CARE Madagascar

Title II Development Assistance Program

Mid-term Evaluation
Report of Findings

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Glossary and Acronyms

ADC	Agent de Développement Communautaire
ADRA	Adventist Development Relief Agency
AG	Assemblée Générale
AMS	Assistant de Mobilisation Sociale (*Field/Extension Agent*)
APIPA	Autorité pour la Protection contre les Inondations de la Plaine d'Antananarivo
AUE	Association des Usagers de l'Eau (Water Users Association)
AUI	Association des Usagers de l'Infrasructure (Infrastructure Users Association)
AUP	Association des Usagers de Piste (Road Users Association)
AVBC	Agent de Vente à Base Communautaire
CARE	Cooperative for Assistance and Relief Everywhere
CBSA	community-based sales agent
CCLS	Comité Communale de Lutte Contre le SIDA
CDC	Comité de Développement Communal
CCS	Conseil Communal de Secours *(Commune Emergency Management Committee)*
CFW	cash-for-work
CIN	Carte d'Identité Nationale
CLLS	Comité Locale de Lutte Contre le SIDA
CLS	Conseil Local de Secours (niveau sous-préfecture) *(District Emergency Management Committee)*
COGES	Comite de la Gestion et Suive *(Management and Monitoring Committee)*
CYPREP	Cyclone Preparation Project
CUA	Commune Urbaine de Antananarivo
CVS	Comite Villageois de Securite *(Village Security Committee)*
DAP	Development Assistance Program
EIMA	Evaluation Initiale Multi-Aléas
ERI	Eco-Regional Initiative
FALAFA	Famakafakana Lalina ny Fiainana eny Ambanivohitra *(Malagasy acronym for HLS analysis)*
FFP	Office of Food for Peace
FID	Fonds d'Intervention pour le Développement
FKT	Fokotany (the lowest administrative unit in the Government of Madagascar)
FMG	Francs Malagasy (approximately 6,200 FMG = $1.00 U.S.)
FML	Fikambanan'ny Mpikojakoja Làlana (Road Users Assoc.)
Fokontany	Malagasy word for village or community
FFW	food-for-work
GOM	Government of Madagascar
HLS	Household Livelihood Security
IFPRI	International Food Policy Research Institute
ISS	Semi-structured Interview
KOJA	Structure d'Entretien des Infrastructures Liées à l'Eau et Assainissement
LDI	Landscape Development Initiative
LOP	life of project

MAM	Mpanentana eny Anivon'ny Mponina (Village Animator/Agent)
MOH	Ministry of Health
ODDIT	Organe de Développement de la Diocèse de Toamasina
OPC	Organisation Paysanne pour la Commercialisation
OTIV	Ombona Tahiry Ifampisamborana Vola (Mutual Savings and Credit Org)
PAIQ	Programme d'Appui aux Initiatives de Quartier
PCD	Plan Communal de Développement (Commune Development Plan)
PDF	Plan de Développement du Fokotany (Fokotany Development Plan)
PDQ	Plan de Développement du Quartier *(Neighborhood Development Plan)*
PL	Public Law (480)
PPRR	Programme de Promotion des Revenus Ruraux
PSDR	Projet de Soutien au Développement Rural
PV	Procès Verbal
RC	Responsable Communal
SEECALINE	Program under the National Nutrition Office)
SCVM	Sécurité des Conditions de Vie des Ménages *(HLS)*
SD	Structure de Développement
SDC	Structure de Développement Communal
SFF	Sehatra Fampandrosoana ny Fokontany (SFF)
TAM/TAMK	Tompon Andraikitra Mpanddrindra Anivon'ny Kaominina (RC)
USAID	United States Agency for International Development
VCT	vivre contre travail (food-for-work)

Fandriaka: East coast component on capacity building and institutional development

Maheri: East coast component on health and nutrition

Mifamonjy: East coast component on agricultural production and water management

Lôva: East coast component on road and path construction/maintenance

Tomadi: East coast component on environmental health(lutte contre les maladies diarrhéiques et le paludisme : eau et assainissement – paludisme)

Fafiala: Executing agency of the PPRR project

Executive Summary

CARE Madagascar's current Title II DAP began in 2004. It consists of three sub-programs implemented in three different geographical areas of Madagascar and in both urban and rural settings. The rural component is implemented in the Province of Toamasina on Madagascar's east coast. It greatly expands the efforts for integrated development in cyclone-prone areas of eastern Madgascar, and addresses key issues in local infrastructure development and maintenance, food security, and governance. The urban component of the DAP is implemented in the capital city of Antananarivo, and in Fort Dauphin, one of the major secondary cities of Madagascar located on the extreme southern coast. It builds on elements of success started in the first DAP and applies the concepts of urban governance to secondary cities.

This midterm evaluation is a quantitative and qualitative-based study aimed at gaining a fundamental understanding of how CARE's Title II DAP is being implemented, how its implementation track will result in changes that the project is attempting to bring about on household and institutional participants, and what changes, if any, could improve its performance during the remaining implementation period. The evaluation, conducted at the mid-point of implementation, also provides insight into why certain goals and objectives are more likely or less likely to be accomplished.

The evaluation employs a multi-method, iterative approach to assessment. The fieldwork activities applied a range of qualitative tools including key informant interviews, focus group discussions, large group discussions, process analysis, and several PRA techniques. At the end of each visit to the field offices, a "restitution" meeting was held with CARE staff to explain the preliminary findings and to elicit early feedback. Primary data was largely collected by CARE staff prior to the start of the evaluation. This included rural and urban household surveys that provided quantitative data for key indicators being tracked by the project. All data collection activities and data input were managed by the Monitoring and Evaluation Unit of the DAP. The analysis and interpretation of the results was largely under the control of external evaluators, although much assistance was provided by CARE staff during cleaning and analysis.

For the rural component, a baseline survey was conducted in December 2003. Results of this population-based survey were available for comparison of like indicators. For the mid-term survey, multiple factors were used to determine the sample size: the number of measurement units in the population; the initial values of key indicators; the desired magnitude of detectable change; the degree of confidence desired at which change between the baseline and mid-term surveys could be detected; and the degree of certainty that a real change is detected.

Key Findings for the East Coast Program

The East Coast program is implemented through five components: Mifamonjy (Cropping Practices, Water Management, Gardening and Marketing); Lôva (Road and Path Rehabilitation); Fandriaka (Governance and Advocacy); Tomadi (Environmental Health); and Maheri (Family Planning and Nutrition).

Mifamonjy Component

The Mifamonjy component of the DAP addresses basic food security problems in 25 communes and seven prefectures. This component aims to achieve sustainable improvements in the availability of food for poor households in selected communes of Fianarantsoa and Toamasina Provinces. The focus is on smallholder households - providing technical assistance and training to promote sustainable farming practices, more productive and diversified farming systems, and improved post-harvest management. Agricultural potential is also being enhanced through the rehabilitation of small-scale irrigation and drainage systems, in some cases using food-for-work programs to open up significant new lands not previously under cultivation.

CARE is working in a fairly large number of communities (20 communes in 2005 alone). The consequences of this are important – it results in a high number of beneficiaries; wide exposure to CARE assistance and philosophy; ability to capture areas that have high potential and rapid payoff. At the same time, there is perhaps not enough nurturing time in each location, and technical assistance becomes spread too thin and contact with each farmer or households becomes less frequent. In the absence of a functioning Malagasy extension service, contact with farmers by CARE staff is important, especially when trying to introduce new cropping behaviors and other changes to support systems.

In general, CARE has made considerable progress in meeting the majority of its objectives. A few activities are below target. For example, the number of dams rehabilitated is slightly behind target but is likely to catch up in 2006. Many of the delays have been beyond the control of CARE, especially with respect to the delivery of food commodities for payment in food-for-work activities. It is evident that CARE's staff is very dedicated to the program and is doing a remarkable job in implementation.

In FY04, the first year of the DAP, 24 dams were planned for rehabilitation, but none were completed, primarily due to problems with the availability of food-for-work commodities. In FY05, 44 small dams were completed on 21 perimeters. A total of 235 kilometers of irrigation and drainage canals were rehabilitated in 23 perimeters in FY04 and an additional 27 kilometers in FY05. Canal rehabilitation was halted in January 2005 and restarted in late July 2005, pushing almost 60 percent of scheduled FFW for FY05 into early FY06. Nevertheless, the project intends to complete all planned FY05 infrastructure rehabilitation by February 2006, just prior to the scheduled start of FFW for the first FY06 Call Forward in April 2006, permitting the project to return to targeted output levels in FY06.

Work on new perimeters has thus far resulted in an additional 2,713 hectares of paddy land. This "new" land has been created by both extending existing irrigation infrastructure and by installing drainage systems to evacuate inundated areas. This is a significant amount of land, much of which can yield two crops per year due to improved water management. Even at modest yield levels of 1.2 tonnes of paddy per hectare, the new perimeters would account for an additional 6,500 tonnes of rice in the region. To support infrastructure development, 92 water management committees have been formed. While it is difficult to assess the status of these committees, CARE is working with them in to develop their capacity to manage water resources, and in the remaining years of the DAP CARE should be able to monitor the activities of these committees

to strengthen them further. About 25 percent of the committees have completed maintenance plans and others are in progress. These plans are critical for continual functioning of rehabilitated infrastructure.

Almost 18,000 persons participated in food-for-work activities in FY04 mainly on canal rehabilitation, with over 7,500 (43 percent of the total) used in Soanierana. In FY05, total use of FFW labor rose to 59,000 person days of labor, again with Soanierana having the most activity and comprising almost 40 percent of all FFW labor. To date, almost 77,000 person days of labor have been utilized, representing a total of 1,069,875 person days, for an average of 14 days per person[1].

Watershed Protection

The DAP design calls for significant protection of watersheds through reforestation of fragile slopes. In FY05 a total of 140 hectares were to be rehabilitated, but only two hectares were completed. CARE did, however, manage to complete several studies on slope protection and documents related to the technical aspects of this activity. Information has been collected on the number of hectares feasible for protection, appropriate species for planting, how the work can be organized, etc. Plans are to focus more on this activity in FY06 and FY07, and it is planned to engage several Peace Corps Volunteers to work specifically on this topic.

Agricultural Information

The proportion of households receiving various sources of information have risen significantly over the baseline values gathered in 2004, when 33 percent of households reported obtaining price information, 51 percent reported obtaining weather information, and only 20 percent reported obtaining information on credit. Sources of information have remained relatively stable between the baseline and mid-term surveys, with radios, friends and merchants being the prime sources. This change can be attributed to the use of 119 voluntary information officers, which CARE has trained and placed in villages throughout the area, as well as to information panels installed in 24 target communities.

Marketing

After a slow start in FY04, the marketing efforts of the project made considerable progress in FY05, when 70 new Producers Associations were formed. Forty-eight associations developed a basic business and activity plan, 35 completed development of internal statutes and administrative paperwork leading to formal legal status, and 14 were accorded official recognition. In addition, 28 new Producers Associations formed spontaneously in neighboring villages, and came to trainings and workshop/expos with Buyers. The project has developed a wait list of new associations requesting training, and is looking to expand partnerships with other actors to fulfill the unmet demand.

[1] In terms of providing for household food security, it is doubtful that 14 person-days of labor would be very meaningful. However, it is common for several members of a household to participate in FFW activities, usually at different time periods. For the landless and poorer households, it is highly likely that participation in FFW is contributing to household food security, although no nutritional outcome data is available to demonstrate this.

A total of 8 workshops / expos were held in various sites and attended by 97 Buyers. These expos resulted in 16 formal contracts signed between Producers Associations and Buyers, 59 memorandums of understandings (agreement to meet at a later date to sign a formal contract), 38 memorandums of understanding drafted (some details remain to be worked out between the parties in subsequent meetings), and 9 verbal agreements. These contracts and agreements covered four products – litchis, cloves, vanilla, and rice.

One of CARE's key strategies to improving agricultural production in the project area is the training and dissemination of Lead Farmers. Communities nominate one or more farmers to participate in intensive training on a range of agricultural practices. These farmers then apply these new practices in their fields and are encouraged to train their fellow farmers and to use their field as a classroom and demonstration plot. By the end of FY05, CARE had trained over 1,000 Lead Farmers. There are four training modules for each farmer, but to date Lead Farmers have only been trained in a few of the modules. The problem CARE faces with this component is that there are not enough agricultural staff to keep pace with the demand for training and leave space for any type of follow-up with Lead Farmers who have already had at least some training.

Interventions such as Lead Farmer training and agricultural infrastructure rehabilitation aim at increasing agricultural production in the region. While the mid-term survey found that agricultural production had increased by about 25 percent, a significant proportion of this gain came primarily from increasing available cropping land, not from increasing yields on individual farmers' fields. Anecdotal information, however, suggests that the mid-term survey may have been too early to detect real changes.

Gardens

One of the early success stories of the DAP may be gardens. The mid-term survey found that 61 percent of households have at least one garden plot[2], and 42 percent of households had a garden. In FY03, for those households with gardens, 30 percent of garden plots were not being cultivated. This percentage is significantly declining, and in FY05 only 15 percent of available garden land was not being cultivated. The primary reason for not cultivating a garden in 2005 was lack of seed, suggesting that if input supplies were improved almost all garden plots would be utilized. There has also been a statistically significant increase in mean garden area from FY03, when it was just over 5 ara per household, to 7 ara in FY05.

Although gardening appears to be gaining in popularity, there are some concerns about the diversity of vegetables households are growing. Almost 44 percent of plots are growing Chinese cabbage, and Chinese cabbage is grown by 70 percent of households (some households have multiple plots). While Chinese cabbage provides some Vitamin A and Vitamin C to the diet, it does not represent the optimal nutritional choice from gardens. The fact that so many households are growing Chinese cabbage is probably due to several factors, including its

[2] Land classification on the east coast of Madagascar is complicated. People have discrete ideas about what land can be used for what purposes. That 61 percent say they have a garden plot probably reflects the proportion of households that identify part of their land as being suitable for gardening.

popularity in local dishes, ease of growth, and availability of seed. Households often ask CARE to provide seed because they trust the quality, and likewise complain that seed locally purchased often has very low germination rates. CARE itself has difficulty finding vegetable seeds in adequate quantities. This illustrates the importance of working simultaneously on the behavioral changes (encouraging households to grow gardens and grow a range of vegetables) and on the systems to support these changes (technical assistance for gardening as well as input supply and marketing).

Mifamonjy Issues and Recommendations

Agricultural improvements through intensification, including new cultivation techniques, water management, adoption of recommended cultivars, etc. takes considerable time for farmers to absorb, test, and then adopt. CARE has chosen an important mix of agricultural improvements and, according to the expertise of the evaluation team, the options that CARE is promoting are appropriate to the zone and should significantly contribute to yield. The main issues are the amount of time CARE is able to devote to each community, and the number of farmers that can be reached through direct training or interaction with Lead Farmers. Since cropping seasons tend to vary from year to year, particularly with respect to rainfall and temperature, it is usually better to stay in communities for 3-4 years. CARE may be moving too fast with respect to nurturing behavioral changes with farmers.

The most effective way to increase the number of contacts with Lead Farmers is to reduce the number to be trained in FY06-FY09 and divert the resources to spending more time and training on existing Lead Farmers. CARE plans to train an additional 882 Lead Farmers in FY06, 637 in FY07, and 281 in FY08, for a total of 1,800 over the remainder of the project. This seems unrealistic and would likely result in even less contact with each Lead Farmer. It is therefore recommended that CARE reduce the number of Lead Farmers to be trained in FY06 to 440, in FY07 to 300, and conduct no additional training in the last year, FY08.

CARE has gained considerable experience with capacity building for water user associations. There needs, however, to be a more systematic method for evaluating the effects of the training, including how water user associations are functioning and what impact they are having on agricultural production. It is difficult to assess whether or not the training is adequate, whether there are gaps in the training that need to be filled, how the associations are functioning overall, and what the main obstacles are, if any, to improved water management.

Key behavioral changes to increasing agricultural production, such as use of improved seed, line transplantation, seedling density – may require reformulation of strategies in order to make significant progress. It may be that there is a systemic need that is not being fulfilled (e.g., farmers would like to use improved seed but cannot find it on the market), or that there is capital or labor requirements that cannot be met (e.g., improved seed is available but few can afford to purchase it). Also, longer time in communities will likely be required, especially in light of the number of farmers who feel various techniques are not locally appropriate or are complicated. In light of the absence of a national extension service, testing model farms and enhancing the role of Lead Farmers may be the only way to effectively promote many of these changes. Proving which practices work for various cropping schemes (e.g., flooded rice, vegetable gardening, etc.)

in a limited number of communities could make a real contribution. Future DAP or other projects could then focus on scaling up.

Other recommendations include more follow-up on agricultural production and yield changes using a modest survey, intensifying efforts in watershed protection, continuing the marketing component, and ensuring that the systemic changes needed to support behavioral changes are addressed.

Lôva Component

The lack of an adequate road network system in rural Fianarantsoa and Toamasina Provinces is a major constraint to rural economic growth, seriously hindering information flow, the delivery of agricultural inputs and government services, and market access. To address this problem, CARE is facilitating road rehabilitation on existing roads suited for vehicular traffic and on roads suited for smaller transport modes such as carts, bicycles and pedestrians. Rehabilitation is confined to three main areas: improvements in existing road surfaces; installation of road infrastructure including bridges and culverts; and improvements in road engineering including slope and drainage. Selection of roads to rehabilitate is made using four basic criteria: economic potential of the general area; population served by the road segment; length of road to be rehabilitated; and cost (linked to current state of repair and the amount of infrastructure required). Road work is accomplished using food-for-work labor from the communities associated with the roads and footpaths.

In FY04, the project rehabilitated about 35 kilometers of road out of a planned 40 kilometers, or approximately 85 percent. It rehabilitated about 9 kilometers of footpaths out of 20 kilometers planned, or just under 50 percent. These first year results are impressive given the amount of time that was required to identify appropriate sites and negotiate community involvement. In FY05 many of the early obstacles were resolved, and 110 kilometers of rural roads and footpaths were rehabilitated. Also in FY05, over 100 percent of targeted bridges and culverts were rehabilitated, representing 32 of 35 roads where rehabilitation was being undertaken. This represented a marked improvement over first-year programming and demonstrated that the CARE staff was learning how to better manage road rehabilitation.

CARE guided the use of more than 315,000 person-days of FFW in FY05 for road infrastructure development. An estimated 35-40 percent of labor is provided by females and together over 15,000 households have been linked to better roads and paths. Total labor via food-for-work represented about 74 percent of the target, also due to late arrival of commodities. Significant increases in the cost of construction materials, especially in cement and other locally supplied materials, requires CARE to decrease the amount of masonry and reinforced concrete infrastructure it can support per road, and may change the criteria it uses for future road selection. In some cases, bridges and culverts are constructed with less durable local materials or replaced by other construction techniques (primarily non mortared paving and masonry construction), which may impact the longevity of the road or impose more demands on timely and effective maintenance.

Of 32 road maintenance associations created in FY04 and FY05, 27 have developed maintenance plans and one-third have completed the maintenance activities that were planned for FY05. The majority have also established a bank account and collected toll fees for maintenance. CARE also assisted 160 local groups of skilled tradesmen (masons, stoneworkers, etc.) in forming micro-enterprises to conduct road repair, and received training in small business management. Of 210 identified and trained in FY04 and FY05, 47 were operational in FY05 (bid and received contracts for road maintenance from RMAs or communes in FY05), and received a total of 72 contracts for road maintenance.

Although progress has been less than expected, in many ways this may be more of an opportunity for the project instead of a hindrance or a sign of underachievement. If the road rehabilitation component were to focus its efforts primarily on achieving the outputs, there may be negative consequences rather than positive consequences. This is because: 1) there is more follow-up work to be done than was envisioned in the design of the project; and 2) targets are higher in years 3 and 4 compared to years 1 and 2, but it will become more difficult to identify road segments that are as cost effective or efficient to rehabilitate.

User associations have funds for maintenance, but they likely have inadequate capacity to manage their funds[3]. There is some evidence that some associations are reluctant to spend funds on small maintenance issues, waiting for the large outlays they anticipate will be required in the future. Delaying today's maintenance needs, however, may result in larger maintenance requirements in the future. While about one-third of road user associations have payment systems in place, there is more to learn about how these payment systems will function. Communities appear willing to pay their share of labor and materials, but there are some problems with the lack of protocol among all user associations, and the current process takes considerable time to organize and collect. Most communities prefer to contribute their share in the form of labor, but others are contributing materials (such as rock for steep slope surfaces).

