289
Ambatovaky	xxxxxxxxxxxxxx	31 861 327	54 614 804	73 121 026
Tolongoina	Managed by GRP	Managed by GRP	1 310 250	80 250
Ikongo	xxxxxxxxxxxxxx	2 570 900	3 200 855	2 833 270

For Tolongoina and Ikongo, available funds are put into the revolving funds of the respective centers, and into the micro credit that is managed by the FKH.

The beneficiaries of the 6 supply centers have progressed as follows over the past 4 years :

Sites	June 2000	June 2001	June 2002	June 2003
Sendrisoa	8Kolo Harena 29 members	10 Kolo Harena 46 members	11 Kolo Harena 47 members	16 Kolo Harena 69 members
Miarinarivo	20 Kolo Harena	23 Kolo Harena 153 members	none	none
Alatsinainy lalamarina	xxxxxxxxxxxxxx	7 Kolo Harena 39 members	20 Kolo Harena 92 members	28 Kolo Harena 156 members
Ambatovaky	xxxxxxxxxxxxxx	14 Kolo Harena 209 members	26 Kolo Harena 269 members	45 Kolo Harena 590 members
Tolongoina	xxxxxxxxxxxxxx	7 Kolo Harena 25 members	9 Kolo Harena 39 members	22 Kolo Harena 168 members

In Miarinarivo, the debts of the supply center have not yet been repaid by the members ; which explains the situation in 2002 and 2003.

Conservation enterprise

LDI intensively supports commercialization of the Kolo Harena products. Partners are showing more interest in the Kolo Harena. For example, the 9 PPA (Paysans Producteurs d'Alevins – Fingerling Producers) have seen their market grow in the Province of Fianarantsoa. They have substituted themselves for the big fingerling reproduction centers in the Regional Circumscription of Fishing Resources (Ampamaherana and lalatsara) to become the main fingerling suppliers in the region. Turnover in sales of fingerling is about 30 million FMG.



SIDEXAM received \$67,800 from FIEFE to relaunch the tea campaign for the next crop

The Kolo Harena bee keepers sell honey and by-products to a sweet and biscuit enterprise in Antananarivo.

After the 2002 crisis the rice marketing operation made paddy cheaper for the Kolo Harena farmers during the difficult period. The FKH generated profits that were used as working capital for the new cooperatives that were set up.

Fianarantsoa recorded 4200 farmers in relation with the EFE, all products considered (honey, pimiento, fingerlings, potato, etc.). Fingerling sales have progressed. In one year, 145,000 fingerlings were sold to some 2400 customers, mostly farmers, i.e., triple the results of the previous year, 55,000 fingerlings sold to 800 customers.

For FIEFE, 3 dossiers obtained credit. AFAFI for 100 million FMG, and Camp Catta for 260 million FMG, and SIDEXAM for an amount of 500 million FMG. Following these investments, the local population was also able to benefit through the creation of byline activities, such as making sisal nets, bamboo baskets, as well as hundreds of jobs which were maintained or created, particularly with Camp Catta.

Community Based Natural Resources Management

Five GCF contracts were signed during this period:

- Ambodiara for 836ha.,
- Antsatrana for 304ha.,
- Ambalagoavy for 214ha., all 3 in the ZSI of Ikongo,
- Ambendrana for 1500ha. in the ZSI of Ranomafana,
- Ampatsy for 434 ha., in the ZSI of Alatsinainy lalamarina.

A total of the 6 contacts would cover 6000 ha. of forest. At present all the forestry development plans of these 6 GCFs are being implemented in collaboration with COBA and the Water and Forests Department.

Capacity-Building Indicators

Four of the planned 8 federations (Manakara, Manampatrana, lalamarina and Sendrisoa) held their constitutive general assembly (agc) to convert into cooperatives. Manakara and Manampatrana have already received their notification, and the 2 others are preparing to become official. The 4 remaining AGC are planned to be held in the next 6 months.

The federations which manage the supply centers and the hulling and husking machines have proven their technical capacity in terms of equipment maintenance, management and accounting, but also on an organizational level.

The relay structures represented by the PA and the PV have already proven their efficiency in terms of creation, technical and organizational supervision of the Kolo Harena. Most of them are in expectancy as regards the type of motivation. The farmers who benefit from the service pay a salary to the PV, but the rates vary according to the sites.

In all, 9 federations operate in Fianarantsoa. 159 instructor and extension farmers will be certified when they meet the evaluation criteria: capacity to create Kolo Harena, the number of Kolo Harena subscribing in the federation, and the rates of credit repayment (>50%) for the instructor farmers; holding a working contract with the federation, and having provided successive training to the Kolo Harena for the extension farmers.

Kolo Harena members number 3385 with 316 associations; this figure was obtained after deducting the unsuccessful Kolo Harena, particularly around Ranomafana; after clearing out in December 2002, the Kolo Harena members number 3060 with 272 associations. This tidying up was decided upon following a new check at the different sites. In one year, an increase of 17% of members and of 8% of associations was recorded in spite of the clearing out.

4.2.2 Quantitative Indicators

Indicators	LDI July 2002 – December 2003 targets		Annual results July 2002 - June 2003 Fianarantsoa		Annual results	Units
	Planned Activities	Additional funding	Planned activities	Additional funding		
Agricultural Intensification						
Percentage of yield increase	10%	10%	18.50%		19%	%
Percentage of income increase	10%	15% from in season and 20% from off season	30.80%		31%	%
Number of farmers adopting new techniques	50%	50%	70%		70%	%
Number of « paysans vulgarisateurs » and « paysans animateurs »		400	22	164	186	farmers
Tons of paddy collected through commercialization funds	4,800	5,000	83		83	tons
Tons of seeds and inputs distributed through commercialization funds	500	400	141	36	177	tons
Number of farmers reached through commercialization funds		2500	191		191	farmers
Number of input supply centers built and operational	N/A				0	units
Number of CDIA	N/A				0	units
Promotion of Eco-enterprises						
Number of EFE supported by LDI	9	4	18		18	EFE
Total of EFE investments induced by FIEFE support	200,000	300,000	94,915		94,915	\$
Amount of FIEFE funds disbursed	150,000	80,000	116,610		116,610	\$
Number of farmers having relation with EFE	2,000	1,000	1,820		1,820	farmers
Number of business trips						trips
Number of eco-enterprises using the natural product label	5	5		1	1	EFE
Ecotourism						
Infrastructure Development						
Number of water supply systems set up near or in the investment zones	2 fully operational					
Number of investment zones created	3 fully operational					
Number of rural roads rehabilitated in or around the national parks						ZIE
Ecotourism promotion						
Number of participation in fairs and travel events	1 (Berlin)					trips
Number of regional associations created for ecotourism promotion						
Number of workshops on ecotourism		1				

Number of communication materials developed	Ongoing distribution	Ongoing distribution				
Number of tourists visiting national parks		120,000				numbers
Ecolodge Development						
Number of "Village lodges" built	Relaunch 2 village lodges in Ankarana					
Number of ecolodges assisted	2 new open in 2003					ecolodges
Capacity building						
Number of institutions directly assisted	Office of ZIE fully operational					
CBNRM						
Number of signed contracts	11		4		4	contracts
Surface of natural resources covered by signed contracts	1,100		2,851		2,851	hectares
Number of villages involved in community-based conservation activities			17		17	villages
Number of members joining COBA/CLB	423		675		675	members
Promotion of "Green Communes"	6	4		5	5	communes
Capacity building						
Number Kolo Harena associations supported by LDI	140	60		44	44	associations
Number of Kolo Harena members supported by LDI	3,400	1,600	178	325	503	members
Number of Kolo Harena federation	10	5	4		4	federations
Number of Kolo Harena confederation	1				-	confederation

5 Mahajanga Region

For 2 ½ years LDI was present in the 4 ZSI of Tsararano, Ankazomborona, Tsarahasina and Ankijabe, then the NGO Green took over until December 2002. The activities of agricultural intensification, community management of natural resources, the promotion of eco-enterprises, capacity building and environmental education helped:

- more than 59 Kolo Harena associations grouping 872 members, where 60 extension agents and instructor farmers continue vulgarization and supervision of the Kolo Harena;
- the transfer of 2475 ha of dry forest to local population management (COBA), involving 275 COBA members;
- the Kolo Harena that are active in 53 villages.

5.1 Agricultural Intensification

During the 2002 rainfed rice campaign ('jeby'), information was disseminated to promote improved techniques for rice, groundnuts, cassava and corn farming. The ZSI of Tsarahasina, Ankijabe and Tsararano practice the jeby farming. The areas sown during the wet season are shown in the following table :

Surface area cultivated by ZSI during the 2002 jeby season (hectares)

Cultures	Ankijabe	Tsarahasina	Tsararano	Total
Rice	49.53	2.54	9.35	61.42
Peanut	20.71	22.38		43.09
Cassava	9.54	1.65	3.82	15.01
Maize	3.07	1.65		4.72

Agricultural Yield

The average yield of rainfed crops are given in the following table, indicating results for the improved and the traditional methods. For the off-season ('asara') crop, the average yield in rice rose by 26%, whereas for rainfed the rice yield increase was 39.9%, according to the figures given below. In Ankijabe and Tsarahasina the farmers are unable to transplant young plants (young plants of more than 25 days are often transplanted): since they do not manage water very efficiently, the farmers transplant when the water level is quite high, in order to guarantee water being available during growth.