Finally, cost of materials and the amount of infrastructure work needed to rehabilitate roads needs to be recognized as an issue that will influence the amount of road rehabilitation that can be performed in the latter half of the project. The cost of materials far exceeds that budgeted. For example, cement has more than quadrupled in price. Bridges and culverts are the most expensive component of road rehabilitation, and the fact that the amount of this type of work was underestimated in the design phase makes achievement of specific objectives difficult.

CARE needs to initiate some well-designed freight and transport studies to learn more about the impact of their road rehabilitation activities. These studies have been planned but have not been conducted to date. There are numerous sites that have matured to the point that they would be good sites for study.

CARE should also develop a revised plan for the remaining two years of the DAP for road-related outputs. It is difficult to see how targets would be achieved in light of the constraints and

[3] The evaluation did not bear this point out. However, low capacity of existing institutions is a problem throughout the project area, and when road user associations have to make financial decisions, there are likely to be a modest percentage that lack needed skills in financial management.

the fact that the "prime" areas for rehabilitation have largely been covered. In line with reducing the number of communities, CARE should also reduce its targets for road and path rehabilitation. Scheduled road and path rehabilitation for FY06 through FY08 are 79, 57, and 25 kilometers, respectively. If CARE attempts to meet these targets it will have to make serious compromises on the quantity and quality of road infrastructure (unless it can find additional funds or sufficient co-financing, both of which are highly unlikely to meet projected needs). Therefore, CARE should cut its remaining infrastructure targets by 50 percent. This should provide more realistic chances for maintaining the quality that should be standard for US - funded projects.

During the remaining years of the DAP, CARE should seek more collaboration and co-financing of road rehabilitation. It is possible to mix funds with, for example, FID, but this has not been done to date. Given the costs of materials and the amount of bridge work that must be done, such collaboration may make it possible to achieve targets in meters of roads/paths rehabilitated while at the same time taking some of the burden off of the DAP. Finally, since maintenance is such a key issue in infrastructure in Madagascar, CARE should task its M&E staff in Tamatave with studying the issues around road maintenance by developing 4-5 case studies on road segments that were rehabilitated in the first or second year of the project.

Fandriaka Component

The governance component is building the capacity of local development associations, communal development associations, and communal and regional administrators in planning and management of infrastructure. CARE promotes good governance and stronger civil society by supporting and strengthening community-based institutions to manage resources. Concomitantly, it supports local government and institutions through capacity building in a broad range of areas, including problem analysis, budgeting, financial management, laws and civics, and more. The beneficiaries of capacity-building include mayors, organizational officers, and committee members.

The management of local resources is intimately linked to governance and civil society. Any gains in efficiencies in agricultural production in the DAP project area will need to be coupled with the ability of communal governments to coordinate regional infrastructure rehabilitation and on communities' ability to work effectively in a decentralized political environment and to mobilize its residents.

CARE has considerable experience in leading the community development process, and it has been able to capitalize on this experience in the first two years of the DAP. By the end of FY05, CARE had trained a total of 101 villages and communes in problem analysis and planning, and had facilitated all but two of these in formulating or revising communal and village-level development plans. One regional and 26 communal organizations have been targeted. Fandriaka has also expanded the level of technical support provided to communal and local authorities in the areas of agricultural marketing, land tenure, and community-based participation in health initiatives.

In all, 113 mayors and communal administrative officers received training in budgeting and financial management in collaboration with the Provincial Office for Planning. Over 130

received training in communication (primarily marketing and representing the commune). An additional 14 received training in managing fiscal revenues in collaboration with the Provincial Tax Office (this activity has been ongoing through early FY06). CARE also provided training to 186 communal authorities and regional authorities from Analanjirofo in helping local Producers Associations, Water-user Associations, Infrastructure Maintenance Associations, and other community-based groups to register as formal associations.

In a sense, the DAP design underestimated the need for capacity building as a prerequisite for strengthening civil society and promoting good governance. Specifically, the capacity to implement a plan was underestimated, to the extent that development plans themselves cannot be an endpoint to governance strategies, because there is little chance they will be implemented. In rural East coast settings, the capacity issue is paramount. Although there is widespread interest among government officials, community leaders and individuals to engage in local planning and development, there is a void in basic skills to do this. Accordingly, CARE has had to commit significantly more time and resources in building basic capacity.

While impressive progress has been made in capacity-building of existing or newly formed organizations, there have been challenges in producing tangible results. As was seen in the previous DAP, there is considerable challenge in realizing the next step where communes or villages begin to undertake community projects that are outlined in their development plans. Part of the issue concerns funds available to undertake community projects. The risk is that if the development of tangible results does not occur within a certain timeframe, individuals lose faith in the systems they participate in, and eventually they turn their attentions elsewhere.

The DAP could benefit from a more centralized strategy. Currently there are five components working more or less independently. While there is potentially strong synergy generated by the components working in the same sites, there is a weaker core strategy that includes sequencing of activities and notions of what levels of effort are needed to produce sustainable results. It would be beneficial if Fandriaka served more as a core component around which the other components function. This would solidify the strategy and likely result in better coordination among the components and more strategic thinking in each commune and village.

There is also a need for more recyclage with communities where CARE already has worked. Instead of trying to continually expand coverage, it would be advantageous to provide more support to communes and villages that have already been trained. At the very least there should be some understanding of which communes and villages are doing well and which are not, and what can be done to support those that are weak. This may require more exchanges among communal and village leaders so that they learn more from each other instead of placing the burden on CARE.

There needs to be a shift from a regional focus to more of a Communal strategy. At the same time, there are advantages to putting a higher level of efforts in Communal Development Plans (Plan Communal de Développement) than in Fokotany Development Plans (Plan de Développement du Fokotany). CARE can then specifically build participation of marginalized groups at the communal level by involving interested Fokotany. It is, therefore, recommended that CARE stop developing PDFs and focus exclusively on PCDs. Continued attention should

be given to providing capacity building to Communal officials and citizens that are involved in developing these plans.

Finally, CARE should continue to assist Communes (and even Associations) to develop their capacity around land tenure issues. This could include policies and procedures for identifying and resolving land tenure issues, including a typology of land tenure issues that face individuals, households, Fokotanys and Communes.

Tomadi Component

Tomadi is the east coast DAP component addressing problems in environmental health and nutrition. Access to clean water and sanitary facilities remains limited in east coast communities, resulting in unsanitary living conditions and poor hygiene practices of its inhabitants. This results in unacceptably high incidences of preventable diseases such as malaria, and episodic bouts of diarrhea and other gastrointestinal problems. Overall productivity of households is diminished by these and other illnesses.

Implementation is centered on several principal axes: risk reduction in the transmission of diseases linked to water and unsanitary living conditions; development of the capacity of Associations and their members to manage water and sanitation infrastructure; and development of sales networks to make products available to households that will enable them to improve their environmental health. It is implemented in conjunction with Village Health Committees, each composed of diverse community members. The committees carry out problem analyses of the health situation in their communities, and then develop action plans to address the root causes of poor environmental health.

Tomadi also utilizes the services of community-based sales agents (CBSAs) in an organized sales network. These agents market hygiene and sanitation products such as impregnated bed nets, jerrycans and *sur eau*. They are established at the Fokotany level and supervised by a Communal leader. Agents are motivated through a profit sharing scheme where by they receive a fraction of the revenue generated by their sales.

In FY04 and FY05, Tomadi provided training to 72 village development committees in environmental health and participatory problem analysis. All but three of these committees went on to develop an environmental health action plans, and each of these plans is being carried out to different degrees throughout the project.

Together with 10 communities that began construction activities in the end of FY04, the project assisted communities in completing 41 infrastructure-related action plan elements – 20 school latrines, 16 hand pumps, 4 drainage / sewer systems, and 1 gravity-flow water system[4]. Tomadi used school latrines as a training tool to encourage the construction of household latrines, and evidence reviewed later suggests that this was an effective strategy. Infrastructure maintenance associations received starter-kits of molds and cement to construct and sell "sanplats," with a

[4] The figures are quoted directly from Annex A of the Application Format for Results Reports & Resource Request submitted to USAID October 2005.

goal of 100 percent household latrine coverage in all communities implementing environmental health action plans.

Development of water and sanitation infrastructure lags far behind in the number of person-days generated through food-for-work. In FY04 over 50,000 person days were planned but none were used. Some improvement was seen in FY05 when about 30 percent, or 20,600, of the planned 67,500 persons days were programmed. Delays in delivery of food commodities that resulted in underutilization of FFW elsewhere in the DAP were likewise responsible for the underutilization of FFW labor in water and sanitation infrastructure development.

CARE has had considerable success in establishing sales networks. In FY04, 29 such networks were established while only 10 were planned. In FY05, another 17 were established, bringing the total number of networks to 46. Likewise, in FY04 CARE trained and fielded 1,252 CBSAs. In FY05, another 556 agents were trained in the promotion of hygiene and sanitation products (Sur'Eau, safewater vessels, and insecticide-treated bed nets), bringing the total number of CBSAs to 1,808.

Interventions have resulted in some important behavioral shifts. There has been a slight reduction in the proportion of households using non-protected surface sources for their drinking water. There is now a slightly (but non-significant) higher percentage of households using non-protected wells or taps, and a slightly higher percent are (also not statistically significant) of households using protected sources of water. Households do not have as much control in determining the source of their water as they do in treating and protecting their water once it is in the household. Currently, about 80 percent of households claim to routinely purify their water, and this does not vary by whether CARE WATSAN activities are present or not. Boiling remains the most popular method of water purification. About 9 percent of households purifying water use *sur eau* as their primary means of water purification, and about 15 percent use *sur eau* as either a primary or secondary method. *Sur eau* use is highly correlated with availability, whether perceived or real.

Malaria is still a problem in rural Madagascar, and the promotion of bed nets as a protection against malaria has been encouraging. Ownership of bed nets has significantly increased, to the point where almost 97 percent of households surveyed own at least one bed net, and the average number of bed nets owned per household is two. On average, there is one bed net for every two persons in the project area. About 95 percent of children were reported to have slept under a bed net the night before the interview. This is nearly double the percentage that slept under a bed net during the baseline survey. In the baseline survey, only 12 percent of the bed nets used by children were impregnated, while in the mid-term survey 60 percent of bed nets used by children were impregnated.

The increased ownership and use of bed nets is supported by CARE internal data on bed net sales. In FY04 CARE had projected sales of 5,000 bed nets, but due to delays and supply shortages, no bed nets were sold during the first year of the project. However, in FY05 CARE data shows that almost 11,000 bed nets (204 percent of planned sales) were sold.

In sites visited during the mid-term survey that were part of the baseline survey, the proportion of households without a latrine fell from 42 percent to 26 percent. Likewise, households using a latrine with walls and a roof rose from 37 percent in the baseline to 62 percent by mid-term. In sites sampled in the mid-term that were not part of the baseline survey, only 15 percent of households had no access to a latrine and almost 70 percent were using latrines with walls and a roof. This represents a dramatic increase in latrine access by households, and should translate to improved health and hygiene practices by household members. Improvements in access to latrines may help reduce the risk for childhood illness and disease if children are using the facilities.

Tomadi is making good progress in promoting changes in household practices to improve environmental health, as evidenced by the significant changes since the baseline survey in bed net ownership and use, the modest use of *sur eau* despite supply chain difficulties, and the increasing use of jerry cans to store water in the house. Latrine use, a key element to good environmental health, has also increased significantly throughout the project area. Information collected prior to the mid-term evaluation, as well as quantitative data collected during household surveys, suggests that personal hygiene practices are also good. Tomadi mostly needs to keep on doing what it has done well, but may need to alter its implementation strategy to explore further issues in environmental health, such as the protection of water sources and the disposal of solid wastes.

The results of *sur eau* use are below CARE expectations. If there is no real cost benefit to the household of using *sur eau* (aside from fuel wood savings, which normally are not perceived by individual households as an internal savings), then it will be difficult to increase sales further. If it is truly a supply and demand issue,coupled with an understanding by households of how to use it properly, then *sur eau* sales may increase significantly. Assuming the supply of *sur eau* can be guaranteed, sales agents need to be well-trained in providing instructions. It may also be that promotion of *sur eau* through sales agents is not the most appropriate strategy. Given the margins on sales of bed nets and jerry cans, there may be motivational factors that impact the behavior of sales agents with respect to *sur eau*.

There is some strong evidence that community-based organizations are struggling to address local conflict (e.g., water management associations addressing problems with livestock grazers, fishing in canals, etc.). Given CARE's orientation to human rights, it would be highly appropriate for CARE to focus on conflict resolution as a means of strengthening local institutions. Conflict resolution can also be a factor that motivates individuals to participate in local institutions. There is also the potential for institutions to generate and manage revenues through the imposition of fines and penalties for inappropriate behaviors.

DAP activities should continue to encourage sound environmental health behaviors, but be aware that bed net ownership and use is already quite high and that water treatment is high as well. Opportunities to promote the sale of Palustop should continue, as it is evident that malaria remains a serious health issue even with the increased use of bed nets. CARE should also monitor water quality more closely at the household level to determine if there is an advantage in using jerry cans versus simple vessels with covers. Jerry cans represent a considerable

investment for the household, so their sale and use needs to be more closely linked to improvements in environmental health.

Maheri Component

The last component of the East Coast program, Maheri, addresses a number of related issues relating to health. It seeks improvements in nutrition-related behaviors achieved through the promotion of key child feeding practices known to be beneficial in reducing child nutrition. The current implementation strategy of Maheri is based on expanding the coverage of community health programs by intervening in areas not highly involved in any other health interventions offered by other NGOs or bilateral projects. It works directly with communities through community-based organizations to help increase peoples' awareness of relevant health problems facing them, and it also works with communities to find viable and sustainable solutions to the most pressing health problems related to maternal and child care.

Maheri has been considered a pilot activity. It began by adopting the Hearth/Positive Deviance model to promote community-based nutrition, and still uses elements of this model today. It altered its approach to center more around gardening and income generation (although more around gardening). In FY05, nutrition and health education components along with cooking demonstrations were conducted at garden sites during work breaks, rather than in separate education sessions as in FY04. Nutrition education sessions at food-for-work sites were also decreased in favor of education sessions with women's groups and gardening groups. Health education activities were restructured and integrated through the Champion Commune model in mid-2005. This resulted in better coordination of health activities (family planning, nutrition, environmental health, and community-based management of health promotion), but delayed the start of intensive family planning activities through community groups, Village Health Promoters, and Community-Based Sales Agents. The family planning activities are scheduled to be promoted more in FY06.

The obstacles encountered by the Maheri component are largely the result of trying to forge a meaningful health and nutrition component with limited resources and staff. With limited staff and resources CARE was a little overwhelmed in trying to pilot Maheri in FY04. The results of key indicators bear this out. Through the first two years of implementation, a total of 128 Village Health Promoters were to be trained, but as of the end of FY05 only 34 had been trained. Also, the number of participants attending nutrition education sessions was less than 20 percent of that planned. The project intends to make up ground by intensifying trainings in FY06. Likewise, training of VHPs and CBSAs in family planning promotion was delayed to coincide with the implementation of the Champion Commune model, and will be conducted in early FY06.

Despite the obstacles, there have been some changes as reflected by data on breastfeeding indicators: feeding colostrums, breastfeeding within one hour of birth, and exclusively breastfeeding. The proportion of mothers providing colostrums to their newborns had remained steady since the baseline at about 72 percent. There was also no difference in the proportion of mothers providing colostrums between sites where CARE nutrition activities are present versus sites where nutrition activities are not present.

There has been a significant increase in the proportion of mothers' breastfeeding within one hour. Baseline data showed that only about 20 percent of mothers were practicing this behavior. In the mid-term survey, almost half of mothers from the same survey sites as the baseline breastfed within one hour and about 40 percent from the other sites breastfed within one hour. Women in sites where CARE nutrition activities are present are much more likely to feed their babies breast milk within one hour than those where CARE nutrition activities are not present. The mean length of time between birthing and breastfeeding was 7.7 hours for mothers in sites where nutrition activities are present as opposed to 10.4 hours in sights where nutrition activities are not present.

CARE should continue to seek ways to consolidate local-level management of health care under the CCD. It is likely that in the near and mid-term, the State health care system will not function well in remote communities, so the more local communities and communes can do to analyze their own health status, and seek ways to improve the health of vulnerable people, especially newborns, infants and mothers, the better overall health will be. CARE should also explore promoting home gardens through other partners. In order to do so, they would need a portfolio of information that demonstrates the nutritional value of home gardens, their economic potential, how they can be promoted and managed, and what the gender implications are.

Key Findings for the Urban Program

Program Mahavita, in urban Antananarivo, is the longest running urban DAP component in Madagascar. It remains somewhat unique among CARE's. During its first phase it focused on building organizational structure and establishing a common vision and principles in thirty urban Fokotany of Antananarivo. Based on the lessons learned from DAP I, the current Mahavita expanded to 80 Fokotany in four Arrondissments (sub-Districts), focusing on increasing the capacity of urban municipalities to participate with communities in the planning and coordination of development activities. Through participation and appropriate delegation, communities are taking more ownership of their development and becoming empowered to take responsibility in improving their environment, thus increasing their level of resilience and their capacity to coordinate sustainable development activities and mobilize resources.

Each community has a committee referred to as Sehatra Fampandrosoanany Fokontany (SFF), made up of diverse members, but importantly it includes the Fokotany President. The SFF can also include formal Associations (such as the Structures du Developpement), informal groups (e.g., local interest groups), private sector bodies, and other actors. The SFF also interacts with the Arrondissement, the private sector (especially with respect to delivery of services such as water and solid waste collection), various associations, CARE and its partners, and others. The SFF is a negotiated structure, allowing communities flexibility in how it functions within their particular context. Since the SFF has the official endorsement of the CUA, it is envisioned that eventually each of the 192 Fokotany of Antananarivo will have an SFF.

SFF's have been established largely by CARE partners, with CARE providing guidance and oversight as well as training in specific areas of capacity building. Each SFF is free to establish sub-committees as it sees fit. Each SFF carries out an introspective diagnosis using problem

analysis and other methods to identify problems and opportunities in their community, as well as solutions on how to address the problems or capitalize on the opportunities. From this diagnosis a development plan is developed, the DFF.

Despite the relative success in establishing SFFs, awareness of them among community members is low. Overall, about one-in-four, or 25 percent, of community members are aware of the SFF. Of those that are aware of the SFF, slightly over half gained their awareness from general assemblies. Another 28 percent heard from others, about 6 percent learned from information panels, and about 4 percent from the actions taken by the SFF.

Being a member of an association is still rather new in Antananarivo. Overall about 20 percent of households have at least one such member. However, in those households classified as poor, fewer than 15 percent have such members. Association membership is significantly higher in richer households, where almost one-third have such members.

CARE has made significant progress in bringing higher-order government structures into the local planning and development process. The current DAP differs significantly from DAP I in that local sub-districts (Arondissements) and the Antananarivo Cummunal Government (Mayor's Office) are integrally involved in the program. The long-term future of SFFs seems much more certain than previous structures for this and other reasons. The SFFs are officially recognized by the Commune as representing the Fokotany. This would not have happened if CARE had not restructured the community organizations and brought Fokotany government into the fold.

Arrondissements are now linked closer to development plans and are aware of the needs of Fokotanys under their jurisdiction. However, there is not a clear understanding by the Delegues (sous-Mayors) of exactly what their role is under Mahavita. On the one hand, each senses that they are supposed to be part of the planning and development process, but they differ in how they interpret this and how much importance they give to the program. Some feel they are the "rubber stamp" for the DFF, to give blessing to the Fokotany development plans and wish them good luck in finding a source of funds.

In contrast, the understanding of what CARE is trying to accomplishment under the heading of *good governance* is very well understood. Most Delegues mention transparency, especially in financial management, as one of the keys to good governance. Broad-based participation is also mentioned often, and all identify the development of the SFF and DFF as important elements of governance. Accountability is also mentioned as a key element, but several pointed out that people have a responsibility to inform themselves by attending general assemblies and other meetings, but that many do not.

One of the most impressive aspects of Mahavita is its efficiency. With a very lean and experienced staff, CARE is able to guide the work of its partners while at the same time keeping aware of the pulse of the communities. While the loss of day-to-day contact with communities is evident, Mahavita staff are balancing needs with resources as well as this evaluator has ever seen.

Mahavita has a reliable group of partners through which it conducts most of the activity at the Fokotany level. There are two main issues that emerge when discussing Mahavita with partners. The first is their varied capacity. The differences among the relay partners in terms of capacity are large. This is creating a problem in that the quality of interaction they have with SFFs is also large, reflecting the capacity of the relay partner itself. The second issue is their ability to interact at the Arrondissement level, particularly with Delegues. Partners feel they are not seen as equal in status to CARE, and officials would rather interact with CARE and may not always understand or appreciate the role of the partner organizations.

CARE has facilitated the development of important community infrastructure, but no funds are provided through the DAP to build infrastructure. To date, all infrastructure development has been realized thanks to external funding. Many DFFs reflect the communities desires in environmental infrastructure improvements, such as canal cleaning and pathway constructions, but also include activities in beautification, community mobilization around health issues, and recreation facilities. Canal embankments and construction of pathways and "diguettes" has been the main focus of infrastructure improvement in DAP II. Approximately 32 kilometers of these pathways have been built, most of which are located in the low-lying floodplain of Antananarivo. In addition, approximately 725 meters of embankments have been constructed or improved, and 26 water collection points have been constructed or rehabilitated.

Urban Recommendations

In continuing to work with Fokotanys on situational analysis and planning, CARE and its relay partners should emphasize opportunity analysis more. The emphasis in DAP I and II has been on problem analysis, and this is appropriate. However, it will give SFF's a "fresh" look at their environment if they look from a perspective of opportunities. This may also help communities brainstorm about how to get community goals accomplished in light of difficulties in securing funding.

CARE should develop a private sector engagement strategy that explores a variety of means for engaging the private sector in supporting local communities. This effort could be initiated by first holding a series of half-day workshops with private sector representatives on how they can become involved. CARE has to create win-win scenarios so that the private sector is motivated to participate. Examples of how the private sector may participate include, but are certainly not limited to: creating advertising space for business sponsors (e.g., soap manufacturers at basins lavoirs or billboards at Fokotany entry points); Fokotany competitions sponsored by local companies (e.g.; clean Fokotany campaigns); donated items for construction and maintenance of local infrastructure.

As in DAP I, the sustainability of CARE's efforts is not guaranteed unless financing of DFFs becomes more secure. Therefore, CARE needs to explore and advocate on tax revenues to pass through the Arondissement and to be managed through the SFB.

CARE should extend the M&E system to ensure the capture of information about project/development activities implemented by the SFF/Fokotany's with their own initiative.

Information should include details of where Fokotany's are acquiring resources and how these resources were obtained.

IEC is an important component of the urban program. Currently there are only two staff positions. As a result the IEC component is poorly organized and lacks a clear plan of action. It has already been shown that community mobilization and IEC go hand-in-hand (e.g., petit boulevarde). Mahavita needs an IEC strategy for second half of DAP II to articulate the role of IEC in the program.[5] Often there is not enough support when FKTs have a training activity, especially for the new FKTs. CARE can provide information to leaders, and expect them to pass along IEC messages. Still, CARE needs to articulate a strategy for guaranteeing that these messages are correct, completed, etc. It may be better to integrate IEC with the training component. Internal training is also needed for CARE staff that conduct support activities.

A small grant program to SFFs for community-based activities would be a powerful way to test the competency of SFFs and provide a means to accomplish some of the goals in the DFF. The activity could: 1) provide experience in seeking funding; 2) generate competition among SFFs; 3) link the Arondissement closer to SFFs; and 4) create community-driven projects. Grants could be awarded by competition based on simple proposals developed by the SFF. This should be explored with USAID and other donors.

Fort Dauphin Urban Activities

CARE's governance program in Fort Dauphin, located on the extreme southern tip of Madagascar, is a pilot activity whose primary aim is to test governance interventions in a small urban setting. It builds on the successful Title II Urban Household Livelihood Security Program implemented in Antananarivo under the previous DAP, and includes interventions designed to improve community and personal empowerment, infrastructure, and health behaviors of the urban poor.[6] Activities in Fort Dauphin bring together public and private sectors to reinforce and strengthen civil society. By bringing various actors together, CARE is facilitating community actions to work in harmony and 'take-charge' of their development – promoting a community-driven development model in a smaller urban setting.

In the two Fokontany's where CARE has piloted its interventions, the associations[7] were responsible for the management of infrastructure. The evolution of community organization and participation closely followed the experiences from Antananarivo. The main difference in Fort Dauphin and Antananarivo may be the ease and speed at which decisions can be made in smaller communities. CARE is very visible in the community and has more immediate access to the Mayor and other Communal officials. This access is key to driving the process, and from this point forward it should be easy to scale up the pilot activities in Fort Dauphin.

[5] CARE is currently developing a community-based health project. The project will be implemented by local association and CBO's from the SFF in conjunction with the District Health Centers and will have a significant IEC componsnt.
[6] It is based on successes from the previous DAP and CARE Madagascar's TOUCH 2000 project, both funded by USAID.
[7] Called then "associations porteuses" (AVOTRA and SEVA).

A separate study was conducted for urban activities in Fort Dauphin, and the report is available through CARE Madagascar. Athough Fort Dauphin is a smaller community, it shares many of the same challenges that Mahavita faces in Antananarivo. With the surge of interest and economic activity in Fort Dauphin, there should be more opportunities for co-financing activities.

CARE MADAGASCAR TITLE II DEVELOPMENT ACTIVITY

I. Introduction

Title II Programming in Madagascar

CARE Madagascar's current Development Activity Program (DAP) began in October 2003 and is scheduled to be completed in 2008. It consists of three sub-programs implemented in three different geographical areas of Madagascar and in both urban and rural settings. The rural component, which utilizes the majority of DAP resources, is an integrated development program implemented in seven fivondronana in the Province of Toamasina on Madagascar's east coast. The urban components are implemented in the capital city of Antananarivo and in Fort Dauphin, one of Madagascar's major secondary cities of located on the extreme southern coast.

Both rural and urban components build upon past achievements realized in CARE Madagascar's first DAP which was implemented from 1997 to 2003. The first DAP focused on improving the livelihoods of poor households in 30 fokontany of Antananarivo. Its implementation strategy was based on participatory community development, and as such was one of the first projects in CARE that focused on promoting good governance in an urban setting. The first DAP also included a component, entitled CYPREP, that addressed cyclone preparedness at the community level in the rural province of Toamasina.

The urban component of the current DAP builds on elements of success started in the first DAP and applies the concepts of urban governance to secondary cities. The rural component greatly expands the efforts for integrated development in cyclone-prone areas of eastern Madgascar, and addresses key issues in local infrastructure development and maintenance, food security, and governance.

The DAP consists of four ***strategic objectives*** to address key behavioral and systemic constraints related to food availability, access and utilization. The objectives and expected results are as follows:

1) **To achieve sustainable improvements in the availability of food for poor households in selected Communes of Fianarantsoa and Toamasina Provinces.** This objective focuses on creating changes that will lead to increased production of food crops. The focus will be placed on smallholder households - providing technical assistance and training to promote sustainable farming practices, more productive and more diversified farming systems, and improved post-harvest management. Agricultural potential will be enhanced through the rehabilitation of small-scale irrigation and drainage systems as well as soil and water conservation infrastructure using food-for-work programs.

2) **Improved economic access to food for poor households engaged in infrastructure development.** This objective focuses on improving household access to a nutritious diet. In doing so, it builds on household-level agricultural production supported by SO1 by

promoting basic communication and marketing infrastructure such as farm-gate to market roads, footpaths, bridges and culverts and basic marketing information systems that will enable households to carry out marketing activities more efficiently. Food-for-work programs will be the main strategy used to build up this infrastructure.

3) **To achieve sustainable improvements in environmental health of rural households and communities by decreasing the incidence of water and sanitation-related disease in the intervention zone.** The implementation strategy is based on a two-pronged approach to achieving the project objective of reducing the incidence of disease associated with poor water and sanitation in rural households. CARE's focus will be on improving community management of water and sanitation resources and on building up key water and sanitation infrastructure. Improved hygiene, sanitation and nutrition practices will be enhanced and basic products that would enable people to improve the hygiene and sanitation of their household and community (point-of-use water treatment solution, safe water storage containers, latrine platforms and hand pumps) will be introduced and socially marketed through a system of established sale's networks.

4) **Strengthening urban governance at multiple levels to promote healthier living.** This objective builds on the successful Title II Urban Household Livelihood Security Program. It includes interventions designed to improve community and personal empowerment, infrastructure, and health behaviors of the urban poor[8]. The main thrusts of this objective are the reinforcing and strengthening of various actors (Municipal Government, urban neighborhoods, NGOs and community based organizations) in civil society to work in harmony and 'take-charge' of their development – promoting a community-driven development model.

DAP Rural Programming

Rural households in Madagascar face formidable challenges in meeting basic needs and in participating in a civil society structure that supports their livelihoods. Among the challenges are: a low level of education, poor access to quality health care services, insufficient infrastructure to encourage exchange and trade, and limited income-earning opportunities that could enable households to invest in their livelihoods and the future of their children.

A significant part of the current DAP is focused on the East Coast of Madagascar (Figure 1) where these conditions are amplified by frequent cyclones and heavy storms. These weather events impact agricultural production, health and infrastructure. Without investment in human capital and infrastructure, the livelihood situation reverts to a steady state system whereby the vast majority of the population ekes out a living without potential for gain. CARE is addressing many of the root causes of food insecurity in this region through interventions in agriculture, health, nutrition, governance and infrastructure. The program works in some of the more remote areas of the region, reaching out to households that often do not have access to even the most basic of services.

[8] It includes CARE Madagascar's TOUCH 2000 project, a CS project funded by USAID.

Intervention Zone

The East coast component of the DAP is implemented in six districts of the two regions of the province of Toamasina on the East cost of Madagascar (Table 1 and Figure 2).

Table 1: Regional distribution of activities on the East Coast under CARE DAP programming.

Régions	Districts	Beginning year of intervention in the community
Atsinanana	Mahanoro	2004
	Vatomandry	2004
	Antanambao Manampotsy	2005
Analanjirofo	Vavatenina	2004
	Fénérive Est	2004
	Soanierana Ivongo	2004

Intervention site selection and activity realization in the community began after the sessions of presentation of the program and projects to the provincial, regional and prefectorial level and the 'joint baseline survey' that took place during the last three months of the year 2003.

Figure 1: Overview of Geographical Focus of CARE's 2005-2008 DAP Programming on the East Coast of Madagascar

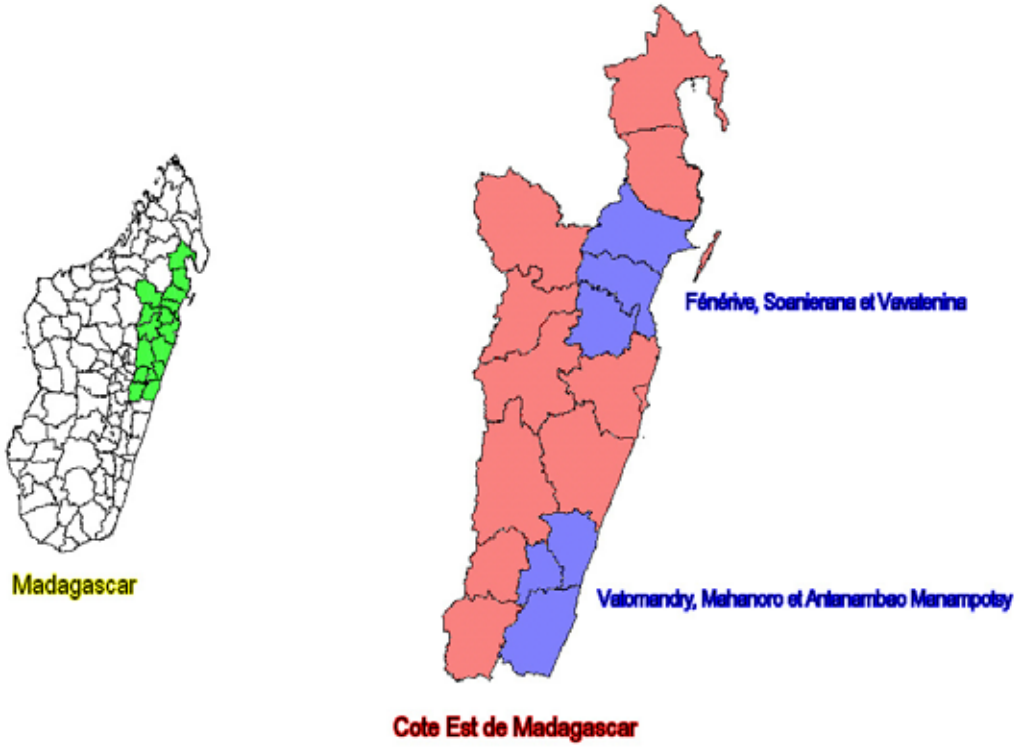
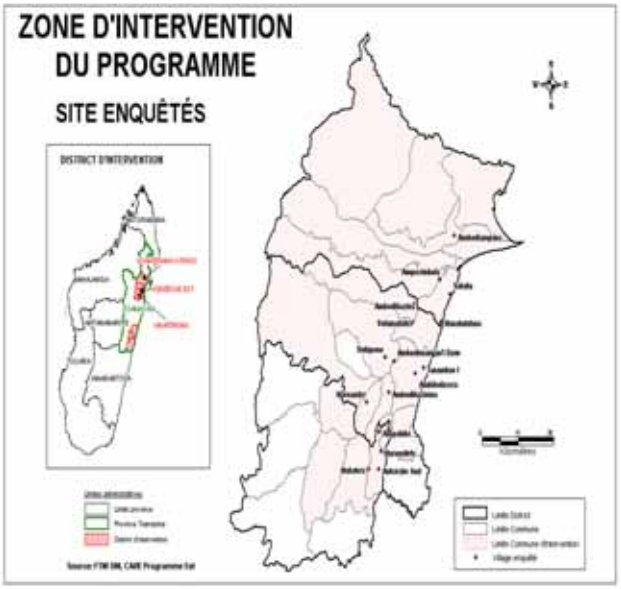
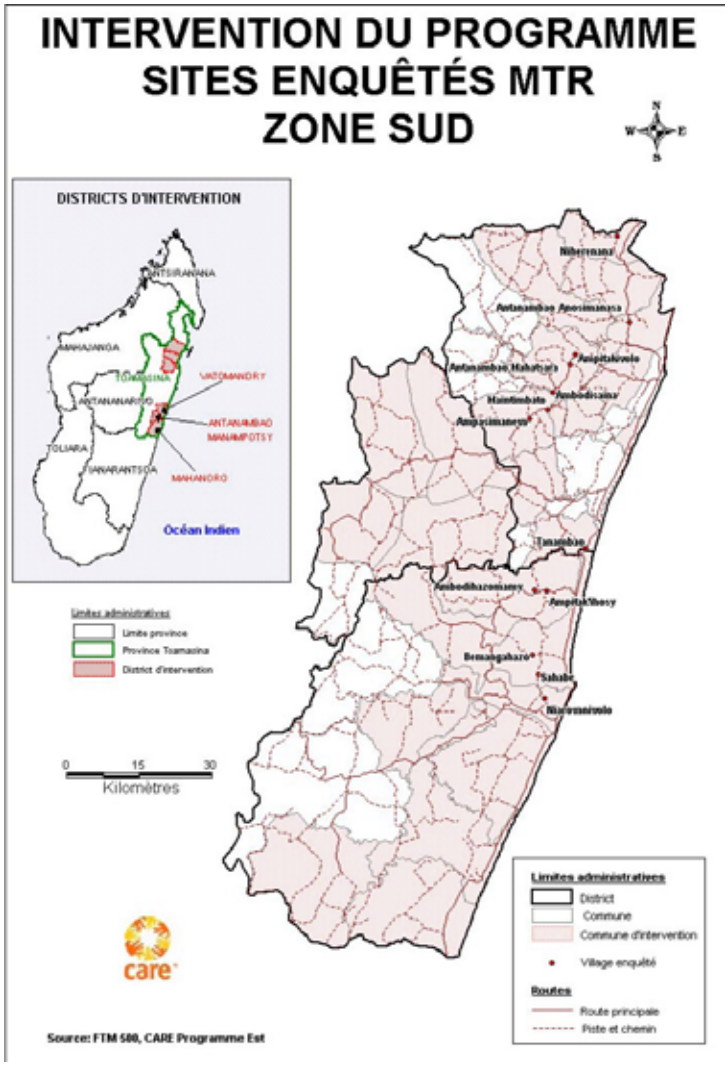


Figure 2: Maps of the CARE Title II Intervention Zones for Analanjirofo Programming





CARE focuses its east coast DAP activities in Fianarantsoa and Toamasina Provinces. These two provinces lie within the geographical area of interest, or ecological corridors, of USAID Madagascar. USAID supports a number of other activities in this area, including price dissemination and marketing, the promotion of producer and trader associations, primary health care, as well as enhancing agricultural production to promote food security. Through CARE and other NGOs, USAID also supports the strengthening of good governance and the use of civil society as a tool for social change.

The *Conseil National de Secours* (CNS), the government's agency for monitoring and coordinating natural disasters, rank Fianarantsoa and Toamasina Provinces as having a high level of vulnerability (food and nutritional insecurity) and high exposure to hazards (cyclones,

flooding, drought and epidemics). Despite these constraints, both Provinces are blessed with good soils and abundant rainfall, and land is not the limiting factor to agricultural production as it is in other areas. Using Title II resources, there is a real chance of achieving significant impact with simple agricultural and health interventions. This evaluation studies and documents the progress CARE has made to date on improving rural livelihoods, promoting governance, and enhancing the well-being of rural families. It provides recommendations on what changes in programming may improve overall results, and charts a course for the remainder of the project.

Table 2 provides an overview of the themes that CARE is carrying out under its Title II programming on the East coast. As is evident, the Title II programming addresses a large number of the constraints, including agricultural production, water management, infrastructure development and maintenance, governance, environmental health and nutrition. The program is managed under five components, each with a manager and technical staff.

Table 2: Sub-components included in the DAP East Program.

Component Name	Themes	Component Objectives (based on component logframe)
Mifamonjy	Agriculture and Water Management, Gardening and Marketing	• Households living in 160 communities are able to sustainably manage irrigation and drainage systems • Smallholder households are using new technical knowledge to increase their food production • Increased marketing opportunities for agricultural products
Lôva	Road and Path Rehabilitation	• Improve the capacity of communities to manage roads, paths and other infrastructure in a sustainable manner • Improve the transport of goods and people utilizing riverian systems along the Pangalanes Canal between Toamasina and Vatomandry • Plaidoyer en faveur de la reconnaissance officielle des systèmes de gestion et d'entretien des infrastructures
Fandriaka	Governance and Advocacy	• Les communes et les Fokontany sont aptes à coordonner les initiatives de développement • Amélioration de la crédibilité des structures et responsables communaux • Amélioration de la capacité des SDC et SDV à mettre en œuvre les plans de développement • Prise de responsabilités des décideurs concernés en faveur du développement local
Tomadi	Environmental Health (some activities supported by the Global Fund)	• Améliorer la capacité de la communauté à gérer les ressources en santé environnementale • Améliorer les comportements et les pratiques en matière d'hygiène, d'assainissement et de lutte contre le paludisme au sein des ménages ruraux • Améliorer l'accès de ménages aux produits liés à l'eau, à l'assainissement et au paludisme • Obtenir l'appui des institutions clés et les autres acteurs oeuvrant dans le même domaine que TOMADI
Maheri	Family Planning and Nutrition	• Amélioration de la pratique des mères en matières de nutrition dans les zones d'intervention • Augmentation nombre ménage pratiquant Planning Familial dans les sites d'intervention

DAP Urban Programming

Households in Madagascar's urban neighborhoods face critical food and livelihood security problems experienced in many of the world's poorest urban environments. Among the challenges households face are: a changing and often unstable economic climate, rapid population growth, inefficient and poorly functioning municipal services, and intense competition for limited income-generating opportunities. The urban poor have aspirations like any other household – they want to send their children to school, live in a comfortable home, eat preferred foods, and maintain good health. All of these aspirations present challenges to the majority of Antananarivo's urban poor as they try to achieve stable food and livelihood security.

Strong linkages have been made between good governance and livelihood security.
CARE Madagascar is continuing urban governance work started under previous Title II funding to address food security problems in Antananarivo and Fort Dauphin.