**Yields in tons / hectare
Asara and Jeby 2002**

Cultures	Ankijabe		Tsarahasina		Tsararano	
	Improved	Traditional	Improved	Traditional	Improved	Traditional
Rice Asara	2.6	2.1	1.8	1.4	1.4	1.1
Rice Jeby	2.4	2.0	1.8	0.9	1.8	1.4
Peanut Asara	1.6	1.0	1.6	0.9	1.1	0.7
Peanut Jeby	1.8	1.2	1.3	0.9		
Cassava Asara	9.3	6.9	11.5	8.2	6.4	5.7
Cassava Jeby	8.4	6.1	14.9	10.4	6.8	5.4
Maize Asara	2.7	2.1	5.5	3.3	1.7	1.3
Maize Jeby	3.3	2.5	5.7	3.7		

The impact of the technical supervision of the Kolo Harena can particularly be seen in peanut and cassava farming.

For cassava, yields increased beyond 34% for both seasons (achieving even 44% in Tsarahasina). However, in Tsarano the increase for off-season is 12% in comparison to the test crop. Farmers can increase groundnut productivity by 37% if they adopt the improved farming methods.

In corn farming, yields increased by 26% on average. This improvement is visible in Tsarahasina, particularly for the off-season season, when the yield can be as much as 7.5 T/ha, with an average of 5.5 in comparison to 3.3 T/ha for traditional farming.

Adoption of Improved Techniques

Since the departure of LDI, the Kolo Harena farmers have now been made aware of the quality of the improved seeds sold in the supply centers. They continue early transplanting at 2 weeks because of the benefits from the number of shoots. However, they have stopped the practice planting in rows because the lack of water prevents weeding.

More than 53% of Kolo Harena farmers have adopted more than two improved practices; the distribution by ZSI is shown in the following table:

ZSI	Number of Participants	Number of Kolo Harena Members	Rate of Adoption of Improved Techniques
Ankazomborona		175	
Ankijabe	177	204	87%
Anosimijoro			
Tsarahasina	168	280	60%
Tsararano	78	139	56%
Total	423	798	68%

Agricultural Credit and the Supply Centers

These sections encountered some difficulties in Mahajanga because the financial partner, Entreprenre à Madagascar, was unable and will not be able to cover the Kolo Harena intervention zones. Delays were recorded in granting credit during the 2001-2002 campaign. During the 2002-2003 campaign, 108 farmers (i.e. 17% of Kolo Harena members) received a farming loan totaling 37,457,500 FMG (i.e., an average of 347,000 FMG for each farmer). The repayment situation is poor, 56% in January 2003, for various reasons:

- the delay in obtaining the loan sets the reimbursement date close to the New Year, which is also a difficult period;
- The president of the Ezaka Kolo Harena left, taking with him some of the money that had been reimbursed by the members. The federation is looking into the matter.

Continuing credit activities in the Mahajanga region has become a problem due to Entreprendre à Madagascar being unable to undertake monitoring in the field. The solution would be to transfer the revolving fund to the Federations or the Cooperatives, and to find a way to arrange for GREEN to help with management and monitoring.

264 farmers (i.e., 42% of Kolo Harena members) benefited from loans in kind from the supply centers. The latter were re-supplied with about 6.5 tons of rice and groundnut seeds, 30,000 cassava cuttings, and 8,500 potted forest plants, produce from the Miadana CDIA.

Extension agents and Instructor Farmers

In the course of the NGO Green's mandate until December 2002, 60 extension agents and instructor farmers were trained in the improved practices of rice and fruit tree farming. These farmers will help the 5 Kolo Harena federations, spread out in the 5 ZSI of Mahajanga.

Income and Household Expenditures

The following analyses are drawn from the household notes made by the farmers who received training from staff in the field, to complete them periodically and analyze them.

At Ankijabe, the purchase of seeds and wages to hired labor are the main expenditures of the farmers (28%), after essential necessities and food (63%). There is some investment in livestock and land .

In Ankazomborona, the farmers spend 31% of their income on the purchase of livestock (chickens and cattle), besides essential necessities and food.

During the rainfed season, rice and groundnut farming remain the main source of revenue for farmers in Ankijabe (52%). Fishing, chicken farming and handicrafts are also practiced. All these activities generate 37% of their income. The sale of bananas is also a fairly important source of income throughout the year.

In the Ankazomborona ZSI, most income (63%) is derived from chicken farming, honey collection, and handicrafts (matting); rice cultivation is only for nutritional self-sufficiency.

In Tsarahasina, the farmers hire themselves out to the big farmers, parallel to their own agricultural occupations. In such a way that their agricultural production is only for nutritional self-sufficiency, whereas the wages earned make up 45% of income. Chicken farming and fishing generate 31%. In this area, dried fish is produced by a few farmers, and is an occupation that should be developed: it represents 81% of the income of those farmers that practice this trade.

Because of the crisis, farmers spent a lot more on food and essential necessities during 2002, and they are having problems selling produce at a satisfactory price. Agricultural income has diminished, expenses have increased, and savings are smaller.

5.2 Promotion of EcoEnterprises

The Vitogaz Operation in Mahajanga

Achievements can be resumed as follows:

- 999 loans granted and distributed,
- 100% reimbursement of loans,
- All areas to be covered were reached,



Charcoal consumption is about 29,100 tons or 7,750 ha of forest in the Mahajanga province in 1999. In the Mahajanga downtown, charcoal consumption is 16.900 tons per year

- Purchase frequency: 1 cylinder every 2 to 3 months (44%),
- Gas is liked for its cleanliness and quickness,
- 21% of charcoal distributors saw their sales drop.

The results recorded at the end of this operation are that 5% of the targeted households continue to use charcoal, 83% use mixed sources (gas and charcoal), and 5% have converted to gas or gas and kerosene. The easy payment is the main reason for switching energy sources, in spite of the formalities to obtain the cylinder and the '*fatapera*' or primus.

The revolving fund will now be used to launch the second operation to cover other households.

5.3 Community Management of Natural Resources

The contracts for transfer of management of the forests that have been implemented, number 5.

Région	Site name	Type of the natural resources	Surface	COBA members	Date of signature
Mahajanga	Anosimijoro	Forêt dense sèche	572 ha 245 ha 922 ha	127	14/12/00
	Marosely		680 ha	58	27/6/01
	Belalitra		56 ha	90	29/5/02
Sous total Mahajanga			2,475 ha	275	

In Belalitra Ankijabe, the local population agrees that since the signing of the contract in May 2002, the restriction of raffia palm exploitation has caused an increase in the flow of water downhill from the raffia palm forest, thus enabling a bigger surface area of valley floor to be farmed. Banana trees have been planted, and have multiplied, to fight silting of the rice fields downhill. The COBA members have a problem which they cannot resolve: exploitation permits signed by regional authorities.

In Amboromaika, the charcoal burners who have turned to farming continue to produce rice, cassava and groundnuts. Their supply center continues to serve Kolo Harena members. The remnant forest in the zone is above all threatened by the pasture fires (the source of which is still in the same spot) lit by the poorer people in the zone. The latter do not live in the Kolo Harena zone. The poorer farmers make charcoal from time to time, usually during the difficult period (December to March). The scarceness of charcoal produced in this area, has increased the price of a sack from 3500 FMG to 6000 – 7000 FMG a sack. In Tsarahasina, the isolation, and therefore the reduced supervision by Kolo Harena and COBA members, means that there is less protection of the forest. 'Top-down' permits are frequent. Members of the population are not strong enough to enforce the '*dina*' or by-law.

Les réalisations de LDI dans la province de Toamasina

Gestion communautaire des ressources naturelles

- 6 contrats GCFs signés
- 339 membres de communauté de base
- Participation à la promotion des communes vertes, 6 communes concernées
- Appui fonctionnel aux COBAs et au service des E&F dans la mise en œuvre du GCF

Entreprises Favorables à l'Environnement

- 27 EFEs appuyées par LDI dans les filières huiles essentielles, épices, cultures de rente, intrants agricoles.
- Volume d'investissement des EFEs: \$228,814
- Volume de FIEFE trésorerie déboursée: \$81,749
- 3264 paysans en relation commerciale avec les EFEs.

Intensification agricole

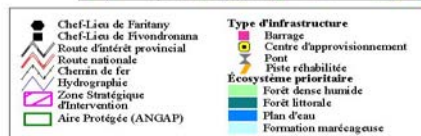
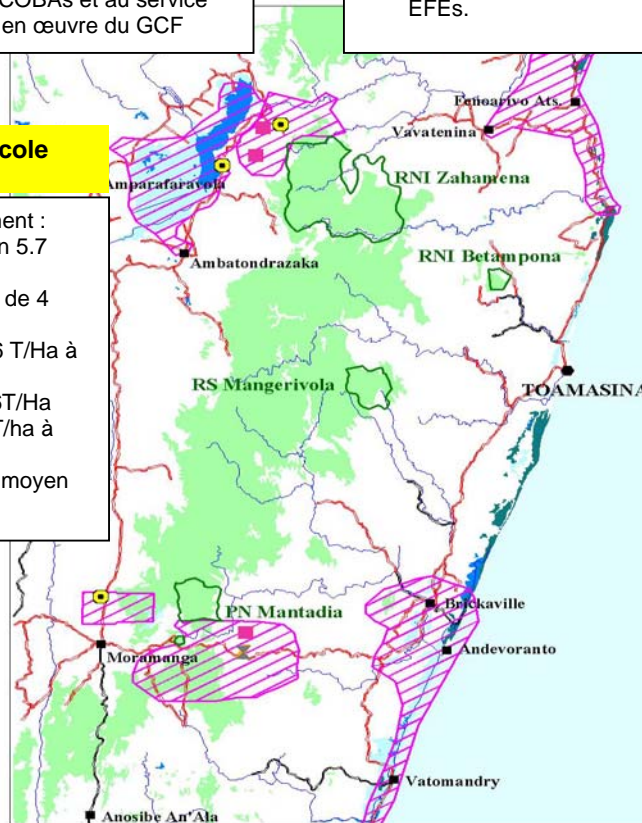
- Augmentation de rendement :
- En riz de 1.3 T/ha en 5.7 T/ha
 - En pommes de terre de 4 T/ha à 11,4 T/ha
 - En gingembre de 4.6 T/ha à 18.4 T/ha
 - En maïs de 0.9 à 3,6T/ha
 - En arachide de 0.7 T/ha à 1.9 T/ha
- Augmentation de revenu moyen annuel de 20%

Intégration Santé Environnement

- Mise en place des communautés championnes au niveau de 10 villages
- Production de messages sur la santé et l'environnement
- Appui à la diversification des sources de revenu
- Participation à la protection de la TCE

Appui régional

- Participation à la mise en œuvre du plan de communication régional
- Mise en place de 2 CDIA
- Collaboration avec le CRD Mangoro
- Participation à l'analyse des pressions sur le corridor



20 0 20 40 Kilomètres



Sources : FTMRD506, LDI/USAID, IEFN

Education environnementale et communication

- Production vidéo SRI
- Projection vidéos et diapo l'approche landscape, pisciculture, caféiculture, SRI, compost
- Production fiches techniques, émission radio et brochures sur divers thèmes
- Appui à l'organisation de foires, fête du zetra, la promotion en site RAMSAR, journée de l'arbre, JME.
- Distribution et vente des journaux Koloharena 3 et 4.
- Suivi écologique participatif sur les sites GCF en collaboration avec DWCT
- Appui à la mise en œuvre de la campagne anti-feu

Renforcement de capacité

- 339 associations Koloharena
- 6487 membres
- 9 Fédérations et Coopératives d'associations koloharena.
- 371 paysans vulgarisateurs et paysans animateurs pour la mise en œuvre de l'approche farmer-to-farmer.
- Conversion des fédérations en coopératives

6. Moramanga Region

The primary objective of the LDI Moramanga program is to reduce environmental pressures on the Mantadia-Zahamena forest corridor through an eco-regional approach to agricultural intensification, community based natural resource management, environmental education, conservation enterprise development and farmer capacity building. During this 5th year of the program, the LDI Moramanga program spent a considerable amount of time consolidating its eco-regional conservation and development activities in view of ending the project in December 2003. In general the program met or exceeded its anticipated objectives despite setbacks due to the political unrest and economic crisis that surrounded the presidential elections. LDI staff invested considerable time in designing and implementing innovative and complimentary activities such as the FCP rice commercialization, irrigation rehabilitation and Green Commune initiatives in Ambatondrazaka, as well as the regional level development of Kolo Harena Federations and Cooperatives linked to a Farmer-to-Farmer extension system and the CDIA in Beforona. These strategic activities complemented our regular Intervention Fund agricultural intensification, environmental education/communication, conservation enterprise development and community based natural resource management activities, and have proven to be an excellent means of promoting Kolo Harena solidarity, self-reliance and sustainability while reducing the pressure on the forest corridor. The following 4 paragraphs highlight just a few of the interesting imitative that have been developed by Kolo Harena farmers in the Moramanga region.

6.1 Main Results

6.1.1 Eco-regional support

The eco-regional activities in the Tamatave province aim to protect the forest corridor that runs between the Zahamena and the Andasibe/Mantadia National Parks. This corridor plays a key role in the ecological, hydrological and economic well being of the region and its inhabitants. In support of the eco-regional approach, LDI Moramanga continues to collaborate with the Mangoro CRD (*Comité Régional du Développement*) and the CORDAL (*Comité Régional pour le Développement de l'Alaotra*) to better define global regional conservation and development objectives and implement well-coordinated activities designed to conserve the region's unique biodiversity and promote sustainable economic growth.

Throughout the life of the project, LDI Moramanga has worked with local, regional and national actors to implement the regional communication plan, and at present continues this action in a concrete manner by helping villagers plan, construct, supply and manage 6 village cultural centers that are spread throughout the region (1 per strategic zone of intervention). This activity is combined with regular organization of discussion groups that bring together the local development partners/actors (in which LDI participates) to share experience and lessons learned. Similarly, a regional meeting was organized through the CRD to capitalize on EEC experiences to help coordinate EEC tools and messages that will render future development and conservation activities more efficient.

The CDIA also offers farmers, NGOs and other development projects the opportunity to see first hand an integrated farming system that provides sustainable alternatives to *tavy* that improve agricultural production. In the last year, the CDIA has provided more than 60 technical training sessions that have reached over 800 farmers (*Kolo Harena* and those that work with other NGOs, such as ADRA or CTHT). *Kolo Harena* Federation farmer members meet annually with the University of Antananarivo to define research objectives and assure that the research carried out at the center addresses the real needs of the farmers. Farmer defined research objectives are oriented towards increased productivity with the focus on promoting initiatives for farming without burning, and protection of the forest corridor.



Monitoring and evaluation of activities are performed regularly by LDI and its partners. Here with our CRS partner for technical assistance in Vatomantriv

Under eco-regional activities and in collaboration with the Ministry of the Environment, LDI participates in the promotion of green communes. Six communes have been selected for certification by meeting or exceeding the criteria established by the Ministry. In total, 350,000 young trees were planted over an area of 71 ha.

A meeting organized by the Ministry of the Environment and of Water and Forests was an opportunity to talk about the authentic experiences of our interventions in the region of Tamatave. We took the opportunity to provide local politicians with information about the assets and benefits of the program, and explain relations between the Government, donors and regional authorities.

6.1.2 Agricultural Intensification

This past year the agricultural intensification activities of the *Kolo Harena* farmers showed exceptional results due to efficient technical knowledge transfer, farmer managed agricultural material support, hydro-agricultural infrastructure rehabilitation, microcredit and improved commercial relations. The results obtained through the transformation of a traditional fire based agricultural system to a diversified and integrated system (which is economically and ecologically viable) were observed through increased yields of both staple and cash crops. Highlights of LDI Moramanaga's agricultural intensification activities are the following:



The rice harvest was exceptional this year thanks to better rainfall and technical assistance

- **Lowland production:** Rehabilitation of 2 irrigation systems, Ivakaka Ambatondrazaka and Ampitakihosy, which now provide water to approximately 1000 ha. of rice fields where SRI/SRA and off-season cropping are practiced; resulted in an additional production of over 500 tons of rice, potatoes and beans;
- **Upland perennial agricultural:** With assistance from LDI, Kolo Harena farmers were able to stabilize over 250 ha of upland agricultural land;
- **Crop Diversification:** Widespread adoption of off-season market crop production (approximately 550 ha of peanuts, onions, beans, potatoes, tomatoes, carrots, cabbage, etc.) represented a major income-generating activity for Kolo Harena farmers;
- **Cash Crops:** Kolo Harena farmers in Fenerive Est, Brickaville and Vatomandry worked diligently to maintain existing cash crop plantations while planting an additional 35 ha.
- **Soil Fertility and Conservation:** 200m³ of compost, 5 ha of nitrogen fixing herbaceous plants and 71 km of vetiver were planted or produced to help reduce erosion and improve soil fertility;
- **Small Animal Husbandry:** Increased adoption of small animal farming techniques (over 351 beehives, 6 ha of fishponds, 560 sheep, 400 pigs, 7,267 chickens, 2,500 ducks, 180 turkeys and 20 cattle) as an essential component of the system helped farmers supplement their income. The by-products of this activity, manure and slurry, provide alternatives to expensive store bought chemical fertilizers and are essential to a diversified intensive farming system;
- **Technical Training:** The active role of the CDIAs in the promotion of the farmer-to-farmer extension approach was remarkable. The positive impact of the different CDIA activities (65 technical training sessions, 22 farmer exchange visits, 10 workshops, 61 organizational meetings, 20 on-farm demonstrations, 7,815 improved species of fruit trees produced and distributed to farmers and 2 Malagasy student thesis) is not limited to the *Kolo Harena* associations. Many other farmers' associations and partners (532 non-Kolo Harena farmers and technicians) also benefit from work done at the CDIAs.
- **Sustainability:** Operationalization of the farmer-to-farmer extension system (220 farmer extension/organizer agents trained and functional) will help assure the sustainability of the Kolo Harena farmer structure. An intensive effort to properly implement the system has resulted in high levels of farmer confidence in their fellow farmer extension agents' abilities (even to the point of paying them with their own funds) and an increased determination to appropriate, or participate in the dissemination of the improved methods;

Material and Credit Support

Access to factors of production and micro credit remains an obstacle to agricultural intensification in the Moramanga region. However, thanks to the Kolo Harena Federation managed Agricultural Input Supply Centers and the OTIV micro-credit system, there have been considerable advances in the availability of agricultural inputs and loans. This past year has seen the implementation of a new credit system -*credit equipment* (CEQUIP)- designed to facilitate farmer acquisition of transformation equipment. It has enabled the *Kolo Harena* to acquire equipment (that allows them to retain a portion of the value-added through transformation of primary products), and is a new and important source of revenue for the federations. Through this new credit system two hulling units were set up for two *Kolo Harena* federations.