II. Objectives of the Evaluation

This midterm evaluation is a quantitative and qualitative-based study aimed at gaining a fundamental understanding of how CARE's Title II DAP is being implemented, how its implementation track will result in changes that the project is attempting to bring about on household and institutional participants, and what changes, if any, could improve its performance during the remaining implementation period. The evaluation, conducted at the mid-point of implementation, also provides insight into why certain goals and objectives are more likely or less likely to be accomplished.

The specific objectives of the mid-term evaluation are to:

- Collect and analyze qualitative and quantitative data that measures changes occurring at the level of the household and community, and that explores changes in livelihood security in the program areas of intervention;
- Provide a determination about the likelihood that the project will achieve its targets and objectives by the end of 2008;
- Analyze the strengths and weaknesses of the program, especially with respect to implementation strategy and the level of effort received by various components in the field;
- Identify promising strategies and adjust existing program strategies accordingly;
- Analyze the sustainability of current activities in order to identify adequate exit strategies for 2008;
- Make available new data required to complete the indicators in the rural Program's logframe; and
- Identify, if any, unexpected results of the activities, either profitable or harmful.

Critical Issues and Questions

To determine if the above objectives were met, the evaluation focused on several key issues and questions. Each evaluator was tasked with exploring these issues and questions as part of their overall scope of work.

Rural component

- Are different interventions (Mifamonjy, Löva, Tomadi, Mahery, Fandriaka) complementary in the field? (integration).
- Are results of each component sufficient?
- How are strategies adjusted to different target communities from the North and South and in the coastal and mountain areas of the Toamasina Province.
- How does the rural program contribute to and complement other existing governmental programs.

Urban component

- Is the governance mechanism established by the Mahavita Program appropriate to the local context and satisfactory to both communities and the CUA?
- To what extent is the mechanism spread out through the community at the time of the evaluation?
- How efficient is the scaling up methodology set up by the Program through partners and local structures?
- Is the promotion of good governance an effective vehicle to increase water and sanitation condition in the urban areas?
- What is the capacity of local structures and communities to carry out activities by themselves?
- Is the M&E system of the program developed enough to ensure effective monitoring and evaluation?

III. Evaluation Methodology

This DAP mid-term evaluation employs a multi-method, iterative approach to assessment. Starting with the scope of work, the evaluation team addressed each component of the project and the pyramid of stakeholders for each component. First, the team consulted the abundant DAP-related reports and documents produced by CARE and other organizations in order to frame the relevant issues. A non-formal presentation by each component coordinator (for East coast interventions) and other staff provided both crucial background information and their respective expectations from the evaluation. The objectives stated in the Scope of Work were distilled into a set of critical questions (Appendix A), and interview topic outlines were prepared for the fieldwork phase. The fieldwork activities applied a range of qualitative tools including key informant interviews, focus group discussions, large group discussions, process analysis, and several PRA techniques. At the end of each visit to the field offices, a “restitution” meeting was held with CARE staff to explain the preliminary findings and to elicit early feedback.

Primary data was largely collected by CARE staff prior to the start of the evaluation. This included rural and urban household surveys that provided quantitative data for key indicators being tracked by the project. All data collection activities and data input were managed by the Monitoring and Evaluation Unit of the DAP. The analysis and interpretation of the results was largely under the control of external evaluators, although much assistance was provided by CARE staff during cleaning and analysis.

The evaluation also included the collection of a large amount of qualitative data, using participatory approaches that included group discussions, key informant interviews, and focus group discussions. Some of the qualitative data was collected by CARE staff prior to the onset of the evaluation. However, during the evaluation external evaluators also collected a considerable amount of qualitative data using the same methods highlighted above.

III.A. Review and Analysis of Key Documents

The evaluation was aided by several key documents compiled by staff from CARE-Madagascar, including:

- The Title II FY04-08 DAP for CARE Madagascar DAP;
- Annual results reports from FY99 – FY2002;
- The DAP project Design document;
- DAP 2000-2004 final evaluation (for the urban components);
- Joint baseline survey implemented by FANTA (Jan 2003); and
- FY 04 and FY 05 results reports by component.

The evaluation team also reviewed several key project documents in the Tamatave and Fort Dauphin field offices as well as in Antananarivo at headquarters and the Mahavita project office. These included miscellaneous project documents, PITs, case study reports, and various progress and trip reports.

III.B. Key Informant and Focus Group Interviews

In order to accumulate multiple perspectives, team members conducted key informant interviews with a wide variety of stakeholders involved in the DAP, including:

- CARE Madagascar program staff and management;
- Users of rural roads and pathways;
- Water User Association members;
- Farmers and laborers;
- Arrondissements Delegues;
- SFF members;
- SFB members; and
- Association members.

III.C. Primary Data Collection in the Field

The most substantial and essential data for the final evaluation was collected from household surveys, key informant interviews, group discussion, and during project visits to the field. For Mahavita, these visits were targeted to urban residents, members of SFFs, and Fokotany leaders. It was not possible to visit each Fokotany, but time did allow a significant number and range of sites to be visited, and included areas where both social and physical changes were being made and where current activities are taking place. In urban Antananarivo, CARE conducted a household survey of 460 individuals to elicit information on the degree to which people participated in the development of their communities and their knowledge of community-based organizations. It conducted a similar survey in urban Fort Dauphin where it interviewed a total of 490 households.

For the rural component, a baseline survey was conducted in December 2003. Results of this population-based survey were available for comparison of like indicators. For the mid-term survey, multiple factors were used to determine the sample size: the number of measurement units in the population; the initial values of key indicators; the desired magnitude of detectable change; the degree of confidence desired at which change between the baseline and mid-term surveys could be detected; and the degree of certainty that a real change is detected.

The basic equation used for determining sample size was:

$$n = D\,[(Z\alpha + Z\beta)^2 * (P1\,(1-P1) + P2\,(1-P2) / (P2 - P1)^2]$$

where:

n is the size of the sample;

D the design effect;

Zα the degree of confidence in relation to the chance;

Zß the degree of confidence in relation to the change with certainty;

P1 the percentage of the children less than -2 standard deviations from the mean for stunting; and

P2 the percentage of the expected the percentage of the children less than -2 standard deviations from the mean for stunting

The survey wanted to be able to detect a change of 20 points in the proportion of children stunted. At the time of the investigation, 40 percent of children under 5 years of age had for age a standard deviation of (-2) (P1 = 40% and P2 = 20%). While using a level of significance of 95% (α) and a power of 80% (ß), the values of Zα = 1,645 and Zß = 0,840 were chosen and we get the result 124 children. To obtain these 124 children by random drawing of the households, the rate of non response (10%) and the sampling by cluster, it is necessary to investigate 28 villages with 26 households each (728 households)

III.D. CARE Staff and Counterpart Participation in the Evaluation Process

CARE staff contributed significantly to the evaluation, and did so in an open and transparent manner. Staff in Toamasina made themselves available to group discussions, helped to organize and clean survey data, assisted in the collection of qualitative data, and accompanied consultants on field trips. Staff also participated in discussions of preliminary results and had the opportunity to contribute their own observations, questions and comments.

Much the same process was followed for the urban component. CARE and relay partner staff accompanied evaluation consultants, designed and collected household survey data, prepared interviews and schedules, and participated in open discussions on the status of urban activities and the progress that various initiatives have made.

IV. Evaluation Findings

IV.A East Coast Program

CARE Madagascar's approved MYAP 2004-2008 DAP has four strategic objectives, three of which are implemented in the rural province of Toamasina on the east coast. The east coast program of the DAP focuses on addressing root causes of food insecurity in remote Communes. Table 3 provides a brief overview of the themes addressed in the DAP.

Food security is a serious problem throughout Madagascar, and the east coast, despite its rich soils and abundant rainfall, is not spared this problem. Multiple studies have shown the dimensions of food security problems in Madagascar. A SEECALINE study suggested that upwards of 67 percent of Malagasy people did not meet minimum food energy needs. Other studies have shown similar results. Food security challenges stem from a number of dimensions. *Food availability* is problematic because sufficient quantities of food are not consistently available to all households in the east coast region. Domestic production is often insufficient due to low yields, partial or total destruction of crops due to natural factors (flooding, drought, high winds) and non-natural causes (trampling by cattle, etc.). Commercial imports rarely reach remote communities and when they are available prices make them beyond the means of most rural households. Food assistance is an important factor of food availability, especially after a disaster strikes. The poor state of infrastructure impedes movement of food goods within the region and limits the capacity of the region as a whole to take comparative advantage of growing crops in ideal locations and then trading these commodities within the region.

Food access is also a problem in the east coast, as few households have adequate income-generating opportunities to purchase sufficient food supplements. The quality of the diet suffers due to problems of food access, and general health of the population is impacted by inadequate access to essential nutrients at all times. Infrastructure also impacts food access, making commodities more expensive than they could be otherwise.

Food utilization is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation. Effective food utilization depends in large measure on knowledge within the household of food storage and processing techniques, and on basic principles of nutrition, child care and illness management.

Table 3: Components of the East coast program under the CARE 2004-08 DAP.

Component Title	Themes	Strategic Objectives Addressed	Aspects of the Strategic Objectives Addressed by the Component
Mifamonjy	Agriculture and Water Management, Gardening and Marketing	**Strategic Objectives 1 and 2**	*- Communities sustainably manage water resources for increasing agricultural production* *- Smallholder households are using new technical knowledge to increase their food production* *- Increased marketing opportunities for agricultural products* *- Increased use of agricultural information systems by farm households* *- Increased use of agricultural information systems by farm households*
Lôva	Road and Path Rehabilitation	**Strategic Objective 2**	*- Rehabilitation of transportation infrastructure* *- Poor households participate in Food-for-Work activities*
Fandriaka	Governance and Advocacy	**Strategic Objective 2**	*- Reinforcement of regional and local capacity in infrastructure planning, selection, rehabilitation and management*
Tomadi	Environmental Health (some activities supported by the Global Fund)	**Strategic Objective 3**	*- Improved community management of water and sanitation resources* *- Increased use of hygiene and sanitation-related products by rural households*
Maheri	Family Planning and Nutrition	**Strategic Objective 3**	*- Improved hygiene, sanitation, nutrition and family planning practices in rural households*

IV.A.1 Component 1: Mifamonjy (Agriculture)

Mifamonjy Overview

The Mifamonjy component of the DAP addresses basic food security problems in 25 communes and seven préfectures, with respect to a number of key constraints. This component contributes directly to the first strategic objective, which is to achieve sustainable improvements in the availability of food for poor households in selected communes of Fianarantsoa and Toamasina Provinces. It focuses on creating changes that will lead to increased production of food crops in villages throughout the two Provinces. The focus is on smallholder households - providing technical assistance and training to promote sustainable farming practices, more productive and diversified farming systems, and improved post-harvest management. Agricultural potential is

also being enhanced through the rehabilitation of small-scale irrigation and drainage systems, in some cases using food-for-work programs to open up significant hectarage of land not previously under cultivation. These activities aim to increase sustainable yields, thus contributing to improvements in the availability of food for poor rural households, both now and in the future. There are several planned behavioral and systemic changes included in this objective, primarily the effective management of water resources by local farmers organized into water user associations, and smallholders adopting more efficient and productive means of cropping.

First, Mifamonjy assists communities in improving the management of water resources to increase agricultural production. This takes the form of rehabilitation of small dams and primary/secondary canals in predominantly rich bottom lands where rice production prevails. Second, it opens up new land for rice production using intensive labor via food-for-work. Third, the DAP promotes key behavioral changes in cropping systems through direct training of farmers and indirect dissemination of knowledge via lead farmers. Fourth, new or improved marketing opportunities for agricultural products are being explored in order to get more products to market and higher returns to farmers through information and negotiation.

Mifamonjy Performance to Date

CARE is working in a fairly large number of communities (20 communes in 2005 alone). The consequences of this are important – it results in a high number of beneficiaries; wide exposure to CARE assistance and philosophy; ability to capture areas that have high potential and rapid payoff. At the same time, there is perhaps not enough nurturing time in each location, and technical assistance becomes spread too thin and contact with each farmer or households becomes less frequent. In the absence of a functioning Malagasy extension service, contact with farmers by CARE staff is important, especially when trying to introduce new cropping behaviors and other changes to support systems.

Table 4 provides data on progress to date against objectively verifiable indicators. In general, CARE has made considerable progress in meeting the majority of its objectives. A few activities are below target. For example, the number of dams rehabilitated is slightly behind target but is likely to catch up in 2006. Many of the delays have been beyond the control of CARE, especially with respect to the delivery of food commodities for payment in food-for-work activities. It is evident that CARE staff are very dedicated to the program and are doing a remarkable job in implementation. Staff work many hours and often on weekends to ensure that activities are being completed and quality is high.

Agricultural Infrastructure Rehabilitation

Agricultural infrastructure rehabilitation on perimeters where the DAP is active is a key activity of Mifamanjy. This intervention is aimed at improving water management, opening up new land for cultivation (primarily as paddy rice), and increasing productivity on irrigated and non-irrigated fields. Six complementary activities form the basis for the rehabilitation.

First is the rehabilitation of small dams. In FY04, the first year of the DAP, 24 dams were planned for rehabilitation, but none were completed, primarily due to problems with

commodities prohibiting the use of food-for-work as a means to provide labor for rehabilitation. Then in FY05, real progress was made with 44 small dams on 21 perimeters. Of these 44 dams, 13 are still in process, 18 have been completed but not officially signed off on, and another 13 have been officially completed[9]. Plans are in place to accelerate small dam rehabilitation in the remainder of 2006 and then continue as planned in 2007 and 2008. It will be more challenging in FY07 and FY08 to find suitable sites for irrigation rehabilitation and agricultural expansion because many of the larger and more obvious sites have already been rehabilitated.

Next is the rehabilitation of irrigation canals using food-for-work. This component started in July of 2004, again late due to commodity problems. Initially CARE was able to complete studies on which perimeters to rehabilitate and how to prioritize their work. Table 4 shows that a total of 235 kilometers of irrigation and drainage canals were rehabilitated in 23 perimeters in FY04 and an additional 27 in FY05. Canal rehabilitation was halted in January 2005 and restarted in late July 2005, pushing almost 60 percent of scheduled FFW for FY05 into early FY06. Nevertheless, the project intends to complete all planned FY05 infrastructure rehabilitation by February 2006, just prior to the scheduled start of FFW for the first FY06 Call Forward in April 2006, permitting the project to return to targeted output levels in FY06.

Table 4: FY04/05 results for the agricultural component of the East coast DAP program.

Results	**FY04 Planned**	**FY04 Achieved**	**FY05 Planned**	**FY05 Achieved**	**Total**
Infrastructure Component					
Small dams rehabilitated	24	0	40	44	44
Kilometers of canal rehabilitated w/ FFW	126	119	210	117	235
Hectares of watershed protected	0	0	140	2	2
Number of water management committees formed	24	24	40	68	92
Maintenance plans completed	0	0	24	29	29
Hectares of "new" irrigated rice	1,680	2,033	2,800	680	2,713
Cropping Systems Improvement					
Lead farmers trained in rice techniques	450	419	750	631	1,050
Farmers benefiting from one or more trainings (%)					
Improved home gardens established	225	342	375	1,252	1,594
Marketing/Commercialization					
Marketing workshops completed	5	0	5	10	10
Producer organizations formed	24	22	40	27	
Information boards completed	24	0	40		
Information technicians trained	48		80		
Number of information networks established	5	0	5	5	5

Work on new perimeters resulted in officially opening up 2,713 hectares of paddy land. This "new" land has been created by both extending existing irrigation infrastructure and by installing drainage systems to evacuate inundated areas. This is a significant amount of land, much of which can yield two crops per year due to improved water management. The actual amount of

[9] Most of the official signing off on infrastructure is largely out of CARE's control and is a formality of the Government.

land made available for cropping is likely even higher, since creating the new perimeters improves water flow and can drain downstream land that was previously too inundated for rice cropping (these lands, however, are not included in the calculations). Even at modest yield levels of 1.2 tonnes of paddy per hectare, the new perimeters would account for an additional 6,500 tonnes of rice in the region.

While opening up perimeters has had a positive benefit overall, it has made several land tenure issues rise to the surface. Many of these areas, despite their poor drainage and water management conditions, were cropped previous to being improved. Many of those cropping these lands were not the land owners, but since the land was in such poor condition for cultivation there were few disputes. Once the land has been rehabilitated its value obviously increases, and in some instances the rightful landowner appears to claim the land. This type of situation brings out the value of CARE working on multiple fronts, and the governance component of the project can address the rights/tenure issues while the agricultural component goes forward with its agenda.

To support infrastructure development, 92 water management committees have been formed. While it is difficult to assess the status of these committees, CARE is working with them in to develop their capacity to manage water resources, and in the remaining years of the DAP CARE should be able to monitor the activities of these committees to strengthen them further. About 25 percent of the committees have completed maintenance plans and others are in progress. These plans are critical for continual functioning of rehabilitated infrastructure.

Table 5 provides results for the amount of labor used in rehabilitation. Almost 18,000 persons participated in food-for-work activities in FY04 mainly on canal rehabilitation, with over 7,500 (43 percent of the total) used in Soanierana. In FY05, total use of FFW labor rose to 59,000 person days of labor, again with Soanierana having the most activity and comprising almost 40 percent of all FFW labor. To date, almost 77,000 person days of labor have been utilized, representing a total of 1,069,875 person days, for an average of 14 days per person[10]. The total amount of rice distributed through FFW has been just over 1,000 metric tons, while over 630,000 kilograms of beans and 700,000 liters of oil have been provided. Almost 59,000 individuals have participated, representing a very significant input into the food security of households providing their labor.

[10] In terms of providing for household food security, it is doubtful that 14 person-days of labor would be very meaningful. However, it is common for several members of a household to participate in FFW activities, usually at different time periods. For the landless and poorer households, it is highly likely that participation in FFW is contributing to household food security, although no nutritional outcome data is available to demonstrate this.

Table 5: Food-for-work beneficiary levels during the first two years of the DAP.

Project Year	District				Total
	Mahanoro	Vatomandry	Fénérive	Soanierana	
FY 04					
Number Participating	2,680	1,965	5,536	7,680	17,861
% of Total	15	11	31	43	100
FY 05					
Number Participating	11,798	12,978	11,208	23,005	58,989
% of Total	20	22	19	39	100
Total	14,478	14,943	16,744	30,685	76,850
Mean %	18	16	25	41	100

Watershed Protection

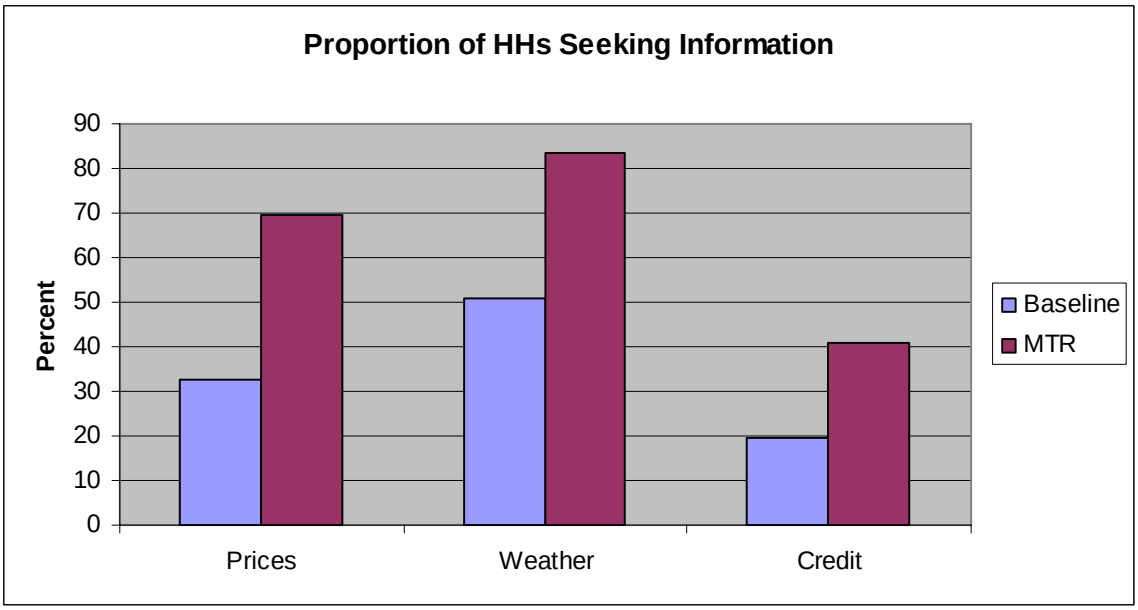
The DAP design calls for significant protection of watersheds through reforestation of fragile slopes. In FY05 a total of 140 hectares were to be rehabilitated, but only two hectares were completed. CARE did, however, manage to complete several studies on slope protection and documents related to the technical aspects of this activity. Information has been collected on the number of hectares feasible for protection, appropriate species for planting, how the work can be organized, etc. Plans are to focus more on this activity in FY06 and FY07, and it is planned to engage several Peace Corps Volunteers to work specifically on this topic.