Agricultural Supply Centers

During this campaign, efforts focused on making seeds and fertilizers available to the *Kolo Harena*, and on using an easy sales payment at the supply centers. Over 220 tons of seeds, 120 tons of urea, 10 tons of Hyperbarren and 20,000,000 FMG worth of agricultural implements were purchased through the Agricultural Supply Centers. Restocking of input supply centers is partly funded by revolving funds (20 %) and partly by commercialization funds (80 %), which are both managed by the federations.

Micro-credit

Thanks to an incredible effort from LDI staff and Kolo Harena farmers, progress was also observed during the past year in the implementation of the OTIV micro credit system, particularly with the timely disbursement of funds to farmers, and the increased rate of repayment. Unlike the previous year, the 2002 – 2003 OTIV rural credit campaign was a year with very positive results. Loans totaling 158,313,350 FMG were disbursed to 218 Kolo Harena farmer beneficiaries with 60% of these loans funded by the revolving fund, and the remainder as new loans. The global rate of reimbursement has gone from 60% last year to 80% this year.

6.1.3 Community-based Natural Resources Management

Land tenure, transfer of management rights and development of resource management skills has been the focus of much of LDI Moramanga's work during this past year. Thanks to an excellent collaborative relationship with Durrell Wildlife Conservation Trust and local governmental officials, management of large areas (1,678 ha) of threatened marsh eco-systems around Lac Alaotra were successfully transferred to local communities. During the past year LDI Moramanga also has spent considerable time moving the GCF process forward in the Antanandava Strategic Zone of Intervention where the management of Lake Andranomangarika will be transferred to the local inhabitants. Throughout the region, and particularly the 6 sites where management has been transferred to the COBA, local populations are now really beginning to understand the importance of protecting their natural resource base. This combined with the new administration's efforts to crack down on illegal forest or marsh burning has begun to show results (i.e. an increased demand for technical information on alternatives to *Tavy* witnessed in the Beforna ZSI). For CBNRM to be truly effective, the Malagasy government must make a strong showing this year in its commitment to stopping slash-and-burn agricultural, and continued effort needs to be put into the sort of CBNRM activities LDI is undertaking.

LDI staff continued to invest time and energy in helping each Kolo Harena associations define and implement their natural resource management objectives. Activities include production and use of compost, watershed erosion control and soil improvement, community planning, management and self-surveillance of forest resources.

The following are highlights of LDI's efforts at the end of this year:

- Organized and participated in training workshops to help our partner organizations better understand natural resource management transfer procedures such as GELOSE and GCF;
- Completed the transfer of natural resource management rights to local communities for four sites in the region of Lake Alaotra totaling (1,678 ha), signature of 1 other GCF contracts is expected by the end of October 2003;
- Assisted farmers in planting 64,223 eucalyptus trees, 136,3000 *Grevillia Banksi* trees, 255 Volosy trees 250,000 woody legumes and over 80,000 slips of vetiver to stabilize landslides and protect watersheds;
- Helped farmers stabilize and improve soil fertility on approximately 400 ha of uplands;
- Provided technical assistance to farmers which resulted in the production and use of over 200 m³ of compost;
- Continued to work with Durrell Wildlife Conservation Trust to promote community initiatives for sustainable land use planning and management around Lac Alaotra;

- Collaborated with the Ministry of the Environment, Water and Forests, Kolo Harena farmers and local villages to promote Green Commune certification (6 communes will be certified in October 2003).

6.1.4 Communication and Environmental Education

During the past year, LDI Moramanga continued to concentrate its environmental education/communication activities in three areas: (a) training sessions and support of regional level information sharing workshops and events, (b) environmental education through the creation of appropriate tools and infrastructure to communicate key agricultural and environmental messages to villagers and (c) population - environment integration initiative with Voahary Salama. Working with CCEE, ANGAP, ADRA, Durrell, MIRAY and MAB, LDI contributed to the Regional Communication Plan for Moramanga and Alaotra through radio emissions, creation of Village Cultural Centers, promotion of environmental education sessions within the educational system and the development of appropriate educational material and tools.

The following are highlights of communication and environmental education activities in the Moramanga region during the past year.

a. Environmental Training, Workshops and Events

- **Provided environmental training on the importance of a “landscape approach” for 338 farmer extension agents;**
 - Showed videos on fish farming, the landscape approach, coffee production, and SRI techniques to over 500 farmers and at either the CDIA or commune level;
- **Showed technical slide shows on compost and SRI to approximately 750 farm families;**
- Provide technical, financial and organizational support for the following environmental events:
 - Kolo Harena regional fair in Ambatondrazaka where over 5,000 people were exposed to the Kolo Harena agricultural intensification, rural poverty reduction and biodiversity conservation mission.
 - Kolo Harena Fairs in Ambatovy, Antanandava
 - Fetin’ny zetra : a sub-regional fair celebrating the importance of the Lac Alaotra marshes and the role they play in protecting the environment (more than 15 villages around Lake Alaotra, with the participation of 6 Kolo Harena associations)
 - Ramsar Workshop for Lac Alaotra;
 - International Arbor Day: including the planting of 9.000 coffee trees
 - International World Environment Day 2003: a regional event celebrating the importance of protecting the environment and the importance of water for human consumption and irrigation.
 - Awareness raising regional meetings for the new Malagasy government anti-fire campaign

b. Information Sharing and Educational Tools

The environmental communication program continued to expand with the production of a number of key communication tools transmitting key messages on the type of support given by LDI. These communication tools included:

- Designed, field-tested and produced an agricultural extension field manual (that combines technical how-to information on 23 different themes) for farmer extension agents to use as their primary teaching tool;
 - Technically and financially supported the creation of 6 village cultural centers;
 - Produced technical slide shows on composting in a village setting and A-frame construction;
 - Continued to design and produce site specific technical “how to” audiocassettes, 24 technical themes concerning the environment, alternative methods for tavy, health care / population / environment integration, reforestation, and agricultural and livestock activities, were broadcast by partner radio stations throughout the region;
- Repaired the Akon’ Ambanivolo radio and installed a new antenna that increased the broadcast range from 3 km to 15 km radius;
 - Technically and financially assisted in the production of a technical video explaining how to do SRI;
 - Continued the production and distribution of Kolo Harena farmer newsletter, 4 editions were produced, 1,700 printed and 912 were sold through the Kolo Harena federations;
 - Promoted the establishment and certification of “Green communes” in six communes;

- Collaborated with DWCT in the Lake Alaotra region to help 5 communities engage in ecological monitoring activities.
- Produced an anti-fire poster for the Malagasy government anti-fire campaign.

c. The integration of health and the environment activities.

Over the past year LDI and SAF-FJKM have continued to work together to develop joint programs to provide agricultural development, public health and family planning services to rural communities in the Beforona strategic zone of intervention. The Packard Foundation grant continues to provide JSI, LDI and SAF-FJKM working through the Voahary Salama program, the financial means to integrate strategies for relieving demographic and environmental pressures on the forest ecosystem in this zone. LDI field agents continued to take part in cross-training sessions organized by SAF-FJKM designed to provide them with basic health, nutrition and family planning information that they can share with Kolo Harena farmers. Likewise SAF-FJKM village animators took part in cross-training sessions on basic agricultural and environmental themes. The goal was to ensure that Kolo Harena learn about basic family planning methods. Highlights of these integrated initiatives include:

- Continued to work with JSI, Michigan University and Kolo Harena farmers to define evaluate and select key environmental, agricultural and health message to be used within Beforona strategic zone of intervention;
- Continued to provided agricultural and environmental technical cross-training sessions for SAF-FJKM field agents and village animators;
- Contributed to and participated with SAF-FJKM in various workshops on family health issues to better be able to provide Kolo Harena farm families with basic information relevant to their health.

6.1.5 Promotion of Conservation Enterprises and FIEFE

During the past year LDI Moramanga has focused on consolidating and strengthening our conservation enterprise development activities. Considerably effort was invested in improving the capacity of partner conservation enterprises through technical and financial assistance, as well as research and/or market development related activities designed to strengthen farmer-conservation enterprise and farmer-market linkages. Conservation enterprises that benefit from our assistance, particularly those who have received the FIEFE, were closely monitored during the last year to make sure they were operating within industry norms while maintaining their linkages with Kolo Harena associations. Emerging areas of interest, such as development of the NATIORA label, *Jatropha Curcas* production for bio-diesel, honey and peanut production were developed and encouraged along side traditional products such as rice. A large array of means, from local workshops to regional meetings, direct mailings, exhibitions and international contacts, were used to encourage direct business relations between economic operators and *Kolo Harena* associations.

The following are highlights of Conservation Enterprise and FIEFE activities in the Moramanga region during the past year.

Financing by the FIEFE

- Helped 2 essential oil firms prepare successful FIEFE loan applications totaling 480 Million FMG;
- Helped develop 3 new loan applications, 2 are FIEFE loan applications that total more than 1.2 billion FMG.

Diversification of support networks and extension of intervention zones

- Provided technical, financial and organizational assistance to 31 conservation enterprises (10 essential oils, 5 rice millers, 3 commodity transformation centers, 2 ecotourism operators, 2 silk production operations, 3 spice producers, 1 honey producer, 1 peanut producer, 1 onion producer, 1 organic sugar producer, 1 medicinal plant producer and 1 *jatropha curcas* producer);
- As well as the traditional sectors of essential oils, medicinal plants and ecotourism, new products such as high quality rice, organic sugar, vanilla and peanuts are being developed. A study on the feasibility of using *jatropha curcas* as a biodiesel fuel is underway, and 2 enterprises that operate in our region have been awarded use of the NATIORA label for their export production.