Agricultural Information

In FY05, 119 new information officers were identified and trained to serve as relay points for market information to their communities. All are members of the producers associations described above. A total of 24 information panels were installed in target communities, where information officers post price data obtained from CARE staff and partner organizations (CARE obtained info from BAMEX, ERI, and CTHT. PPRR also used the boards to post market information). Information about upcoming trainings and regional expos with Buyers was also posted to encourage the participation of emerging Producers Associations in training provided partner organizations (ERI, CRS, or PPRR). Plans to intensify the dissemination of market information through local radio stations were scaled back due to lack of resources. CARE hopes to work more closely with other organizations promoting access to market information to more closely link Producers Associations and local communities with existing media sources of market info, such as radio broadcasts and info sheets.

The proportion of households receiving various sources of information have risen significantly over the baseline values gathered in 2004, when 33 percent of households reported obtaining price information, 51 percent reported obtaining weather information, and only 20 percent reported obtaining information on credit (Figure 3). Sources of information have remained relatively stable between the baseline and mid-term surveys, with radios, friends and merchants being the prime sources.

Figure 3: Baseline and mid-term comparisons of the proportion of households receiving information on prices, weather and credit.



All differences are significant at the p <.001 level.

As would be expected, frequency of information obtainment is linked to the type of information itself. Households are more likely to access weather information daily than information on prices, for example. Also, those households that access weather data are more likely to also access price and credit information as well. Credit information is most often sought on an "as needed" basis. A significant majority of those seeking weather and price information claim that the information is used, while only about 40 percent of those that seek credit information claim that the information is of use. These proportions have changed little since the baseline.

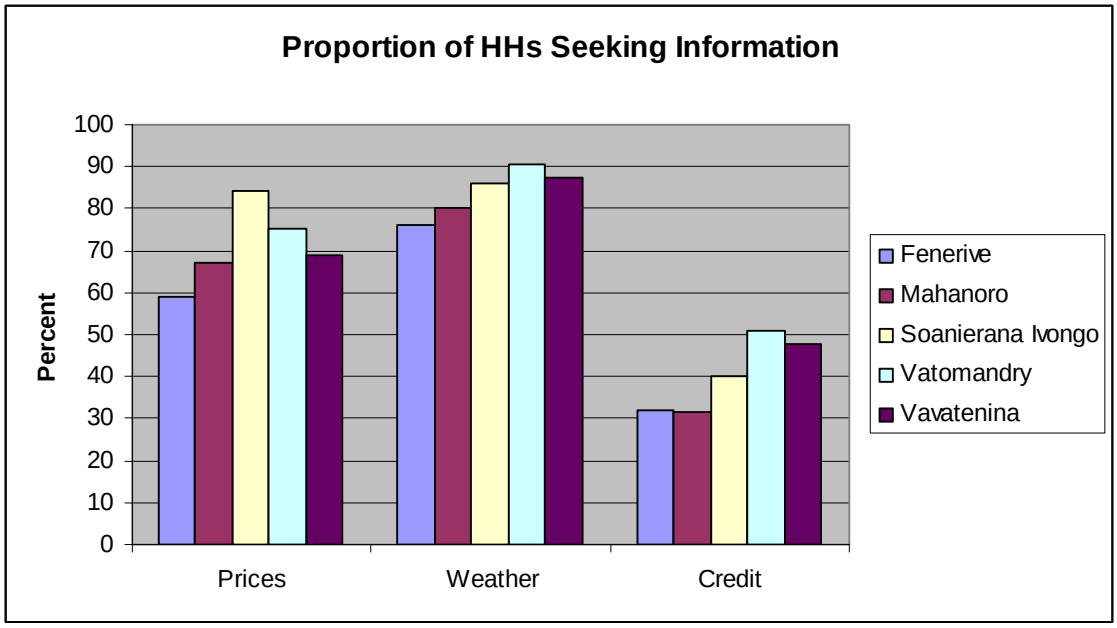
Table 6: Receipt and use of agricultural information.

	Price Information	Weather	Credit Information
% Receiving	69.4	83.4	40.3
Source (%)			
Primary	37.8 (radio)	76.9 (radio)	51.5 (radio)
Secondary	31.1 (friends)	18.1 (friends)	24.4 (friends)
Tertiary	19.9 (merchant/shop)	2.3 (merchant/shop)	6.3 (credit org.)
Frequency			
Daily	29.8	36.8	6.1
Weekly	14.8	8.9	3.0
Monthly	10.1	5.5	9.8
Other (as needed)	45.3	48.8	81.1
% Using What Received	86.6	95.7	41.0

Radio is the most important source of information, accounting for the source for weather information in almost 77 percent of cases (Table 6). It is also important for price information, but accounts for the source for slightly less than 38 percent of households. Friends and relatives are almost as important as the radio in disseminating price information, and about one-fifth of those receiving price information report they receive it from merchants.

Figure 4 provides a view of the proportion of households seeking price, weather and credit information by District. There are significant differences in the proportion of households seeking various types of information by District. Fenerive ranks last among the five Districts in each category of information, suggesting that there are factors at work that either make information less available or make it more difficult to access.

Figure 4: Proportion of Households Seeking Information, by District.



It appears that CARE's efforts in promoting the dissemination and use of agricultural information accounts for the changes in behavior cited above. To date, CARE has trained 118 information officers. These volunteers are village-based and provide several services. One important service is to regularly maintain and update the information panels that are erected in strategic village locations. However, there are only 24 information panels out of 64 planned. So it seems as though the presence of the information officers is as important if not more important than the information panels. These information officers talk to others in the village, verbally passing along information on market prices, weather and credit. More talk of information may also be prompting more farmers to listen to radio messages.

Marketing

In FY05, following somewhat slow progress in FY04, the project revised and intensified the approach used to promote the marketing of cash crops by Producers Associations. With the help of a local consultant, and through partnerships with BAMEX and CTHT, project staff retooled and focused activities to better cultivate a 'sales' and 'promoter' mentality in project staff and Producers Associations. Project staff were encouraged to avoid strict activity planning and to focus efforts flexibly and creatively on assisting Producers Associations and Buyers to achieve a series of benchmark goals (leading to contract signing and fulfillment) as rapidly as possible. Staff were also encouraged to adopt a 'time is money' approach to organizing encounters with and between Producers Associations and buyers. This involved pre-encounter coaching to ensure that participants came to 'expos' prepared to present their offers (either of products or as purchasers) rapidly and clearly, and were prepared to negotiate contracts or other preliminary agreements on-the-spot. The project also focused on identifying key barriers to trust between Producers Associations and buyers, and developing creative and flexible strategies to overcome them. The investment in redesign appears to have paid off, as FY05 results showed a marked improvement, with significant momentum building into FY06.

A total of 70 new Producers Associations emerged in FY05, of which 38 received intensive training on all four key skills, 18 received training on 3 skills, and 4 received training on 1 or 2 skills. Forty-eight associations developed a basic business and activity plan, 35 completed development of internal statutes and administrative paperwork leading to formal legal status, and 14 were accorded official recognition by the end of September 2004. In addition, 28 new Producers Associations formed spontaneously in neighboring villages, and came to trainings and workshop/expos with Buyers. The project has developed a wait list of new associations requesting training, and is looking to expand partnerships with other actors to fulfill the unmet demand. A total of 8 workshops / expos were held in Mahanoro, Vatomandry, Fénérive Est, and Soanierana-Ivongo and were attended by 97 Buyers. As of September 30, these expos had resulted in 16 formal contracts signed between Producers Associations and Buyers, 59 memorandums of understandings signed (agreement to meet at a later date to sign a formal contract), 38 memorandums of understanding drafted (some details remain to be worked out between the parties in subsequent meetings), and 9 verbal agreements concluded. These agreements covered four products – litchis, cloves, vanilla, and rice. A series of workshops for producers / buyers of bananas, pineapples and other fruit for national markets is scheduled for early FY06.

Training

Training is a key component that catalyzes behavioral change in cropping systems, allowing farmers to acquire new skills and management strategies for improving their rice and other crop production. Much of CARE Madagascar's East Coast program hinges on training farmers in new agricultural techniques. It relies principally on two models for this. The first is direct training activities whereby a CARE agricultural specialist conducts field-based trainings to a group of farmers. This is highly effective in that the message CARE wants to disseminate can be

controlled by the specialist, and immediate feedback can be gained by observing how farmers are taking in the information and by responding to their questions and observations.

The other model CARE is using is that of Lead Farmers. Communities nominate one or more farmers to participate in intensive training on a range of agricultural practices. These farmers then apply these new practices in their fields. They are then encouraged to train their fellow farmers and to use their field as a classroom and demonstration plot. This has worked reasonably well but is not without its challenges. First, given the number of Lead Farmers trained each year it is difficult for CARE to follow up on their abilities to train fellow farmers. For example, by the end of FY2005 a total of 1,050 lead farmers had been trained in at least one of the five planned modules. With 16 CARE agricultural staff, Lead Farmers cannot be visited many times per year, and even when they are the visit may or may not correspond to an important point in the growing season. Second, it is difficult to anticipate how well a Lead Farmer can a) apply what has been learned in trainings to his/her field and b) how well they can disseminate information to other farmers. Several factors determine the potential impact a Lead Farmer may have, including their stature in the community, their ability to communicate effectively with fellow farmers, and their success in applying in their own fields what they have learned in the training sessions.

Table 7: Knowledge and practices associated with paddy rice cropping techniques for all CARE areas.

Rice Cropping Technique	N	Current Knowledge (spontaneous)	Current Knowledge (including prompted)	Have Experience in Applying	Currently Used	Knowledge to Use Ratio (Column6/ Column4)
Seedbed Preparation	*707*	*85.3*	*91.2*	*85.4*	*79.9*	*87.4*
Use of Improved Seed	*132*	*3.2*	*21.1*	*10.3*	*9.9*	*46.9*
Seed Preparation	*565*	*33.7*	*73.6*	*63.9*	*64.1*	*87.1*
Sowing Techniques	*582*	*42.9*	*74.6*	*68.6*	*64.0*	*85.8*
Seedbed Care	*556*	*60.3*	*82.7*	*77.5*	*73.3*	*88.6*
Rice Field Preparation	*700*	*70.3*	*91.0*	*85.5*	*80.2*	*88.1*
Use of Young Seedlings	*463*	*20.1*	*57.6*	*43.3*	*39.7*	*68.9*
Line Transplantation	*270*	*9.9*	*39.2*	*17.2*	*14.3*	*36.5*
Seedling Density	*287*	*11.4*	*36.6*	*25.5*	*23.3*	*63.7*
Water Control	*676*	*33.3*	*85.7*	*79.1*	*74.7*	*87.2*
Weeding	*642*	*39.3*	*81.6*	*75.3*	*70.2*	*86.1*
Harvesting Techniques	*375*	*11.3*	*44.7*	*36.6*	*34.1*	*76.3*
Condition of Paddy	*475*	*12.1*	*53.5*	*51.7*	*48.7*	*91.0*
Other Water-fed Techniques	*134*	*9.2*	*19.9*	*18.6*	*17.4*	*87.4*
Bio-pesticides	*101*	*0.9*	*23.6*	*5.7*	*4.8*	*20.3*
Organic Fertilizers/Composting	*109*	*3.9*	*17.3*	*6.2*	*5.5*	*31.8*

Table 7 above shows current knowledge and use of production practices for paddy rice. As the data shows, there is relatively high knowledge about most production techniques. Among the more well known techniques are: seedbed preparation, paddy field preparation, water control, seedbed care and weeding. This is not surprising since these five elements are the very basic requirements for cultivating rice. Less known are techniques such as use of improved seed, use of young seedlings, line transplanting, seedling density, and the use of pesticides and organiz fertilizers. These are practices that in some combination are likely to have a significant impact on yield, and thus are of interest to CARE in promoting throughout the region so that farm households can increase their productivity.

Table 7 also shows the percentage of farmers currently using a given technique. What is critical here is that less than 10 percent of farmers are using improved seed, bio-pesticides, and organic fertilizer. Few farmers are using line transplantation techniques as well as improved seedling density and harvest techniques. Only about 4 percent of the sample households had benefited from two or more trainings.

The likelihood of a farmer practicing what they have been trained in or have knowledge of is looked at in the last column of Table 6, referred to as the knowledge-to-use ratio. It shows that overall there is a high likelihood of farmers practicing most of the techniques they have knowledge of. For many of the more common practices, about 90 percent of farmers with knowledge of a technique put it into practice[11]. Those techniques that have a low knowledge-to-use ratio include use of bio-pesticides, use of organic fertilizers, line transplantation and use of improved seed.

Table 8 provides similar data for non-paddy rice crops. Here we see similar patterns to Table 7, whereby certain basic techniques are commonly known and practiced, but other techniques such as use of improved seed, which are likely to positively impact yield, are not common. Only 6.5 percent of households in the mid-term survey had benefited from two or more trainings.

At this stage it is not possible to determine from available data what the impact of training has been on agricultural production. Production data collected during the mid-term review showed no correlation between training received and agricultural production.

[11] Theoretically, the knowledge-to-use ratio for many of these practices should be 100%, since there are practices such as field preparation that are essential for even basic rice production.

Table 8: Knowledge and practices associated with rice cropping techniques in areas with CARE agricultural interventions. (N=171)

Paddy Rice Cropping Techniques	N	Current Knowledge (spontaneous)	Current Knowledge (including prompted)	Have Experience in Applying	Currently Used	Knowledge to Use Ratio (Column5/ Column3)
Seedbed Preparation	*170*	*90.1*	*99.8*	*80.6*	*76.3*	*76.4*
Use of Improved Seed	*34*	*4.1*	*19.9*	*7.5*	*6.5*	*32.7*
Seed Preparation	*140*	*38.6*	*81.8*	*66.7*	*63.4*	*77.5*
Sowing Techniques	*140*	*55.0*	*81.8*	*65.1*	*60.8*	*74.3*
Seedbed Care	*159*	*71.9*	*93.0*	*75.3*	*71.0*	*76.3*
Rice Field Preparation	*166*	*77.8*	*97.1*	*79.0*	*73.7*	*75.9*
Use of Young Seedlings	*103*	*20.5*	*60.2*	*34.4*	*31.7*	*52.7*
Line Transplantation	*72*	*14.6*	*42.1*	*10.8*	*7.0*	*16.4*
Seedling Density	*73*	*16.4*	*42.7*	*24.7*	*22.0*	*51.5*
Water Control	*153*	*41.5*	*89.5*	*73.7*	*69.4*	*77.5*
Weeding	*147*	*49.7*	*86.0*	*71.0*	*66.7*	*77.6*
Harvesting Techniques	*93*	*18.7*	*54.4*	*43.5*	*39.8*	*73.2*
Condition of Paddy	*108*	*21.1*	*63.2*	*55.9*	*52.2*	*82.6*
Other Water-fed Techniques	*35*	*11.1*	*20.5*	*17.2*	*15.6*	*76.0*
Bio-pesticides	*29*	*0.6*	*17.0*	*5.9*	*4.8*	*28.2*
Organic Fertilizers/Composting	*20*	1.8	11.7	2.7	*2.2*	*18.8*

Agricultural Production

Many of the efforts of Mifamonjy ultimately aim at increasing agricultural production in the region in order to improve food access and provide more marketing opportunities for farmers. One certain way this has been achieved, as previously discussed, is by increasing surface area of cropped land through improving water delivery systems and drainage. This, however, is limited in scope by the geography of the area. Much available land for paddy production, for example, is already being cropped. There is scope for further expansion in upland areas, but it has to be carefully balanced with environmental protection, takes more effort to achieve, and is currently of less interest to farmers.

Significant production gains should be achievable through improvements in current cropping practices. Yields for all of crops are well below their theoretical potential (defined as yields of a crop grown under experimental station conditions). The Yield Gap Ratio (current yield divided by potential yield) varies between crops, but farmers never reach more than a third of the potential of their crops, with rice performing at only 15 percent of its potential (Bergeron and Deitchler, 2004). Reducing this yield gap will have a significant impact on food production and availability.

CARE's main strategy for improving rice production lies in training farmers and developing Lead Farmers, who are provided more training and are expected to then train other farmers.

Although there has been considerable training to date, no evidence yet exists that yields on average have improved on farmers' fields. Table 9 shows average paddy rice production in households surveyed throughout the five Districts. The overall yield is about 1.2 tonnes per hectare, compared to about 1.0 tonnes per hectare in CARE areas surveyed during the baseline survey. Although this is a 20 percent increase, if one compares areas surveyed both in the mid-term and baseline surveys there is no significant yield difference. There are, as Table 9 shows, significant differences according to District, with yields in Soanierana Ivongo being the lowest at about 916 kilograms per hectare and yield in Vatomandry over 30 percent higher at about 1.36 tonnes per hectare.

Table 9: Paddy rice yield comparisons among the 5 Districts.

District	Mean	N	Std. Deviation
Fenerive	1,166.44	232	876.94
Mahanoro	1,251.17	135	896.26
Soanierana Ivongo	916.36	104	564.67
Vatomandry	1,359.22	197	1203.28
Vavatenina	1,297.69	112	852.41
Total	1,215.29	780	946.20
Means Comparison: F = 4.22: Sig. = .002			

There are some interesting differences to note in paddy rice yields. Yields in the southern Districts of the project average 1.31 tonnes per hectare, significantly higher (p=.011) than the 1.14 tonnes in the northern Districts. Yields are significantly lower (1.06 tonnes per hectare) where CARE has agricultural interventions compared to other sites, where yields average 1.3 tonnes per hectare. There may be multiple reasons for this. First, CARE has selected those sites that are more remote and where households tend to be poorer. The infrastructure improvements and training may not have had sufficient time to influence yields. The first infrastructure changes, for example, were only realized in FY05. The mid-term data was collected in May and relied on farmer recall of the previous harvest. Anecdotal evidence suggests that the current harvest, for which there is no hard data, is far superior to the previous harvest. Hence, it would be interesting to have more current data to see if yield changes can be detected.

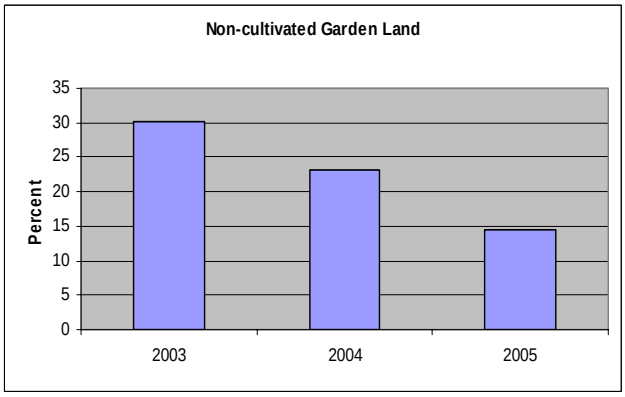
Other means of analyzing the relationship between agricultural production and project interventions also show no significant changes in yield. For example, there are no significant differences in yield for farmers that report using improved seed. Nor are there yield differences for farmers that report having received more training or knowing and using more improved agricultural cropping techniques.

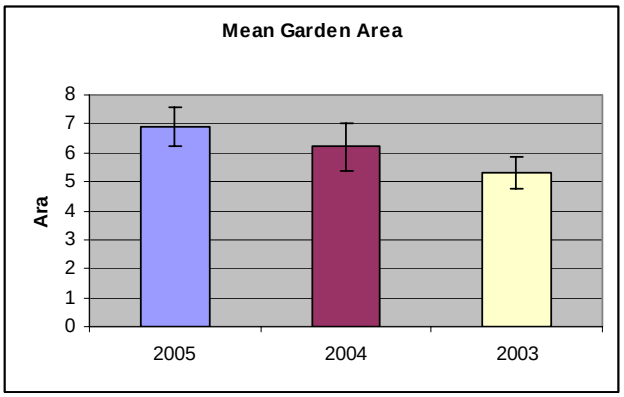
Gardens

One of the early success stories of the DAP may be gardens. Gardens are discussed in this section, although they are an integral component of not only Mifamonjy, but the environmental health and nutrition component as well.

The mid-term survey found that 61 percent of households have a garden plot[12], and 42 percent of households had a garden. Figures 5 and 6 show two important aspects of garden trends over the three previous years. In 2003, for those households with gardens, 30 percent of garden plots were not being cultivated. This percentage is significantly declining, and in 2005 only 15 percent of garden land was not being cultivated. The primary reason for not cultivating a garden in 2005 was lack of seed, suggesting that if input supplies were improved almost all garden plots would be utilized. Figure 6 shows a statistically significant increase in mean garden area from 2003, when it was just over 5 ara per household, to 7 ara in 2005.

Figure 5 and Figure 6: Currently non-cultivated garden land and mean garden area, in ara.





The fact that more households are engaged in gardening is encouraging. In areas where CARE has agricultural activities, 48 percent of households have a garden. In areas where CARE does not have agricultural activities, 37 percent of households have a garden, suggesting that adoption of gardening is higher where supported by project interventions.

Although gardening appears to be gaining in popularity, there are some concerns about the diversity of vegetables households are growing. Table 10 shows the frequency of various items cultivated in garden plots. Almost 44 percent of plots are growing Chinese cabbage, and Chinese cabbage is grown by 70 percent of households (some households have multiple plots). While Chinese cabbage provides some Vitamin A and Vitamin C to the diet, it is relatively high in Sodium, and a large portion of the calories come from sugars. It is a good additive to the diet, but does not represent the optimal nutritional choice from gardens. The fact that so many households are growing Chinese cabbage is probably due to several factors, including its popularity in local dishes, ease of growth, and availability of seed.

[12] Land classification on the east coast of Madagascar is complicated. People have discrete ideas about what land can be used for what purposes. That 61 percent say they have a garden plot probably reflects the proportion of households that identify part of their land as being suitable for gardening.

Next to Chinese cabbage, the most popular garden items include green leafy vegetables (locally referred to as *brede*), cucumbers, and squash. Other nutrient-rich items such as carrots and beans are grown by less than 5 percent of households. One of the major reasons may be the availability of high quality seed. Households often ask CARE to provide seed because they trust the quality, and likewise complain that seed locally purchased often has very low germination rates. CARE itself has difficulty finding vegetable seeds in adequate quantities.

Again this illustrates the importance of working simultaneously on the behavioral changes (encouraging households to grow gardens and grow a range of vegetables) and on the systems to support these changes (technical assistance for gardening as well as input supply and marketing).

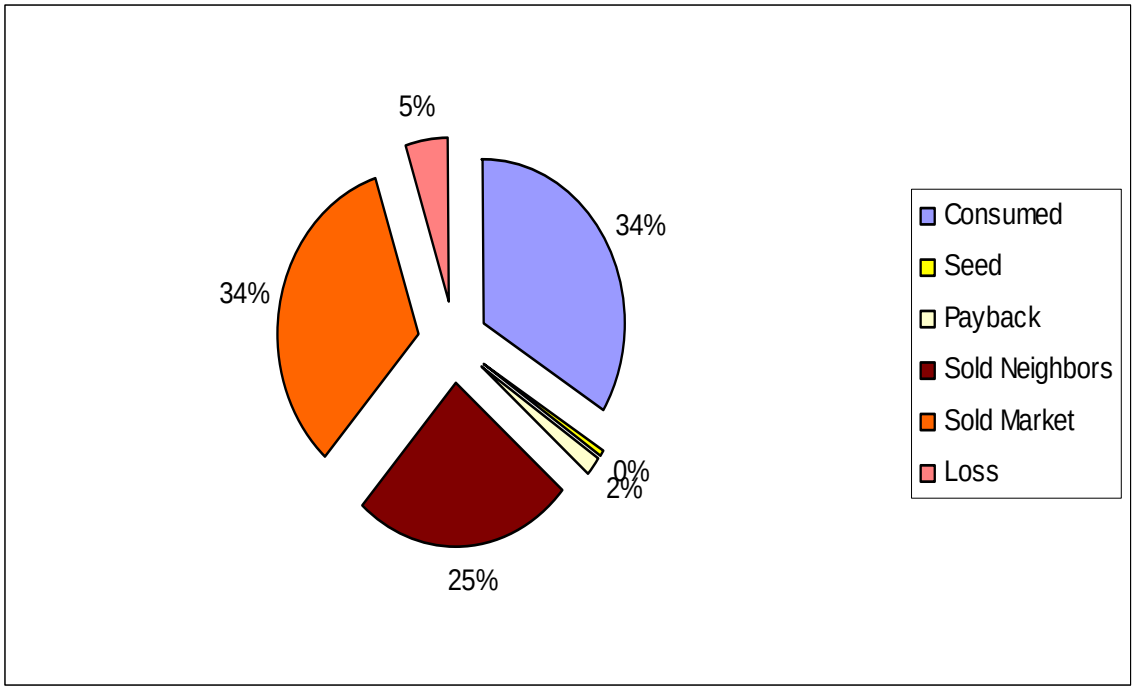
Table 10: Frequency of various items cultivated in garden plots.

		Responses		Percent of Cases
		N	Percent	
Vegetables	Carrot	21	3.9%	6.3%
	Green beans	10	1.9%	3.0%
	Green peas	1	.2%	.3%
	Lettuce	13	2.4%	3.9%
	Cabbage	21	3.9%	6.3%
	Tomato	15	2.8%	4.5%
	Squash	41	7.7%	12.3%
	Cucumber	43	8.1%	12.9%
	Eggplant	13	2.4%	3.9%
	Chinese Cabbage	233	43.8%	70.0%
	Green leafy	82	15.4%	24.6%
	Other	23	4.3%	6.9%
	Onion	8	1.5%	2.4%
Total		532	100.0%	159.8%

In terms of other inputs, about 60 percent of households that are gardening use natural fertilizers, and about 24 percent use no fertilizer at all. About 20 percent used some type of chemical pesticide treatment in the previous season while 80 percent used no pesticides at all.

Finally, it is interesting to note what garden products are being used for. As Figure 7 shows, about 34 percent of vegetables are consumed by the household, another 33 percent are sold in local markets, about 25 percent are sold/given to friends and neighbors, and there is about 5 percent loss. According to project staff, this represents a significant change. Previously, most households with gardens tried to market most of their harvest, and little was consumed in the households. That almost one-third of product is now consumed in the household may be the result of the extensive nutrition training that has been provided by the DAP.

Figure 7: How garden vegetables are used by households.



Mifamonjy Issues

Agricultural improvements through intensification, including new cultivation techniques, water management, adoption of recommended cultivars, etc. takes considerable time for farmers to absorb, test, and then adopt. CARE has chosen an important mix of agricultural improvements and, according to the expertise of the evaluation team, the options that CARE is promoting are appropriate to the zone and should significantly contribute to yield. The main issues here are the amount of time CARE is able to devote to each community, and the number of farmers that can be reached through direct training or interaction with lead farmers. Since cropping seasons tend to vary from year to year, particularly with respect to rainfall and temperature, it is usually better to stay in communities for 3-4 years. CARE may be moving too fast with respect to nurturing behavioral changes with farmers.

Mifamonjy got off to a slow start in FY04. Part of this was due to problems with commodities, and the fact that Call Forwards did not arrive on time. It would be difficult to assess any blame for this on the project since the Call Forwards were made on time. There was some bad planning, and perhaps overly optimistic targets set for FY04. There was more preparation work than planned, as scoping out potential sites, establishing protocols, writing manuals, and liasing with communities took much more time than expected. The good news is that progress picked up impressively in FY05 and appears to be gaining even more speed in FY06. CARE has been inhibited by late arrival of commodities as several shipments were diverted to other needy areas of the world. Barring new large-scale disasters this should not be a problem in 2006-2007.

CARE has gained considerable experience with capacity building for water user associations. There needs, however, to be a more systematic method for evaluating the effects of the training, including how water user associations are functioning and what impact they are having on agricultural production. It is difficult to assess whether or not the training is adequate, whether there are gaps in the training that need to be filled, how the associations are functioning overall, and what the main obstacles are, if any, to improved water management.

Key behavioral changes to increasing agricultural production, such as use of improved seed, line transplantation, seedling density – may require reformulation of strategies in order to make significant progress. It may be that there is a systemic need that is not being fulfilled (e.g., farmers would like to use improved seed but cannot find it on the market), or that there is capital or labor requirements that cannot be met (e.g., improved seed is available but few can afford to purchase it). Also, longer time in communities will likely be required, especially in light of the number of farmers who feel various techniques are not locally appropriate or are complicated. In light of the absence of a national extension service, testing model farms and enhancing the role of model farmers may be the only way to effectively promote many of these changes. Proving which practices work for various cropping schemes (e.g., flooded rice, vegetable gardening, etc.) in a limited number of communities could make a real contribution. Future DAP or other projects could then focus on scaling up.

The quantitative evidence suggests that a significant number of farmers are not yet adopting key cropping practices, and it also suggests that a critical mass of farmers have not yet been trained. The average number of trainings per household in the survey, in areas where CARE agricultural activities are present, was only 1.2. Households in other areas had actually received an average of 1.4 trainings, slightly more than in the CARE agricultural activity areas.

Food Security

The DAP aims to improve food availability and access in rural communities through increases in agricultural production, increases in household incomes through better marketing of local products, and through gardening. Among rural Malagasy households, the main determinants of their food security are their farming technology, their access to land, labor, capital and knowledge, and the conditions of input and output markets. Table 11 shows how households perceive their own food security month by month for food in general and for rice specifically. Food security appears to have improved compared to the baseline survey, at least for the majority of months. There is still a large and significant seasonal flux, with the periods March-April and October-November being the harshest. Rice sufficiency largely parallels basic food sufficiency, although in all months fewer households feel they have sufficient access to rice than general foods.

When interpreting these results for the DAP caution must be used, given that no single measure of food security is usually adequate.

Table 11: Access to sufficient food and rice stocks during the year.

Month	HHs that had enough food to cover all needs, by month (in %)			
	Food		*Rice*	
	Baseline	*MTR All*	*Baseline*	*MTR All*
January	51.4	83.7		83.8
February	42.5	71.1		67.1
March	32.7	43.8		32.1
April	31.6	31.5		24.8
May	61.7	73.4		68.7
June	77.9	92.6		92.1
July	63.3	90.3		87.9
August	43.9	69.6		64.5
September	28.1	46.6		39.2
October	20.5	31.1		24.3
November	22.5	36.1		28.7
December	32.8	65.7		57.7
Mean n of months with enough food	**5.1**	**7.3**		**6.6**

Mifamonjy Recommendations

The key to improving livelihoods and food security in the CARE project area lies, at least in the short-term, with improving agricultural production and marketing opportunities for farm households since agricultural drives the economy and provides the majority of wage earning opportunities. Thus, it is critical that CARE continues the momentum it has built and strives to improve on the work it is already doing. The capacity building for farmers is critical, but CARE also needs to think about the systemic support (via markets, institutions, service providers) that may be needed to support changes in practices that the DAP is promoting. Provided below are key recommendations for Mifamonjy.

1. Recyclage - The lead farmer is critical to the process, so there must be more time spent in communities to review their activities – The end of each cropping season would be opportunistic time to review with farmers the events that took place over the cropping season- what worked, what didn't work, etc. CARE can also increase agricultural knowledge and support exchange of knowledge and expertise of community leaders, through field visits.

2. The most effective way to increase the number of contacts with Lead Farmers is to reduce the number to be trained in FY06-FY09 and divert the resources to spending more

time and training on existing Lead Farmers. To date there have been 1,050 Lead Farmers trained in at least one of the five modules. CARE plans to train an additional 882 Lead Farmers in FY06, 637 in FY07, and 281 in FY08, for a total of 1,800 over the remainder of the project. This seems unrealistic and would likely result in even less contact with each Lead Farmer. It is therefore recommended that CARE reduce the number of Lead Farmers to be trained in FY06 to 440, in FY07 to 300, and conduct no additional training in the last year, FY08. Instead this time could be used to strengthen the skills of existing Lead Farmers and learning/documenting how the process has worked so that CARE or others will have better information in the future on how to scale this up.

3. To date, the relationship between agricultural production and project interventions show no significant changes in yield. There could be several reasons for this, including the timing of the mid-term survey, which may have been too early to show significant changes. It would be useful, then, to conduct a modest survey after the next harvest that focused exclusively on the agricultural component. The survey should focus on collecting quality data, and by limiting the number of questions to those that are central to exploring the impacts of the agricultural interventions. If possible, it would be useful to use PDAs to collect the data to eliminate the significant number of response and data entry/cleaning problems that were found in the mid-term study.

4. CARE has a good opportunity to look at land tenure issues and local-level conflict. Some of the land tenure issues are linked to CARE's infrastructure development and rehabilitation, and so this could be an important learning opportunity for future DAPS (as well as other CARE programming). More importantly, however, is the link to local capacity-building and governance. The agricultural component should work closely with the governance component to involve Communes in exploring and understanding the dimensions of land tenure and other land rights issues. One activity to focus on could be development of a typology of land tenure issues in the project area.

5. Watershed protection plans are important to the long-term stability of the cropping systems throughout the area. To date there is the impression that the importance of such plans has been underestimated by the project. Accordingly, efforts need to be redoubled during the remainder of the project to address issues in watershed protection. Although CARE does plan to address this issue through use of Peace Corps Volunteers, it is doubtful that this effort will replace the original intent of this component. At the very least, CARE should document the issues around watershed and slope protection in order to be more informed of the challenges and anticipated results in future efforts.

6. There needs to be more effort to determine how the cascade effect (use of Lead Farmers) is progressing, and what strategies can be used to promote farmer-to-farmer or community-to-community transfer of knowledge and practices.

7. CARE may accelerate the rhythm of work and realize projected outputs by establishing priority criteria in case not all planned infrastructure can be completed on time (suggestions: level of motivation of AUEs, boom/dam accessibility, importance of surface to be irrigated, difficulty of construction, contribution to market opportunities.).

8. Attention needs to be paid to the systems side of effect-level changes to ensure that changes in practice that are being promoted by the project have the necessary systems in place so that these practices can have successful outcomes and be continued after the project. One example is in the availability of seeds for gardening. Promoting gardens and establishing their presence in a large number of households is not enough if households don't, for example, have access to high quality seeds. There is a need for systems that can supply seeds (of all varieties, including rice), ensure availability of maintenance supplies, and supply skilled labor for maintenance, etc. CARE should review its effect level changes to ensure that a balance is being struck between changes in practices/behaviors and systems that support these changes.

9. CARE should promote the utilization of participatory approaches to establish management of versant basins in areas where booms/dams or canals have been rehabilitated, taking into consideration awareness on environmental issues of communities, of basic information obtained during studies, and consultation with local leaders.

10. CARE should support food-for work since it is liked by beneficiaries and critical to the short-term food security of the region. Review working calendars for the deliveries, taking into consideration issues faced in FY04 and FY05.

11. It is important that CARE review role and responsibilities of chief of administration committees (COGES), of team leaders, and of heads of construction sites.

12. CARE should continue seeking opportunities to work with potential local partners (Centre Technique Horticole de Tamatave, Project of support to the Rural development _ PSDR, Program for the Promotion of Rural Revenues_PPRR), looking for synergies and avoid duplication of activities.

13. CARE should also continue to support the realization of improved gardens for fruit and vegetables (pilot projects at the beginning). There is ample evidence that use of gardens is increasing. However, there is also evidence that the diversity of vegetable and leafy items cultivated is limited. Thus, CARE needs to encourage more diversification in its gardening efforts and ensure that the systemic problems of seed availability are addressed.

14. The DAP should also encourage OPCs ("Community Organizations for Commerce") to establish formal contracts with trading partners, organizers of weekly markets, and annual fairs. Encourage OPCs to find ways of communication for advertising such as local radio and increase the number of available workshops. Follow and support OPCs while there are establishing their contacts obtained during and after marketing workshops in FY06.

15. The DAP could also add marketing to the curricula of information technicians. This would be a very simple "course" in relating price information to market prices, so that

farmers understand the relationships between prices and local demand; prices and quality, and prices and national/international markets.

IV.A.2 Component 2: Lôva (Road Infrastructure)

Lôva Overview

Access to services and markets is among the most critical problems in Madagascar, particularly on the eastern coast where mountainous terrain and frequent cyclones and flooding combine to make transportation both expensive and high maintenance. The baseline survey highlighted the extent of the problem. It found that the average distance to weekly markets from rural households is nearly nine kilometers, stores and small kiosks average seven kilometers, agricultural input supply points and milling facilities average over 20 kilometers, and regular transportation services are over 15 kilometers. These are average distances, reflect the fact that CARE works in some of the more isolated areas of the region.

The lack of an adequate road network system in rural Fianarantsoa and Toamasina Provinces is a major constraint to rural economic growth, seriously hindering information flow, the delivery of agricultural inputs and government services, and market access. To address this problem, CARE is facilitating road rehabilitation on roads suited for vehicular traffic and on roads suited for smaller transport modes such as carts, bicycles and pedestrians. CARE only works on existing roads that are in need of major rehabilitation and that will substantially increase access for a large number of households. No new road construction is done under the DAP. Rehabilitation is mainly confined to three areas: improvements in existing road surfaces; installation of road infrastructure including bridges and culverts; and improvements in road engineering including slope and drainage. Rehabilitation can also include widening existing footpaths so that they can accommodate small carts, bicycles, and other non-vehicular traffic. The rationale for rehabilitating the existing road network is to have an immediate and measurable impact on network traffic, mode of transport, and transport costs. Since roads are the primary means of mobility, improvements in the road network will also improve household access to markets, health facilities, and other service providers. Good roads also ease the burden of everyday life, and significantly cut the amount of time people spend traveling between points.

Road work is accomplished using food-for-work labor from the communities associated with the roads and footpaths. Selection of roads to rehabilitate is made using four basic criteria: economic potential of the general area; population served by the road segment; length of road to be rehabilitated; and cost (linked to current state of repair and the amount of infrastructure required).

Substantial training and institutional support will be required to establish sustainable maintenance systems. Experience shows, however, that when people provide labor to improve a path or road they are more likely to have interest in maintaining the improvements. On larger roads, however, maintenance is problematic, as the ones who profit the most from using the roads (e.g., large trucks) tend not to pay their share in maintenance costs.

Lôva Performance to Date

In FY04, the project rehabilitated about 35 kilometers of road out of a planned 40 kilometers, or approximately 85 percent. It rehabilitated about 9 kilometers of footpaths out of 20 kilometers planned, or just under 50 percent. These first year results, despite not meeting original targets, are impressive given the amount of time that was required to identify appropriate sites and negotiate community involvement. However, in early stages of implementation the project fell substantially short of fulfilling its objectives in food-for-work participation, local micro-enterprise construction of bridges and culverts, and the formation of user groups for road maintenance.

In FY05 many of the obstacles encountered in the first year were resolved, and the DAP was able to rehabilitate 110 kilometers of rural roads and footpaths, or 110 percent of the FY05 target. Part of the difficulty in using FFW during year one was the late arrival of food commodities from the first call forwards. This same problem was encountered in FY05, requiring that an additional 35 kilometers of planned rehabilitation be delayed until FY06. However, in FY05 over 100 percent of targeted bridges and culverts were rehabilitated, representing 32 of 35 roads where rehabilitation was being undertaken. This represented a marked improvement over first-year programming and demonstrated that the CARE staff was learning how to better manage road rehabilitation. Even these results could not have been achieved, however, had CARE not already had substantial experience in road rehabilitation under its cyclone response activities.

CARE guided the use of more than 315,000 person-days of FFW in FY05 for road infrastructure development. An estimated 35-40 percent of labor is provided by females and together over 15,000 households have been linked to better roads and paths. Total labor via food-for-work represented about 74 percent of the target, also due to late arrival of commodities. Also encountered in FY05 were significant increases in the cost of construction materials, especially in cement and other locally supplied materials. This required CARE to decrease the amount of masonry and reinforced concrete infrastructure it could support per road, and also may change the criteria it uses for future road selection. In some cases, bridges and culverts were constructed with less durable local materials or replaced by other construction techniques (primarily non mortared paving and masonry construction), which may impact the longevity of the road or impose more demands on timely and effective maintenance. In other cases, roads requiring a higher level of infrastructure were replaced by less costly sites. Since the original sites were primarily chosen for their potential to contribute to economic development in targeted communes, CARE plans to seek complementary financing to permit rehabilitation of certain key roads.