Business relations between local communities and the private sector

- Direct commercial relations: 20 partner enterprises work directly with the farmers in of our region, for a total turnover of more than 1 billion FMG (170,000 USD) to the benefit of more than 3,260 farmers;
- *Le Fonds de Commercialisation du Paddy* (FCP): The paddy commercialization operation in collaboration with 4 rice millers in Lake Alaotra, mobilized 7 billion FMG (1,200,000 USD), and involved more than 700 farmers this year;
- Peanut sales in Ambatondrazaka: Recently the Kolo Harena Federations in Antanandava and were contacted by a private peanut buyer in Antananarivo that was interested in purchasing 12 tons of peanuts of high quality for export to Europe. After an assessment of the quality of their product the federations were able to negotiate a price of 2,400 FMG/kg which will result in a total sale of 28,000,000 FMG (4,800 USD);
- SRI produced red rice for export assistance: The *Tongalaza Kolo Harena* federation in Beforona has recently secured a grant from Slow Foods (in Italy) to cover the purchase cost of a rice huller, a rice sorter, a rice packager and packaging materials (estimated at about 10,000 USD). This is to promote the production Malagasy Red Rice using SRI production techniques. Slow Foods will train the farmers to operate the equipment, and assure marketing activities domestically and internationally.

6.1.6 Capacity Building

LDI Moramanga focused a large part of its capacity building efforts on ways to strengthen the 340 Kolo Harena associations. 10 Kolo Harena federations and 2 Kolo Harena cooperatives are functional and are supported by expert-juniors to assist in the management of 10 agricultural supply centers and 3 commodity transformation centers. LDI socio-organizers and expert-juniors continued to provide intensive training for cooperative/federation committee members on management, accounting, proposal and budget development in view of reinforcing the autonomy of existing structures and their ability to leverage outside funding (PSDR, FID, FCP, etc.).

The present challenge faced by the LDI technical staff and its partners is to conserve the good quality of the training services in the midst of continued expansion of Kolo Harena associations and the impending closure of the project. To do this LDI has helped Kolo Harena farmer associations put into practice a farmer-to-farmer knowledge sharing system. With support from LDI technical staff, each Kolo Harena cooperative/federation and association has selected farmer leaders to attend monthly training sessions held at the CDIA in Beforona. Evaluated on a semi-annual basis by their peers, these farmer leaders have the task of returning to their respective cooperatives/federations and associations to share the knowledge with others.

The LDI program is particularly concerned about the long-term viability of interventions financed through its partners. In collaboration with CIRAGRI, SAF-FJKM, the University of Antananarivo and other specialized consultants, LDI continued to finance practical training on such various subjects as bee-keeping, intensive rice production, integrated pest management, fish culture, potato and coffee farming. These training programs are highly appreciated by the Kolo Harena farmers and NGO field partners, and contributed directly to increased yields and household revenues. LDI Moramanga remains convinced that the only way to assure sustainability of current activities is to direct more and more effort toward helping local farmer associations/producer groups become self-sufficient through improved organizational, knowledge sharing and business skills so that they can select appropriate technical partners and pay them with revenue generated from their Agricultural Input and Commodity Transformation Centers.

Cooperation with national and international research institutions continued through very small stipends offered to students to carry out field research of interest to LDI. LDI supported Malagasy student research in the following areas during the last year:

- The most productive soil amendment regime for the System of Rice Intensification (SRI)
- Improved soil amendment regimes for “ecological ginger” production

LDI staff training continued internationally and locally. The associate director for Monitoring and Evaluation traveled to the United States to attend a conference on bio-economic modeling at Cornell University and the Director of the CDIA attended a Farmer-Led Extension workshop put on by IIRR at the Y.C. Yen James Center, Silang, Cavite, Philippines. Other senior staff attended project management training workshops in Antananarivo put on by INSCAE and field staff continued to profit from the numerous on-site training programs in agricultural intensification, natural resource management and farmer organization techniques.

The following list represents highlights of LDI activities in capacity building for the past year:

- Helped in the creation of 155 new Kolo Harena associations between July 2002 and June 2003;

- Responded to an increased request for technical and organizational training for Kolo Harena associations (up 37% from last year) which was motivated by the observable success of older Kolo Harena associations, and the tangible benefits felt from the supply centers and the credit opportunities;
- Trained and evaluated 32 farmer extension agents and 28 farmer organizers that were selected by the Kolo Harena federations;
- Trained and evaluated 147 farmer extension agents and 13 farmer organizers that were selected by Kolo Harena associations;
- Helped 2 Kolo Harena Federations transform themselves into cooperatives in the Lac Alaotra area.
- Recruited and hired 14 consultants to help the Kolo Harena cooperatives/federations and associations continue to develop their sense of self-autonomy.

6.1.7 Monitoring and Assessment

- Exploited the « Winsoft » computer application for collection and monitoring of LDI Kolo Harena associations in real time enabled us to provide reliable results in real time.
- Capitalized on the SIG data available to LDI to better enable senior staff, field supervisors and technicians to make informed decisions;
- Reoriented the field teams towards a more participatory approach, in order to better target our end clients, assist in the empowerment process and to learn more by listening attentively to the farmers;
- Completed 4 studies on the prevalence of *tavy* in representative villages that receive assistance from LDI or our partners, and found that Kolo Harena farmers were much less likely to practice *tavy* when compared to non-Kolo Harena farmers.

6.1.8 Healthcare / Environment Integration

Working in collaboration with JSI and SAF/FJKM, LDI Moramanga has for the last year been extremely successful in integrating Health/Population and Environment under the Malagasy Green Healthy Communities (MGHC) project that is funded by Packard Foundation.

The major achievements of LDI managed “Fast-Track” activities for this past year are the following:

- Implemented a social marketing program in 10 villages in the Beforona commune using the “Champion Community” approach that was a factor in motivating communities to reach 6 agricultural and health objectives (80% vaccination coverage of children under 1 year of age, 65% of children under 3 years of age using health cards, 10 family planning awareness sessions in the village, 10% increase in land cultivated for rice using SRI/SRA, 5 new farm families practicing sustainable upland agriculture, and either 500 trees planted, 5 new compost established in the village or 5 new supplemental income generating activities in the village);
- Installed of a relay station for Radio Akon’ Ambanivoloa on higher ground at the CDIA, extending its zone of coverage considerably, it now offers a wide range of programs about agriculture, healthcare, the environment and social realities to more than 3,000 inhabitants in the Beforona region. When the new amplifier arrives in July 2003 the radio will also cover the Andasibe and Ambatavola regions, reaching an additional 7,000 farmers;
- Distributed 10,000,000 FMG worth of equipment to healthcare centers in Andasibe and Beforona to help improve performance, and to ensure a better quality of service that will ultimately attract the population.
- Design clean water supply systems for 18 villages, and completed 1 gravity flow system that provides clean water to the 300+ inhabitants of Madorano;
- Collaborated with the RNCFM, to stabilize 2.5 ha of hillside agricultural production along the TCE railway;
- Transferred management of 600 ha of perimeter forest to the ‘Mitsinjo’ farmers association located in Andasibe;
- Promoted fish farming by helping farmers establish 49 demonstration sites in Beforona, Andasibe and Ambatomasina, provide financial support for a fingerling production center at the CDIA, and a fish stocking tank in Ambatomasina.

6.2 Performance Analysis

6.2.1 Qualitative Analysis “Observations from the Field”

ZSI Antanandava

Several Kolo Harena families residing in Ampananganana illustrate the success of LDI Moramanga's efforts to help farmers escape from the rural poverty trap. These families started out in the lower income strata of the community, but now after working with LDI for nearly 4 years belong to a fairly high-income stratum of the population. This was done by investing in making uncultivated land profitable, diligence in the adoption of improved methods, agricultural diversification using marketable speculations, fattening cattle to obtain a better sales price and by availing themselves of the opportunities provided by the Agricultural Supply Centers and OTIV. Starting small, doing most of the work themselves and only taking out loans that they were sure they could repay, these households are now hiring the majority of their labor requirements, repaying their loans on time, and they no longer suffer during the "hungry" time.

Generally speaking, good rainfall and attention to the planting calendar resulted in a bountiful season. Rice and peanuts showed the greatest increase in production, followed by potatoes and onions. SRA continued to be preferred to SRI rice farming techniques because most farmers find it very difficult to adopt the full SRI package. Nonetheless, every available rice plot was farmed, creating an increased demand for labor. This demand oriented hired labor towards traditional crop production techniques, which are easier and earn the same wages, which in turn deprived the *Kolo Harena* of labor because the techniques they used are deemed more difficult.



Vegetables as home garden crops became a significant sources of income for farmers

For the sale of produce, reliable outlets remain risky. New opportunities outside of the Antanandava area do turn up on occasion, but the usual destination for Kolo Harena associations produce remains the local market. The surplus of production in comparison to previous years could have a negative effect if markets cannot absorb the supply and prices drop. Small animal husbandry activities (that are financed by the PSDR) remain very popular with Kolo Harena farm families because they have been able to generate increased revenue through sales of animals for slaughter and breed-stock.

Increased environment awareness has encouraged local populations to request LDI assistance in transferring management of natural resources in the nearby forest of Andranomangarika. A management group has now been set up and they are currently establishing their management plan. The commune of Antanandava is also engaged in the promotion of the "Green Commune" initiative, and to date nearly 400 people have planted 36,000 trees over a surface area of 14 ha, involving nearly 400 people.

In terms of farmer organization, successes of existing *Kolo Harena* associations and the obvious advantages of the agricultural supply centers and micro-credit system have contributed to an increased demand to set up new associations. However, this enthusiasm could be discouraged if the Kolo Harena federation is unable to fulfill their promised compensation for the farmer extension agents.

ZSI Lac Alaotra

This year, improved coordination of our interventions resulted in outstanding successes. As a result, the assets and realizations of the *Kolo Harena* associations have become a "showcase" of development successes for international donors and government authorities, which recognize the merits of our associations.

In terms of agricultural production, the 2002-2003 year was excellent. Abundant rainfall, respect for the planting calendar and improved techniques such as Sri and SRA were instrumental in increasing rice production. Our *Kolo Harena* associations were able to achieve an average yield of 4.5 tons of rice per hectare, although it was difficult to find qualified labor, since for the same wage hired workers preferred to work for families using traditional techniques. The practice of '*valin-tanana*' –shared labor among families– helped to resolve this problem, and a secondary benefit was that it indirectly promoted the farmer-to-farmer transfer of knowledge and exchanges between farmers. Peanut cultivation also was a great success. As an off-season crop, peanuts are an essential source of income for the majority of the Sihanaka families in our area.

In terms of agricultural diversification, farmers in our area are much better organized now, and on *fady* (taboo) days the *Kolo Harena* carry out work on the *tanety* (upland fields), and work in the lowland fields on non-*fady* days. Crops of interest to them remain the same as last year (onions, potatoes and peanuts), and

with the proposed rehabilitation of the road between Ambatondrazaka and Moramanga our farmers are looking forward to increased access to markets.

A surplus in rice production combined with minimal rice importation and the *Fond de Commercialisation de Paddy* (FCP) resulted in large benefits for our farmers. *Kolo Harena* federations and associations are quite excited about using this mechanism again next year, and are already asking when they can start price and contractual negotiations.

Farmer extension agents are viewed by all as an asset. Their peers recognize them as operational agricultural technicians, and their services are even being requested by *Kolo Harena* and non-*Kolo Harena* farmers beyond their federation determined zones of intervention. Farmer-to-Farmer extension techniques are spreading well, but expectations are high and their success relies on the financial means of the federation to pay them for their services. The same goes for the farmer organizers and their work to help fellow farmers set up new *Kolo Harena* associations. Currently, farmer organizers cannot satisfy all the requests for the creation of new associations, nonetheless, applications continue to be submitted.

The adoption of improved agricultural techniques requires the use of good seeds; consequently the federations of Lake Alaotra have begun to install seed farmers. For the moment the seed production speculation is potatoes, but will affect all crops in the future. It would be worthwhile to offer continued training to members of the federations, to ensure good management of the agricultural input supply centers where the seeds will be sold.

ZSI Ambatovy

With the presence of all the requisites for success, i.e. generous rainfall, quality supervision, availability of agricultural inputs, and the possibility to obtain credit, it was observed that the methods were appropriated by more than 60% of the local *Kolo Harena* members.

This year crop production has been excellent. The numbers of farmers adopting either SRI or SRA has increased since last year, but farmers always take into account the geographical characteristics and conditions of their fields, and act accordingly. Consequently, rice farmers who are unable to control their water supply opt for SRA rather than SRI. This year it as also been observed that a significant proportion of farmers manage to combine five or more agricultural intensification/CBNRM activities simultaneously.

The absence of an "official" market for cash crops such as onions, fruit and vegetables, remains a major preoccupation of the local associations. Farmers in our area have invested a lot of time and money in identifying buyers for their products. For cash crops such as onions, the *Kolo Harena* farmers experienced some difficulty in negotiating a farm-gate price that covered their production costs. Consequently, they were less willing to respect the quality requirements of the buyers.

Do to increased production and the existing market linkages, some *Kolo Harena* farmers are able to cover their entire production costs without having to apply for loans. This shows that the level of wealth within these families has improved, because they previously had to depend on loans to assure their agricultural activities. This phenomenon has been observed in low, medium and high-income households. For a proportion of *Kolo Harena* families, the situation is different and indicates a strong attachment to staple crops such as rice, corn or cassava on small areas that cannot produce enough for the whole family. Existing financial and land resources do not allow the extension of agricultural fields, and these households continue to suffer from a lack of food during 1 to 2 months every year.

Our area has the largest group of farmer extension agents in the region and there is a lot of enthusiasm for the farmer-to-farmer extension system. The farmer agents are well motivated and excited about sharing their knowledge with other farmers, but more effort remains to be made to insure that they are ready to meet the challenges of these positions.

Pressures such as charcoal and forestry exploitation are still there, especially encouraged by the rehabilitation of the RN44. Nevertheless, by associating with LDI, many households today say that they would rather spend their time improving their land, and no longer want to put their efforts into wood exploitation or charcoal production in the forest corridor.

ZSI Beforona

The population in Beforona, mostly Betsimisaraka who rely heavily on the forest for their livelihood, are unhappy with the government application of the ban on *tavy*. Since July 2002 when the government arrested 6 farmers practicing *tavy*, the pressure has diminished considerably, and in spite of their tradition, the farmers are now beginning to exploit more intensively fallow lands.

The disadvantaged parts of the population are by far the most affected by this situation. Their lack of financial and land resources has led them to practice *tavy* because this is the only way they can make ends meet. The gap between the advantaged and the disadvantaged has widened in the last year because of the ban. The farm families that join the join the *Kolo Harena* associations have not been adversely affected by the ban; their production improves (ginger, bananas, coffee, irrigated rice), they have access to agricultural input and equipment, and their investment capacity is increasing (resulting in the purchase or rent of new land, or hiring of labor), their influence is dominant in the federation, and they tend to dominate the local market.

In light of the *tavy* ban, there has been an increase in the number of requests to join and to set up new *Kolo Harena* associations, where farmers are enthusiastic about learning methods to reclaim abandoned upland areas. To assure that the farmers have access to the information they need, a better flow of information is required, particularly at the federation and association level. To this end our region is relying heavily on the farmer extension and organization agents that farmers selected and LDI trained. *Kolo Harena* federation maturity still needs to be worked on; many of the difficulties we faced this last year were due to a lack of communication between the federation and associations, as well as a lack of maturity (i.e. the case of some GCVs and the Radio Akon'Ambanivolo which did not respond to the expectations of the population).

At the *Kolo Harena* level, the volume of expenditures for the purchase of rice or cassava during the difficult period is an indication of insufficient rice production due to the small size of the rice fields, the unreliability of existing infrastructures, and problems linked to the difficulties of controlling water. Farm families act according to their prevailing economic and geographical conditions, and not all manage full adoption of the technical packages. Food producing crops such as cassava and corn are quite important during hard times.

However with LDI's support, bananas, fish ginger production has increased and continues to be a source of supplemental income for the families. The drop in the price of coffee led a large number of *Kolo Harena* farmers to invest more heavily in growing "ecological ginger", although the market price has fluctuated some, recent contractual negotiations with Trimeta will assure that all the ginger this year is sold at a fair price. Through training provided by the CDIA, many families today own two or three fish tanks, which are another source of money and food that help families bridge the "hungry" period.

ZSI BRICKAVILLE

During 2003, our interventions in this ZSI experienced a slowdown. The main causes were the sudden resignation of the Supervisor and the political/economic fall-out from the crisis. The subsequent transfer of extension responsibilities to farmer extension agents has also slowed things down because they were not full operational and needed to spend considerable time in trainings. After a committee of the *Kolo Harena* Federation held awareness meetings, 12 new *Kolo Harena* associations were created, but the maturity of the *Kolo Harena* Federation is still weak and requires continued support.

While working in this area, we encountered many farmers that wanted to join the *Kolo Harena* movement who are outside of LDI's normal target group (i.e. the 5 *Kolo Harena* associations in Maromamy that are mostly made up personnel from the SIRAMA the sugar factory).

In Anivorano, the first village to benefit from our interventions, the activity carried out with PHAEL FLOR on cinnamon trees, no longer interests any of the farmers because of the relatively low price set by the operator, 50 FMG for a kilo of cinnamon leaves. In agricultural intensification, the land exploited per family for rice farming does not exceed a quarter of a hectare, and in spite of our quality supervision and the favorable climate this year, production is still low compared to other areas of LDI intervention (average 2.5 tons/ha instead 3.6 tons/ha). It is difficult to control the water, and only a small minority can practice SRI or SRA. Nonetheless, *Kolo Harena* farmers are benefiting from increased household revenue due diversification and high off-season crop yields, as with the recently introduced 'ecological ginger' and onion farming. In market

gardening, the family land retains the status of a vegetable garden. As such, the results are more oriented towards improved nutritional status rather than commercial success.

The OTIV credit system remains an obstacle for development in this area. The repayment rate remains low because OTIV is not actively doing the work necessary to encourage repayment, some farmers have yet to grasp the idea that repayment is obligatory, or just plain dishonesty. The *Kolo Harena* members are still dissatisfied with timing of disbursements, and the very short period for reimbursement that is set by the loaning institution. As a result, loans are obtained from local lenders that charge a much higher rate of interest.

ZSI VATOMANDRY

The cyclone 'Manou' passed through our Vatomandry and the Ilaka-Est zone this last year, and unfortunately destroyed two years of Kolo Harena household and the Ilaka-Est CDIA work (interventions only began in 2001, and were carried out in partnership with the Catholic Relief Services (CRS) through the ODDIT (Organism for the Development of the Diocese of Tamatave).