In addition to infrastructure rehabilitation, twenty-five communities were assisted in creating Road Maintenance Associations, which developed plans for the long-term maintenance and management of rehabilitated roads. Of these, nine completed the administrative process for formal recognition. Of 32 road maintenance associations created in FY04 and FY05, 27 have developed maintenance plans and one-third have completed the maintenance activities that were planned for FY05. The majority have also established a bank account and collected toll fees for maintenance. CARE also assisted 160 local groups of skilled tradesmen (masons, stoneworkers, etc.) in forming micro-enterprises to conduct road repair, and received training in small business

management. Of 210 identified and trained in FY04 and FY05, 47 were operational in FY05 (bid and received contracts for road maintenance from RMAs or communes in FY05), and received a total of 72 contracts for road maintenance.

Lôva Issues

Overall, the road component of the DAP is progressing markedly well. Despite some underachievement in targets caused primarily by elements out of the projects control (e.g., diversion and late arrival of commodities, increase in prices of key materials), CARE has made considerable progress in developing systems and methods for road rehabilitation, including effective use of food-for-work, training of local tradesmen, and establishment of maintenance organizations.

Despite good progress, there are some issues that need to be thought through in order to make best use of the roads component in the second half of the DAP. Progress, as stated above, has been less than expected, but in many ways this may be more of an opportunity for the project instead of a hindrance or a sign of underachievement. If the road rehabilitation component were to focus its efforts primarily on achieving the outputs, there may be negative consequences rather than positive consequences. This is because 1) there is more follow-up work to be done than was envisioned in the design of the project and 2) targets are higher in years 3 and 4 compared to years 1 and 2, but it will become more difficult to identify road segments that are as cost effective or efficient to rehabilitate.

Maintenance is the key issue and something that needs to be closely followed. To date, there have been no major pitfalls in road maintenance. One would expect, however, that as time goes on the maintenance issues will become more prominent. Maintenance on newer roads (barring poor engineering or a severe storm) tend to be routine, and it does not require much labor or material. User associations have funds for maintenance, but they likely have inadequate capacity to manage their funds[13]. There is some evidence that some associations are reluctant to spend funds on small maintenance issues, waiting for the large outlays they anticipate will be required in the future. Delaying today's maintenance needs, however, may result in larger maintenance requirements down the road (no pun intended!). What is difficult for CARE is that during one DAP cycle the range of maintenance issues may not be experienced, especially with respect to more expensive/serious maintenance problems. Thus it will be difficult to tell exactly where capacity is lacking.

The road component also faces a supply and demand dilemma. Other project components, such as improved marketing of agricultural products, hinge to some degree on road rehabilitation. There are many small connector roads that need rehabilitation, but they are so small that they are not efficient to rehabilitate using DAP resources. Thus it is likely that some places where marketing potential is high due to agricultural output may not have the infrastructure to complement marketing opportunities.

[13] The evaluation did not bear this point out. However, low capacity of existing institutions is a problem throughout the project area, and when road user associations have to make financial decisions, there are likely to be a modest percentage that lack needed skills in financial management.

While about one-third of road user associations have payment systems in place (7 out of 23), there is much more to learn about how these payment systems function, and what types of payment models are appropriate under different scenarios. Communities appear willing to pay their share of labor and materials (currently 10 percent) but there are some problems with the lack of protocol among all user associations, and the current process takes considerable time to organize and collect. Most communities prefer to contribute their share in the form of labor, but others are contributing materials (such as rock for steep slope surfaces).

Finally, cost of materials and the amount of infrastructure work needed to rehabilitate roads needs to be recognized as an issue that will influence the amount of road rehabilitation that can be performed in the latter half of the project. The cost of materials far exceeds that budgeted. For example, cement has more than quadrupled in price. Bridges and culverts are the most expensive component of road rehabilitation, and the fact that the amount of this type of work was underestimated in the design phase makes achievement of specific objectives difficult. CARE has made adjustments for both of these factors by replacing some of the road infrastructure work with simpler designs using cheaper materials. This is fine in the short term, but is likely to lead to decreased longevity of these structures and higher maintenance and replacement costs in the future.

Lôva Recommendations

One only need spend several hours in the project area to appreciate just how important the Lôva component is to the DAP. Livelihood improvements are directly linked to infrastructure, and good roads and paths improve the quality of life for all. During the second half of the project there will have to be several adjustments made.

1. CARE needs to initiate some well-designed freight and transport studies to learn more about the impact of their road rehabilitation activities. These studies have been planned but have not been conducted to date. There are numerous sites that have matured to the point that they would be good sites for study. Studies should be conducted both during and outside of Lytchee season. CARE Bangladesh has conducted many such studies and linked their results to livelihood changes and also used them to design follow-up activities linked to road rehabilitation. CARE Madagascar could benefit from learning about how CARE Bangladesh conducts freight and transport studies and adapting these methods to the Madagascar context.

2. CARE should develop a revised plan for the remaining two years of the DAP for road-related outputs. It is difficult to see how targets would be achieved in light of the constraints and the fact that the “prime” areas for rehabilitation have largely been covered. Newer sights generally have shorter sections of roads that would qualify for rehabilitation. At the same time these sites are more remote and in need of significant infrastructure. CARE should therefore reduce the number of communities and increase the strengthening of committees for road and infrastructure maintenance.

3. In line with reducing the number of communities, CARE should also reduce its targets for road and path rehabilitation. Scheduled road and path rehabilitation for FY06 through FY08 are 79, 57, and 25 kilometers, respectively. If CARE attempts to meet these targets it will have to make serious compromises on the quantity and quality of road infrastructure (unless it can find additional funds or sufficient co-financing, both of which are highly unlikely to meet projected needs). Therefore, CARE should cut its remaining infrastructure targets by 50 percent. This should provide more realistic chances for maintaining the quality that should be standard for U.S.- funded projects.

4. Recommendation 3 will have implications for the amount of food-for-work programmed. Current FFW labor levels could still be met by selecting roads that require a high amount of labor and by re-engineering some of the road work to include more rock work and extensive drainage[14].

5. During the latter half of the DAP CARE should seek more collaboration and co-financing of road rehabilitation. It is possible to mix funds with, for example, FID, but this has not been done to date. Given the costs of materials and the amount of bridge work that must be done, such collaboration may make it possible to achieve targets in meters of roads/paths rehabilitated while at the same time taking some of the burden off of the DAP. Even if only one or two collaborative efforts are possible, it is worth the effort to engage other projects and build up the experience of collaboration on the East coast, since it is likely that CARE will continue to work in this part of Madagascar.

6. What is needed is a new model for road rehabilitation that is not as intensive as the current model used by the DAP. This is something the Lôva team can work on in the coming years to provide CARE with alternatives for future programming. For example, how can CARE work with State agencies and/or the private sector to develop ways to rehabilitate more roads without direct implementation. Perhaps there is a model whereby CARE provides FFW resources and facilitates labor and another entity provides the infrastructure development. CARE has already helped link skilled tradesmen with micro-enterprises for road repair, and this model may be extended to road rehabilitation in a private sector – NGO linkage. Again, it is not suggested that this is solvable in this DAP, but this DAP could become an advocacy platform for meeting rehabilitation demand through various new approaches.

7. Maintenance is a key issue in infrastructure in Madagascar, because for the foreseeable future the State is not going to be prepared to rehabilitate and maintain secondary road networks. Yet these networks are a key to the growth of Madagascar. CARE should task its M&E staff in Tamatave with studying the issues around road maintenance by developing 4-5 case studies on road segments that were rehabilitated in the first or second year of the project.

[14] No members of the evaluation team are engineers, so these recommendations need to be taken into consideration and further studied by qualified engineers.

8. If the opportunity arises, CARE should pursue the riverine transport component as envisioned in the project design document.

IV.A.3 Component 3: Fandriaka (Governance and Advocacy)

Fandriaka Overview

The governance component, Fandriaka, aims to build the capacity of local development associations, communal development associations, and communal and regional administrators in planning and management of infrastructure. Achievement of this goal would enable communities to manage their own development process. In the original design of the DAP program, the rural governance component was predicated on the decentralization plans of the Government, and the need to formulate local development plans. In the first year of the DAP, it became clearer that decentralization would not be supported by strong central Government partnership, and that CARE and local governments and communities would have to forge a strategy to develop local capacity for strengthening both civil society and government institutions.

CARE promotes good governance and stronger civil society by supporting and strengthening community-based institutions to manage resources. Concomitantly, it supports local government and institutions through capacity building in key skills needed for local planning and community support. Capacity-building covers a broad range of areas, including problem analysis, budgeting, financial management, laws and civics, and more. The beneficiaries of capacity-building include mayors, organizational officers, and committee members.

The management of local resources is intimately linked to governance and civil society. Any gains in efficiencies in agricultural production in the DAP project area will need to be coupled with the ability of communal governments to coordinate regional infrastructure rehabilitation and on communities' ability to work effectively in a decentralized political environment and to mobilize its residents. Communal governments (primarily mayors and their staff) need to take the lead in area planning. Local village organizations will need to guide their own development activities as well as manage resources such as water infrastructure and communication networks.

Fandriaka Performance to Date

CARE has considerable experience in leading the community development process, and it has been able to capitalize on this experience in the first two years of the DAP. By the end of FY05, CARE had trained a total of 101 villages and communes in problem analysis and planning, and had facilitated all but two of these in formulating or revising communal and village-level development plans. The training that CARE is performing is extensive for each of these bodies, and includes governance training, strategic planning, participatory governance, budgeting and financial management, information systems, disaster preparedness, advocacy, and promoting economic development. One regional and 26 communal organizations have been targeted.

In the first year of the DAP, CARE helped to establish five information systems. In FY06, more progress towards communal and regional information systems was delayed, in order to better incorporate complementary funding through NORAD and to collaborate with the MISONGA project, and will be continued in FY06.

Fandriaka has also expanded the level of technical support provided to communal and local authorities in the areas of agricultural marketing, land tenure, and community-based participation in health initiatives. In addition, the project undertook a series of activities to build the capacity of communal and regional administrators to effectively manage resources and guide development processes. This was initially planned for the 26 communes working on revising their community-development plans. However, the trainings were expanded to include additional communes that had requested to 'audit' the trainings. In all, 113 mayors and communal administrative officers received training in budgeting and financial management in collaboration with the Provincial Office for Planning. Over 130 received training in communication (primarily marketing and representing the commune). An additional 14 received training in managing fiscal revenues in collaboration with the Provincial Tax Office (this activity has been ongoing through early FY06).

CARE also provided training to 186 communal authorities and regional authorities from Analanjirofo in helping local Producers Associations, Water-user Associations, Infrastructure Maintenance Associations, and other community-based groups to register as formal associations. Almost 100 communal authorities received training in accessing external financing and technical assistance. They also participated in regional workshops with representatives of local NGOs and donors. An activity was begun to help communal authorities access legislative texts and regional decrees by facilitating distribution of the Journal Officiel and other basic texts to the communal level. The DAP also developed a partnership with the Provincial Land Office to help communities complete the required formalities to secure land tenure for irrigated perimeters and watersheds rehabilitated through the project. This process is underway for 650 hectares of irrigated perimeter in Mahanoro, and two additional sites have been identified for FY06.

Awareness

The mid-term survey conducted in all five Districts where the East coast program is operational included a module exploring people's awareness of local government as well as their involvement in civil society. Table 12 provides highlights from this module, disaggregated by District.

Table 12: Awareness of local government by individuals.

	Fenerive	Mahanoro	Soanierana Ivongo	Vatomandry	Vavatenina
Knowledge of Mayor	89.3	86.5	84.5	89.2	86.1
Awareness of Plan de Developpement	22.6	14.9	15.5	21.6	24.6
Participation in the PCD[15]	38.6	38.1	21.1	51.0	48.4
Awareness of the Committee Communal de Developpement	29.0	23.6	19.8	40.1	31.1
Knows a member of the CDC	24.6	17.6	16.4	32.3	29.5
Able to forward a suggestion to the CDC	75.3	85.3	72.7	72.8	70.7

[15] Based on those individuals who were aware of the Plan de Developpement and answered "yes" to the previous question.

Fandriaka Issues

Fandriaka is a strong component of the DAP, and demonstrates the capacity and commitment that CARE has to strengthen civil society, promote participation among a broad set of stakeholders, and facilitate communities in defining their own needs and managing their own resources and livelihoods. This component alone could subsume the efforts of an entire project. These processes, so important to development, have been largely ignored in Madgascar, leaving a void of responsible institutions, guidelines, norms, and trained individuals.

In a sense, the DAP design underestimated the need for capacity building as a prerequisite for strengthening civil society and promoting good governance. Specifically, the capacity to implement a plan was underestimated, to the extent that development plans themselves cannot be an endpoint to governance strategies, because there is little chance they will be implemented.

Perhaps, in part, the false logic was due to the fact that much of CARE's experience was urban based, where education levels are higher and many people have the basic skills required to participate in planning and implementation of local initiatives. In rural East coast settings, the capacity issue is paramount. Although there is widespread interest among government officials, community leaders and individuals to engage in local planning and development, there is a void in basic skills to do this. Accordingly, CARE has had to commit significantly more time and resources in building basic capacity. This has taken time and energy away from efforts that could have been spent on advancing planning and implementation issues as well as and creating visible outputs around which communities could rally.

CARE has chosen to work in a large number of communities in order to reach as many beneficiaries as possible. The need is so compelling that CARE wants to ensure that benefits of its programming reach many of those in need of livelihood improvement. As benevolent as this is, there are consequences to this strategy. One of the most significant is the time CARE is able to spend in each community fostering relationships and mentoring the development process. Training communities in problem analysis and other diagnostic methods is well and good, but alone is insufficient to create viable local-level organizations that can resolve their own issues, function democratically, and evolve into sustainable institutions that resolve their own challenges. There is little time and fewer CARE personnel to follow-up on issues that arise at each project site. A considerable amount of time is devoted to training and less to hands-on approaches that are so important in building local level capacity and confidence.

CARE has recognized the importance of land tenure issues (securité foncier). This could be an important issue to focus on in years 3 and 4. In order to develop strategies for addressing land tenure issues CARE would need to learn more about the 2003 law concerning land transfer from the State, and whether or not there are opportunities for Associations and Communes to own/manage land.

While impressive progress has been made in capacity-building of existing or newly formed organizations, there have been challenges in producing tangible results. As was seen in the previous DAP with Mahavita, there is considerable challenge in realizing the next step where communes or villages begin to undertake community projects that are outlined in their

development plans. Part of the issue concerns funds available to undertake community projects. The risk is that if the development of tangible results does not occur within a certain timeframe, individuals lose faith in the systems they participate in, and eventually they turn their attentions elsewhere.

All organizations need something to manage, whether it be resources such as water or timber, or income generated by service fees, or other financial resources generated by proposals. It is how particular resources are ultimately managed that determines whether or not an organization is functional. Interest among individuals in participating will wane if the organization has nothing concrete to manage. So extreme caution must be taken when facilitating the creation of new organizations or strengthening existing organizations, and at some point in time they have to be entrusted with resources and given the chance to succeed or fail.

Fandriaka Recommendations

The rural governance component has accomplished much in terms of capacity-building and supporting organizations. In two years of implementation, over 100 village and communal entities have been supported with a very modest number of CARE staff. The dedication of those that participate in Fandriaka is evident and they are to be commended. The recommendations below are intended to help Fandriaka think through what it can best accomplish during the remaining period of the DAP. It is hoped that these comments will only strengthen what is already a solid foundation in improving governance in communities.

1. CARE is providing a full array of training to improve capacity. Capacity building is currently provided in each of the following areas: governance training, strategic planning, participatory governance, budgeting and financial management, information systems, disaster preparedness, advocacy, and promoting economic development. It was difficult for the evaluator to determine if this was too unfocused. In annual planning for the remainder of the DAP, CARE staff should try to determine where they are having the most impact in training and then focus its efforts on these areas. This may require some form of training needs assessment, to determine what types of trainings to date are having the most impact on communes and villages, and what gaps, if any, need to be filled. There should be more empirical evidence on the impact of training. It is not possible to determine how many individuals use the training they receive, nor how well those trained are putting their new knowledge to use. It may be that some training requires more follow-up sessions in order for it to be used[16].

2. Emphasis should be placed on Communal structures, road associations and water user associations as these three entities are critical to enhancing local governance and currently represent the core management entities in rural areas.

3. The DAP could benefit from a more centralized strategy. Currently there are five components working more or less independently. While there is potentially strong

[16] This is true not only for training related to governance and institutional strengthening, but all other training as well (for example in agriculture).

synergy generated by the components working in the same sites, there is a weaker core strategy that includes sequencing of activities and notions of what levels of effort are needed to produce sustainable results. It would be extremely beneficial if Fandriaka served more as a core component around which the other components function. This would solidify the strategy and likely result in better coordination among the components and more strategic thinking in each commune and village. It is noted that Fandriaka already has in its 2006 operational plans the intent to better coordinate with other components, but it is recommended here that it go even one step further and become the umbrella component around which other components are organized.

4. There is a need for more recyclage with communities where CARE already has worked. Instead of trying to continually expand coverage, it would be advantageous to provide more support to communes and villages that have already been trained. This may require negotiation with USAID on the targets under Sub-objective 2.1. At the very least there should be some understanding of which communes and villages are doing well and which are not, and what can be done to support those that are weak. This may require more exchanges among communal and village leaders so that they learn more from each other instead of placing the burden on CARE.

5. It is important that CARE continue to seek ways of engaging the government in Fandriaka component activities. One way of doing this is to ensure that local Communal officials stay involved in planning and decision-making.

6. There needs to be a shift from a regional focus to more of a Communal strategy. At the same time, there are advantages to putting a higher level of efforts in Communal Development Plans (Plan Communal de Développement) than in Fokotany Development Plans (Plan de Développement du Fokotany). CARE can then specifically build participation of marginalized groups at the communal level by involving interested Fokotany. It is, therefore, recommended that CARE stop developing PDFs and focus exclusively on PCDs. Continued attention should be given to providing capacity building to Communal officials and citizens that are involved in developing these plans.

7. CARE should continue to assist Communes (and even Associations) to develop their capacity around land tenure issues. This could include policies and procedures for identifying and resolving land tenure issues, including a typology of land tenure issues that face individuals, households, Fokotanys and Communes. Different strategies could then be mapped out for the various land tenure themes within this typology. Next, CARE could assist in land titling, largely in the form of capacity building with key Communal authorities on how to get land under title. CARE could also develop a simple land tenure guide book in Malagasy that could be used by authorities.

IV.A.4 Component 4: Tomadi (Environmental Health and Nutrition)

Tomadi Overview

Tomadi is the east coast DAP component addressing problems in environmental health and nutrition. Access to clean water and sanitary facilities remains limited in east coast communities, resulting in unsanitary living conditions and poor hygiene practices of its inhabitants. This results in unacceptably high incidences of preventable diseases such as malaria, and episodic bouts of diarrhea and other gastrointestinal problems. Overall productivity of households is diminished by these and other illnesses. Since healthy households are more able to participate in local development, Tomadi complements other DAP components by addressing health problems of communities.

Tomadi draws a considerable amount of its strategy from CARE's experience in its Cyclone Preparation Project (CYPREP). The primary focus of Tomadi is on Strategic Objective #3, the sustainable improvement in environmental health of rural households and communities. Implementation is centered on several principal axes: risk reduction in the transmission of diseases linked to water and unsanitary living conditions; development of the capacity of Associations and their members to manage water and sanitation infrastructure; and development of sales networks to make products available to households that will enable them to improve their environmental health.

Tomadi is implemented in conjunction with Village Health Committees, each composed of diverse community members. The committees carry out problem analyses of the health situation in their communities, and then develop action plans to address the root causes of poor environmental health. CARE provides training and facilitation in the problem analysis and planning, and also provides assistance in the repair and construction of sanitary facilities.