In terms of agricultural intensification, the expected rice yield this year should be double or triple the usual, even with only partial adoption of the SRI technical package because of difficulties in controlling water. The newly planted cash crops (cloves, pepper, vanilla and cinnamon) are not yet productive, and some loss is expected due to the cyclone. Nevertheless, established litchis seemed to weather the cyclone well and Kolo Harena farmers are able to cover some of their losses through revenue generated through litchi sales. Market gardening is working well since there is no lack of demand at the local level. Anticipating market saturation soon (due to increased yields) some Kolo Harena farmers have chosen to diversify their production systems. Onions and "ecological ginger" are the new crops they are growing because of high yields and increasing market opportunities.



Ilaka CDIA provides seedlings of various cash-crops (coffee, lychee, vanilla, cloves) for farmers from Vatomandry to Mahanoro

CDIA operations have recovered after the passage of the cyclone. The training schedule is back on track and demonstration sites have been repaired or replanted accordingly. Because of reduction in the international market prices offered for produce such as coffee, cinnamon and cloves, local farmers are now opting for litchis and vanilla. This has created an increased demand for seedlings of these plants, and the CDIA has responded by increasing our propagation trainings and production of seedlings for sale to local farmers.

OTIV credit services continue to exasperate many people. Given the delay in processing and disbursal of loans, Kolo Harena farmers have become very discouraged with OTIV, and now turn to local money lenders who provide a more satisfying service, in exchange however for a higher interest rate.

Due to misunderstanding and lack of comprehension on behalf of the local PSDR committee, our *Kolo Harena* associations were unable to benefit from the PSDR funding this past year. This unhappy situation was born of a blunder committed by the local granting committee, which announced that since the *Kolo Harena* have benefited from the assistance of a foreign donor since their creation, they were not entitled to other assistance. The situation has now been rectified and *Kolo Harena* are now eligible for PSDR loans for the next agricultural season.

ZSI FENERIVE EST

The effects of the political crisis that prevailed during 2002 heavily influenced our interventions in this zone. During 2003, activities returned to normal, governed by the action plans drawn up by each association. The *Kolo Harena* associations were successful because of the improved economic and political situation, the timely arrival of the rain, a supply of improved seeds at the supply center, soil improvement with fertilizer and compost and a strong OTIV credit system.

Farmer extension and organization agents have undertaken their work seriously, and their fellow *Kolo Harena* farmers recognize the quality and importance (in terms of sustainability) of their services. Farmer agents report a marked increase in demand for their services, especially for cash crop production techniques that are the highlight of this zone.

In the Analanjirifo region, “ecological ginger” farming was very successful this year (8 to 17 tons/ha). This combined with favorable market conditions allowed farmers to sell all of the ginger at an excellent price. Rice production is still insufficient for most of the *Kolo Harena* households, because of the small size of plots, and because water control remains difficult. Nonetheless, in comparison to traditional rice farming techniques the yield did double or even triple thanks to SRI techniques. Because of this increase in yield, *Kolo Harena* farmers have been able to reduce their “hungry” period to 2 to 3 months rather than 4 to 6 months in the past.

Improvements in small animal husbandry techniques were an excellent source of increased income for several *Kolo Harena* families. It is interesting to note that these initiatives were able to be undertaken through support from the PSDR program.

For cash crops, mature litchis plantations were maintained or replaced and production was very good. Cloves suffered diminished production in the region because of the cyclone, and for the moment the farmers are not interested in coffee and pepper because of their low international prices.

In terms of socio-organization, several new *Kolo Harena* associations were set up, but officialization paperwork still remains at the *Faritany* administrative level. If this process is not accelerated, it may cause compensation problems for the farmer agents that work with them.

6.2.2 Quantitative analysis

Description of LDI Moramanga results

Indicators	July 2002 – December 2003 targets		Annual results			Units
	Planned Activities	Additional funding	Planned activities	Additional funding	Total	
<i>Agricultural Intensification</i>						
Percentage of yield increase	10%	10%	94%		50%	%
Percentage of income increase	10%	15% from in season and 20% from off season	83%		54%	%
Number of farmers adopting new techniques	50%	50%	60%		60%	%
Number of « paysans vulgarisateurs » and « paysans animateurs »		400	70	150	220	farmers
Tons of paddy collected through commercialization funds	4,800	5,000	4692	0	4692	tons
Tons of seeds and inputs distributed through commercialization funds	500	400	409	164	573	tons
Number of farmers reached through commercialization funds		2500	2040	700	2740	farmers
Number of input supply centers built and operational	n/a				0	units
Number of CDIA	n/a				0	units
<i>Promotion of Eco-enterprises</i>						
Number of EFE supported by LDI	9	4		19	19	EFE
Total of EFE investments supported by LDI	200,000	300,000		228,814	228,814	\$

Amount of FIEFE funds disbursed	150,000	80,000	81,749	81,749	\$
Number of farmers having relation with EFE	2,000	1,000	3,260	3,260	farmers
Number of eco-enterprises using the natural product label	5	5	2	2	products
Community Based of Natural Resource Management					
Number of signed contracts	11		4	4	contracts
Surface of natural resources covered by signed contracts	1,100		1,679	1,679	hectares
Number of villages involved in community-based conservation activities			63	63	villages
Number of members joining COBA/CLB	423		248	248	members
Promotion of "Green Communes"	6	4	6	6	communes
Capacity building					
Number Kolo Harena associations supported by LDI	140	60	121	34	155 associations
Number of Kolo Harena members supported by LDI	3,400	1,600	2,090	949	3,039 members
Number of Kolo Harena federation	10	5	5	5	5 federations
Number of Kolo Harena confederation	1		1	1	1 confederation

Analysis of Indicators

Indicators of Agricultural Intensification Activities

- Percentages of yield, income and farmer adoption

In general, the objectives of increased yield, adoption of methods and revenue generation have been achieved. On the whole, an increase in production of crops using improved methods has been observed in comparison to traditional methods (50% more production using improved methods). In Lac Alaotra, yields have not increased as much as in other areas because technicians had less time to spend with farmers due to the additional responsibilities of the paddy commercialization activity. Incomes have increased by 54% well over the national annual objective of 10%. This is due primarily to improved market linkages and increased Kolo Harena federation emphasis on sales of the products. Working with the Kolo Harena members, LDI Moramanga has been able to encourage 60% of the farmers to adopt improved techniques, which represents a 10% increase over the national annual objective. This was largely due increased familiarity with the techniques (after having been exposed to them over a period of years) and the existence of means of access to accompanying measures such as micro-credit and small scale agricultural implements.

- Improved Rice Farming

Nearly 2000 families practice SRI and SRA and are now cultivating more than 1000 ha of rice fields, with an average yield of 3.8T/ha. Land holdings remain small, on average only about 0.5ha per family. The technical packages (SRI and SRA) are being used by 57% of the families, and are not yet fully being adopted (most families only are using about 80% of the full package). This result is primarily due to the fact that LDI Moramanga has just recently added many new *Kolo Harena* farmers in Ivakaka, Lovoka and Ampitakihosy that have not yet been through a rice season with the project. It can also be explained by the fact that farmers' enthusiasm is tempered by the average yield in SRI of 6T/ha. Although this is much more than the average traditional method yield (2 tons/ha), they still feel resource constrained (lack of water, labor, and financial resources). A continued effort to do systematic analysis of the results, that can then be adapted to realities in the field (technical, market, and resources availability) is still needed for farmers to fully benefit from these techniques. As usual, meteorological conditions both helped and hindered results. Rainfall was good in some areas, enabling early seeding, but in other areas was too heavy, causing flooding. Mechanization helps also and is beginning to be a part of the technical packages, although it is certainly not generalized. Fortunately, access to required equipment is facilitated through the agricultural supply centers and local production facilities that LDI helped create.

- Market Gardening

Farmers are quite interested in diversifying their garden crops, making and using compost and applying limited chemical soil amendments where necessary to increase their production. Almost 80% of their garden crops is sold in local markets and generates additional revenue for the family; the remaining 20% is being consumed. Production is satisfactory (ex: potato yields range from 5.13 to 17T/ha). Expansion of this activity will not be problem in the short term as market potential remains very high.

- Food-Producing Crops

These crops are worthwhile since they supply human and animal food needs and can be a source of extra money for the families. The main crops planted are beans, cassava, corn and sweet potatoes, which help families get through the "hungry" time. Peanuts, a new crop introduced this year, proved to be very successful on both shores of Lake Alaotra. High yields can be attributed to use of improved varieties and full fertilization (organic and mineral). Unfortunately, bean yields were low due to a late planting date because of a late delivery of seeds from the supplier in Antsirabe.

- Cash Crops

In land management, cash crops are the mainstay of the fight against environmental degradation. Their perennial nature and the revenue that they represent provide incentive for farmers to protect their hillsides. Promotion of several crops ('ecological ginger', cloves, pepper, vanilla, citrus, litchi, cinnamon, watermelon, onion) is a priority for the *Kolo Harena* on the east coast. However, due to fluctuations in the international price for coffee, cinnamon and cloves some farmers are not motivated to do the required maintenance for these crops. Cash crop diversification to combat fluctuations in the world price is beginning to take hold; new plantations and improvement of existing plantations have been done thanks to the support of partners and the contribution of *Kolo Harena* farmer extension agents. 'Ecological ginger' yield ranges from 7.5 and 14T/ha (traditional ginger yields ~ 5tons/ha), and even though it requires increased labor and financial investment (the use of compost, limited chemical fertilizer and hillside stabilization techniques such as contour vetiver planting) it is very popular along the eastern side of the forest corridor. The number of *Kolo Harena* village cash crop nurseries has increased by 15%. Unfortunately, many nurseries have suffered from the effects of the crisis and the damage caused by the last cyclone, which destroyed 90% of the plantations in Vatomandry.

- Small Animal Husbandry

The main speculations developed are improved local chickens, pig farming, rabbit farming, beekeeping and fish farming. Yearly objectives, set by the *Kolo Harena* farmers and LDI, were more than met as production was increased by nearly 200% thanks to the collaboration of the CDIA, MAEL, and co-financing by the PSDR. This activity has expanded into breeding dairy cattle and cattle fattening for slaughter. On the eastern side of the corridor fish farming and apiculture show great promise.

- Input supplies

For the improved seed access indicator, we are currently showing a deficit of around 10 tons due to the fact that purchase of seeds was only done for 4 out of 6 of the ZSIs under the revolving fund. 2 out of 6 of the ZSIs have generated enough revenue from sales of commodities and other agricultural inputs to have enough cash to purchase seeds using their own funds, and did not require LDI assistance. Furthermore, the use of hyperbarren to address soil nutrient deficiencies has recently begun to penetrate the Ampitakihosy and south Iazafo zone.

• Number of *paysans vulgarisateurs* and *animateurs*

The Moramanga region has 220 certified farmer extension and organization agents working in the region. This represents 55% of the national annual objective, and was accomplished with the assistance of regional level state services (CIREL, CIRAPV, CIRPECHE), local partners and communal authorities. Intensive training was given to the selected farmer technicians, and the Malagasy government now officially recognizes them. Although these farmers express a desire to succeed and are totally engaged in their new roles as farmer leaders, they have voiced concern about rushed implementation of the system. The intended target was surpassed largely due to *Kolo Harena* members understanding of the importance of sustainable system of technical assistance and supervision. With the progressive extraction of LDI technical support as the project comes to an end it will be necessary to assure that these farmer extension and organization agents maintain a high level of motivation if this system is to succeed. By deciding to support these agents from their own financial resources, *Kolo Harena* federations are starting off on the right foot toward sustainability, but only the future will tell if they will succeed.



The Farmer-to-farmer system now boasts 220 operational *Paysans animateurs* and *paysans*

• Tons of paddy collected through commercialization funds

This fund, which totaled 7 billions FMG (~ 1.2 million USD), was mobilized in the Lake Alaotra region and helped in the commercialization of 4,692 tons of paddy rice. This amount represents 98% of the national annual objective and was largely due to excellent cooperation from private sector rice millers and farmers who decided that they wanted to do something to address the poor commercial situation that resulted from the political crisis.

- Tons of seeds and inputs distributed through the commercialization funds
The LDI Moramanga region was able to distribute to Agricultural Input Supply centers 573 tons of seeds and inputs, representing 64% of the national annual objective. Because Kolo Harena federations decided to use their own funds to buy locally produced improved seeds and implements (that LDI helped put into place), it was decided to not use any more of the commercialization funds to undertake this activity.
- Number of farmers reached through commercialization funds
LDI Moramanga exceeded the national annual objective of 2,500 farmers by 240. This was due primarily to the attractiveness of the activity. For years, due to poor transport infrastructure, farmers in the Lac Alaotra region have been subjected to unfair price manipulation by middlemen. For the first time, in a very long time, they had the opportunity to negotiate a fair price for their product and they were happy to seize the opportunity.

Indicators for Promotion of Eco-enterprise Activities

- Number of EFE supported by LDI
LDI Moramanga surpassed the national annual objective of 13 new EFE supported by LDI by 6 firms, bringing our regional total to 19. The firms that proved the most dynamic and willing to make changes according to our technical advice were essential oil producers who readily adopted improved distillation techniques and still designs.
- Total EFE investments supported by LDI
LDI Moramanga contributed 46% to the accomplishment of the national annual objectives for EFE investments supported by the project. This amounted to a total 228,814 USD and was largely due to diligent and hard work on behalf of LDI staff, combined with private sector desire to quickly return to pre-crisis levels of operation. Nonetheless, the percentage remains low for our region despite efforts to reinvigorate eco-tourism after the crisis. Financial institution found this activity less attractive due to a very slow tourism recovery after the 2002 crisis.
- Amount of FIEFE funds disbursed
LDI Moramanga contributed 36% (81,749 USD) to the accomplishment of the annual national objective for the disbursement of FIEFE funds. This indicator was low for our region because many firms were not completely forthcoming with their financial analysis and the bank was rightfully hesitant to make loans based on poor or inaccurate data. More emphasis needs to be placed on assuring that the firms applying for FIEFE funding are willing to disclose their financial information before entering into the process with them. A lot of time was wasted on firms that did not want to honestly take advantage of this opportunity.
- Number farmers having business relations with EFE
LDI Moramanga surpassed the national annual objective of 3,000 farmers having direct business linkages with EFEs by 260, bringing our total to 3,260 farmers in the region of Toamasina. This was facilitated by IPTE funds that the Malagasy government asked LDI to manage. Designed to help the *Kolo Harena* farmers protect themselves from unfair practices of middlemen (who drive the farm-gate price down) after the 2002 crisis, this activity was a huge success. The price per kilo of paddy rice was increased from 650 FMG to 1400 FMG per kilo. Kolo Harena federations now are requesting that this activity be extended to incorporate other products (such as coffee, cloves and litchis) and other areas within the Toamasina region. Confidence between the private operators and the rural communities was restored with some difficulty. Production and commercialization protocols were developed for processing and export firms for other products such as rice, ginger and biologic sugarcane.
- Number of Eco-enterprises using the natural product label
Due to the novelty of the natural label, LDI Moramanga was only able to encourage 2 of the firms (20% of the national annual objective) we work with in our region to sell their product under this label. Many firms are currently waiting to see if the natural label certification will offer them some benefit before undertaking the cost.

Indicators for CBRNM Activities

- Number of signed management transfer contracts
The Moramanga region contributed 4 contracts this year and 2 contracts last year to the accomplishment of the national annual objective of 11 management transfer contracts signed and operational. This brings

LDI Moramanga's contribution to 55% of the national total. Our work in this area was predominately concentrated in the Lac Alaotra area and involved the transfer of management of marsh areas. Farmers and fishermen both recognized the need to protect the marshes as means of reducing siltation of the lake and their rice paddies.

- Surface of natural resources covered by signed contracts
The national annual objective of 1,100 ha transferred to local communities for management was surpassed by 53% (community based management of 1,679 ha is now being undertaken by COBA in the region). This was due primarily to excellent coordination with the MINENVEF representative in Ambatondrazaka who is a very dynamic individual.
- Number of villages involved in community based conservation activities
This annual objective was 100% achieved with 63 villages participating in community based conservation activities. LDI Moramanga would like to be able to take all the credit for this, but in fact the credit is due to the Kolo Harena farmers themselves. They, of their own volition, enacted a test activity for farmer associations that would like to become members of the Kolo Harena Federation. As a prerequisite the "new" associations had to demonstrate their concern for protecting the environment by planting at least 1 ha of trees.
- Number of members joining COBA/CLB
The Moramanga region accounted for 59% (248 members) of the national annual objective of 423 members participating in COBA/CLB. This was due to our very successful collaboration with the Ambatondrazaka MINENVEF representative and a very good working relationship with Durrell Wildlife Conservation Trust (DWCT). DWCT has been working in the Lac Alaotra area for some time now and has built up excellent community relations. We were able to capitalize on their previous work and help them take it one-step further with additional financial and technical resources.
- Promotion of "Green Communes"
This national annual objective was achieved at 100% (6 rural communes in Alaotra are involved in the 'green communes' program : Andromba – Imerimandroso – Amparihitsokatra – Antanandava – Ambatosoratra – Ambohitsilaozana) Selection of these 6 communes was dictated by the importance of their geographical situation vis-à-vis the forest corridor and Lac Alaotra. Under this activity 70 ha of hillside land has been reclaimed, of which 30 % is Eucalyptus and 70 % is Grevillia, communication tools for the population to use in the fight against fires were developed and fire brigades (CIREF staff and the local population) were created.

Indicators of Capacity-Building Activities

- Number of Kolo Harena associations supported by LDI
In the past year, LDI Moramanga was able to foster the creation of 155 new Kolo Harena associations. This represents 78% of the national annual objective (200 new associations created in 2003). LDI Moramanga was able to accomplish this through dedicated personnel and the interest that has been generated by the tangible results this project helps farmers produce. The concept of working together as a group to increase production and establish market linkages is now really starting to take root in the farmer mindset.
- Number of Kolo Harena members supported by LDI
In collaboration with the existing Kolo Harena members, LDI Moramanga was able to assist adding 3,039 new Kolo Harena members to the Kolo Harena federations. This number represents 61% of the national annual objective and was largely accomplish because of the Malagasy government decision to enforce the laws making tavy illegal. With this crack down, there was a significant increase in the number of farmers that want to be part of the Kolo Harena farmer organizational movement. The demand has increased so much that we are currently, with the limited personnel we have in the field, unable to respond in a satisfactory manner. Many farmers are being asked to wait until the next USAID funding phase to begin their associations.
- Number of Kolo Harena Federations
In the Toamasina region, LDI Moramanga was able to help Kolo Harena associations create 5 new federations. This represents only 1/3 of the total national annual objective, but it was decided that we should let the farmers decided for themselves rather than create artificial federations that make no sense to the member associations.
- Number of Kolo Harena Confederations
LDI Moramanga has helped support the Kolo Harena Confederation by providing it with its very first President who comes from the Antanandava Kolo Harena Federation.