Tomadi also utilizes the services of community-based sales agents (CBSAs) in an organized sales network. These agents market hygiene and sanitation products such as impregnated bed nets, jerrycans and *sur eau*. They are established at the Fokotany level and supervised by a Communal leader. Agents are motivated through a profit sharing scheme where by they receive a fraction of the revenue generated by their sales (Table 13).

Table 13: Pricing and revenue distribution of products sold by community sales agents.

Product	Purchase Price	Sale Price	MAM Profit	RC Profit	Communal Donation	CARE Price
	fmg					
Sûr'eau	1,200	2,000	500	200	100	1,200
Mosquito Nets	10,000	15,000	3,500	1,000	500	10,000
Jerry cans	16,500	20,000	2,500	750	250	16,500
Palustop	??	??	??	??	??	??

Tomadi Performance to Date

During the first two years of implementation, Tomadi provided training to 72 village development committees (out of 64 planned) in environmental health and participatory problem analysis. All but three of these committees went on to develop an environmental health action plan, and each of these plans is being carried out to different degrees throughout the project. Almost all communities in FY05 implemented at least one activity targeted in the action plan. The range of activities includes such things as health festivals, information events, school hygiene education programs, and village sanitation workdays. To date, over thirty of these committees have developed proposals for rehabilitation of their water and sanitation infrastructure.

Together with 10 communities that began construction activities in the end of FY04, the project assisted communities in completing 41 infrastructure-related action plan elements – 20 school latrines, 16 hand pumps, 4 drainage / sewer systems, and 1 gravity-flow water system[17]. Tomadi used school latrines as a training tool to encourage the construction of household latrines, and evidence reviewed later suggests that this was an effective strategy. Infrastructure maintenance associations received starter-kits of molds and cement to construct and sell "sanplats," with a goal of 100 percent household latrine coverage in all communities implementing environmental health action plans.

Development of water and sanitation infrastructure lags far behind in the number of person-days generated through food-for-work. In FY04 over 50,000 person days were planned but none were used. Some improvement was seen in FY05 when about 30 percent, or 20,600, of the planned 67,500 persons days were programmed. Delays in delivery of food commodities that resulted in underutilization of FFW elsewhere in the DAP were likewise responsible for the underutilization of FFW labor in water and sanitation infrastructure development.

CARE has had considerable success in establishing sales networks. In FY04, 29 such networks were established while only 10 were planned. In FY05, another 17 were established, bringing the total number of networks to 46. Likewise, in FY04 CARE trained and fielded 1,252 CBSAs. In FY05, another 556 agents were trained in the promotion of hygiene and sanitation products (Sur'Eau, safewater vessels, and insecticide-treated bednets), bringing the total number of CBSAs to 1,808.

National shortages of insecticide-treated bed nets (ITNs) and the limited size of the revolving fund for jerry cans and Sur'Eau, created recurring stock shortages for many of the wholesalers throughout the year. CARE collaborated with Population Services International (PSI) and several local partners to develop a joint agreement on pricing and distribution of ITNs. Distribution of ITNs through the Global Fund also helped meet some of the unmet demand. In FY06, CARE plans to seek additional funding to increase the revolving fund for Sur'Eau and jerry cans, and is working through a joint agreement with PSI to supply wholesalers directly from regional centers. Expansion of the number of CBSAs promoting condoms was temporarily delayed in FY05 due

[17] The figures are quoted directly from Annex A of the Application Format for Results Reports & Resource Request submitted to USAID October 2005.

to a lack of complementary funding in the southern districts. It is hoped that this component can be added through collaboration with SanteNet and PSI in FY06.

Lack of sufficient commodities for FFW activities also impacted training of FFW participants in environmental health education. In FY04, CARE planned to train 12,000 participants but none were trained. There was some improvement in FY05 where CARE was able to train 6,690 out of a planned total of 20,000. The number of Village Health Promoters trained also fell short of targets, with none trained in FY04 and only 34 out of 80 trained in FY05. Despite these shortfalls, CARE was able to provide health messages to a substantial number of rural inhabitants.

The household survey conducted as a part of the mid-term evaluation was able to quantify many of the key indicators used to assess the progress being made in environmental health and nutrition.

Evidence suggests that the overall health of rural household members is generally not good. In the mid-term survey, approximately 41 percent of the population was ill at one time or another during the previous six months. Common illnesses included respiratory infections, malaria, influenza, diarrhea and other gastrointestinal disorders.

Behavioral Changes in the Use of Hygienic and Sanitary Products

Access to potable water and adequate sanitation is limited for most households in Madagascar—only 6 percent of households have access to a protected water source, and 41 percent to an adequate latrine (Bergeron, 2001).

Source of water for drinking and preparing food has not changed dramatically from the baseline survey, and only limited progress has been achieved in reducing the use of unprotected water sources. This is as expected, because changing the source of water requires investment in infrastructure for obtaining water (e.g., investment in protecting wells or investment in piping water) as well as securing sources of water that are not contaminated.

In the baseline survey, 72 percent of households in CARE's operational area relied primarily on non-protected surface water for their drinking water. In the mid-term survey, about 63 percent of households used non-protected water for cleaning purposes and about 42 percent used it for cooking purposes[18]. There is now a slightly (but non-significant) higher percentage of households using non-protected wells or taps (27% in the baseline compared to 31% in the mid-term survey), and a slightly higher percent are (also not statistically significant) of households using protected sources of water. Table 14 below shows the source of water for food preparation and cleaning for households surveyed in the mid-term review.

[18] In the baseline survey, households were asked about their drinking water, while in the mid-term survey they were asked to source their water used for cooking as opposed to their water used for cleaning. While the results are not strictly comparable because the questions asked were different, the percentages suggest that there has been a slight shift in where water is sourced.

Table 14: Sources of water for food preparation and cleaning.

Water Source	Source of Water for Food Preparation		Source of Cleaning Water	
	Frequency	Percent	Frequency	Percent
Home/yard tap	*2*	*0.2*	*5*	*0.6*
Public/neighbor tap	*178*	*20.9*	*43*	*5.1*
Open well in home/yard	*14*	*1.6*	*5*	*0.6*
Public open well	*71*	*8.3*	*13*	*1.5*
Protected well in home/yard	*3*	*0.4*	*2*	*0.2*
Protected public/neighbor well	*8*	*0.9*	*4*	*0.5*
Surface water protected source	*0*	*0.0*	*1*	*0.1*
Surface water non-protected source	*362*	*42.5*	*535*	*63.0*
Sub-surface water source	*31*	*3.6*	*16*	*1.9*
Pond/lake	*12*	*1.4*	*8*	*0.9*
Canal	*153*	*18.0*	*207*	*24.4*
River water	*14*	*1.6*	*10*	*1.2*
Other	*3*	*0.3*	*0*	*0.0*
Total	*851*	*100.0*	*849*	*100.0*

It should be noted that where CARE has water and sanitation programming, 45 percent of households use non-protected surface water for food preparation. Where water and sanitation programming is absent, only 38 percent of households use non-protected surface water for food preparation. Likewise, the use of canal water in areas where water and sanitation activities occur is higher than in areas where it is absent. This suggests that CARE is targeting its WATSAN activities in areas where water and sanitation conditions are worst.

Households do not have as much control in determining the source of their water as they do in treating and protecting their water once it is in the household. If water is properly and routinely purified, much of the negative consequences of an unprotected water source can be eliminated. Currently, about 80 percent of households claim to routinely purify their water, and this does not vary by whether CARE WATSAN activities are present or not. There is significant difference, however, by District. Vavatenina has the lowest percentage of households purifying their water (Table 15).

Boiling remains the most popular method of water purification. Of the households that purify their water, approximately 77 percent do so by boiling it (Table 15). About 9 percent of households purifying water use *sur eau* as their primary means of water purification, and about 15 percent use *sur eau* as either a primary or secondary method. Use of *sur eau* is highest in Mahanoro at 24 percent, and lowest in Fenerive at only slightly more than 5 percent. Where CARE WATSAN activities are present, almost twice as many households use *sur eau* as their primary means of purification. In all cases a very minor percent of households decant their water as a means of purification.

Table 15 shows point of purchase for *sur eau*. As shown, overall half (50%) of *sur eau* is purchased from AVBC or CARE communal liaisons, while about 30 percent is purchased directly from village shops and about 11 percent is purchased from health animators. In Vavatenina , almost 80 percent of *sur eau* is purchased from CBSAs, while in Soanierana Ivongo none is purchased. Fenerive households rely heavily on health animators and village shops, while those in Mahanoro and Vatomandry rely mostly on CBSAs.

The problem of the availability of *sur eau* is confirmed by the data. Less than one-quarter of respondents noted that *sur eau* was always available, and more than 60 percent said it was rarely or never available. Obviously, availability directly impacts sales, and if users or potential users cannot find the product, or don't expect to find the product, they will likely lose interest in using it[19]. Lack of availability is also supported by sales data. In FY04, *sur eau* sales were only 11 percent of projected sales (3,982 units sold out of 36,000 units planned), and by FY05 sales had increased to 30 percent of projected sales (10,911 units sold out of 36,000 units planned).

Table 15: Characteristics of water treatment by District and survey population.

		District					General Survey Population
		Fenerive	**Mahanoro**	**Soanierana Ivongo**	**Vatomandry**	**Vavatenina**	
	N	251	166	133	254	107	911[20]
HHs Routinely Purifying Water (%)		81.7	80.8	82.3	78.9	74.0	79.8
Method of Purification (% of HHs)	*Boiling*	*85.2*	*74.1*	*72.9*	*74.8*	*77.2*	*77.1*
	Filtering	*2.0*	*0.6*	*4.8*	*2.8*	*2.4*	*1.8*
	Using sur eau	*5.2*	*24.1*	*16.3*	*14.6*	*19.5*	*15.1*
	Decanting	*7.6*	*1.2*	*6.0*	*7.8*	*0.9*	*6.0*
Point of Purchase	*CSB*	*7.1*	*7.1*	*20.0*	*4.8*	*0.0*	*6.0*
	Village shop	*35.7*	*28.6*	*60.0*	*31.0*	*0.0*	*29.8*
	AVBC or CARE	*14.3*	*57.1*	*0.0*	*59.5*	*77.8*	*50.0*
	Health animator	*28.6*	*7.1*	*0.0*	*4.8*	*22.2*	*10.7*
	Other	*14.3*	*0.0*	*20.0*	*0.0*	*0.0*	*3.6*
Availability	*Always available*	*16.5*	*24.1*	*35.0*	*22.5*	*27.6*	*23.7*
	Often available	*7.7*	*22.6*	*17.5*	*7.8*	*7.1*	*11.8*
	Rarely available	*27.5*	*35.0*	*28.2*	*28.0*	*35.7*	*30.2*
	Never available	*48.4*	*18.2*	*19.4*	*41.7*	*29.6*	*34.3*

[19] Data shows a highly significant relationship between availability and use (r-square = .704). In areas where respondents say *sur eau* is readily available use is higher.

[20] The total number of household responses exceeds the survey population due to some households that use multiple techniques to purify their water.

Bed Nets

Malaria is still a problem in rural Madagascar. Almost one-quarter (25%) of the 107 reported deaths in the mid-term survey were attributed to malaria[21]. To further CARE's understanding of the extent to which the preventative practices against malaria are adopted in the Title II area, data on the possession and use of bed nets was collected in the baseline and mid-term household surveys. The results for bed net sales have been more encouraging, and point to people's knowledge of malaria prevention and their willingness to pay for protection. Ownership of bed nets has significantly increased, to the point where almost 97 percent of households surveyed own at least one bed net, and the average number of bed nets owned per household is two. On average, there is one bed net for every two persons in the project area.

Table 16 shows results for bed net use for children aged zero to five years. Baseline figures are in parentheses. Note that every change in bed net use over baseline values is significant at the p<.001 level, meaning that change has been dramatic. About 95 percent of children were reported to have slept under a bed net the night before the interview. This is nearly double the percentage that slept under a bed net during the baseline survey. There was little difference due to age of the child. In the baseline, older children (2-5 years old) were more likely to use a bed net than younger children, but in the mid-term survey these differences were minor and non-significant. The ownership and use of impregnated bed nets (super moustique) has also increased significantly. In the baseline survey, only 12 percent of the bed nets used by children were of this type, while in the mid-term survey 60 percent of bed nets used by children were impregnated.

Table 16: Use of bed nets for children 0-60 months, with baseline comparison.

Age of child (months)	N (for MTR)	Household possesses at least one bed net MTR (JBS)	Child reported to sleep under a bed net MTR (JBS)	Child reported to sleep under a super moustique bed net[22]
0-6[23]	109	95.6	93.8	59.2
6-12	101	98.8 (52.8)	93.0 (48.2)	62.8 (13.0)
12-24	150	97.6 (56.0)	94.3 (49.8)	67.3 (12.4)
24-36	171	98.7 (63.5)	96.7 (57.3)	62.6 (13.6)
36-60	274	96.6 (61.4)	95.1 (52.9)	53.6 (11.2)
Total				
0-60	805	97.4 (59.0)	94.9 (52.3)	60.2 (12.4)

All MTR/JBS comparisons are significantly different at the P<.001 level.

There is a significant difference in bed net ownership by District (Table 17). Bed net ownership is highest in Fenerive and lowest in Mahanoro. Per capita bed net ownership is also highest in Fenerive and lowest in Mahanoro and Vatomandry.

[21] Even though households reported malaria as a cause of death, there is no way to validate this.
[22] Includes both super moustiquaires and moustiquaire milay impregnated with insecticide.
[23] No baseline available for 0-6 month old children.

Table 17: Means comparison for bed net ownership among the five Districts surveyed in the mid-term evaluation.

Total number of bed nets owned

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Fenerive	*248*	*2.14*	*1.287*	*.082*	*1.98*	*2.30*
Mahanoro	*139*	*1.76*	*.921*	*.078*	*1.61*	*1.92*
Soanierana Ivongo	*113*	*2.08*	*1.103*	*.104*	*1.87*	*2.29*
Vatomandry	*219*	*1.89*	*.999*	*.067*	*1.76*	*2.02*
Vavatenina	*117*	*2.02*	*1.042*	*.096*	*1.83*	*2.21*
Total	*836*	*1.99*	*1.106*	*.038*	*1.91*	*2.06*

ANOVA

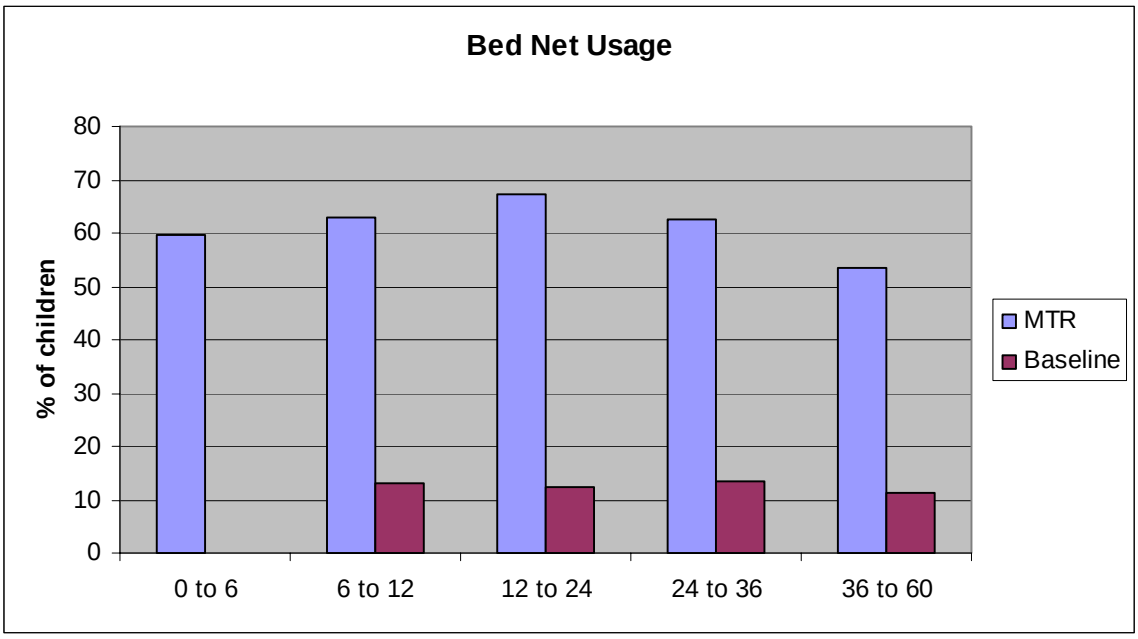
Total number of bed nets owned

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	*15.705*	*4*	*3.926*	*3.243*	*.012*
Within Groups	*1006.123*	*831*	*1.211*		
Total	*1021.828*	*835*			

The use of impregnated bed nets has increased throughout the project area. As shown in Table 18, 42 percent of all bed nets owned are super moustique types, and almost 64 percent of households own one or more super moustique bed nets. About one-third of all bed nets are non-treated synthetic type, and at least one is owned by almost half of all households owning a bed net. Non-treated sugas are still popular, accounting for slightly over 23 percent of all bed nets owned by more than one-third of all households. The moustiquaire milay type is not at all common, accounting for less than 3 percent of all bed nets and found in less than five percent of all households.

The proportion of children sleeping under a bed net has risen dramatically, as shown in Figure 8. Baseline values were very low for all age groups, and there has been a consistent increase across all age groups in bed net use, peaking in the 12 to 24 month old age group.

Figure 8: Baseline and mid-term results of the proportion of children routinely sleeping under a bed net.



The increased ownership and use of bed nets is supported by CARE internal data on bed net sales. In FY04 CARE had projected sales of 5,000 bed nets, but due to delays and supply shortages, no bed nets were sold during the first year of the project. However, in FY05 CARE data shows that almost 11,000 bed nets (204 percent of planned sales) were sold.

Table 18: Bed net type.

Bed Net Type	Responses		Percent of Cases
	N	Percent	
Super moustiquaire	*519*	*41.9%*	*63.7%*
Moustiquaire milay	*34*	*2.7%*	*4.2%*
Non-treated, natural cloth (suga)	*288*	*23.2%*	*35.3%*
Non-treated synthetic	*386*	*31.2%*	*47.4%*
Other	*12*	*1.0%*	*1.5%*
Total	*1239*	*100.0%*	*152.0%*

a Dichotomy group tabulated at value 1.

Latrine Ownership

In the baseline survey it was noted that close to half of the households surveyed (42.1%) used no measures whatsoever for disposal of feces – "they just defecated in the bush." Almost 20 percent defecated in a non-structured site, and the remainder (37.1%) of households had access to pit or VP latrines. Table 19 shows results for the mid-term survey in contrast to the baseline values. In sites visited during the mid-term survey that were part of the baseline survey, the proportion of households without a latrine fell from 42 percent to 26 percent. Likewise, households using a latrine with walls and a roof rose from 37 percent in the baseline to 62 percent by mid-term. In sites sampled in the mid-term that were not part of the baseline survey ("Only MTR"), only 15 percent of households had no access to a latrine and almost 70 percent were using latrines with walls and a roof. This represents a dramatic increase in latrine access by households, and should translate to improved health and hygiene practices by household members. Improvements in access to latrines may help reduce the risk for childhood illness and disease if children are using the facilities.

About 75 percent of households share a latrine, up from 60 percent in the baseline. This change may result from a shift in the percentage of households using no latrine (high in the baseline) to households using a shared latrine with a roof and wall.

Table 19: Latrine ownership by households, baseline and mid-term comparisons.

Study	Latrine Type	Frequency	Percent[24]
Part of JBS-MTR	*No latrine*	*94*	*26.1***
	Simple latrine	*40*	*11.1***
	Latrines with wall and roof	*225*	*62.5***
	Improved latrines (norms)	*1*	*0.3*
	Total	*360*	*100.0*
Only MTR	*No latrine*	*75*	*15.4*
	Simple latrine	*80*	*16.4*
	Latrines with wall and roof	*332*	*68.2*
	Improved latrines (norms)	*0*	*0.0*
	Total	*487*	*100.0*
Baseline (JBS)	*No latrine*		*42.1*
	Simple latrine		*20.4*
	Latrines with wall and roof		*37.1*
	Improved latrines (norms)		*0.4*

Table 20 supports the hypothesis that CARE's presence in the project area, and its health promotion activities, are having a positive influence on latrine ownership. In areas where Tomadi is active, only 15 percent of households have no latrine, compared to 25 percent of households outside of Tomadi influence. In addition, 70 percent of households in areas where Tomadi is present have an improved latrine compared to 60 percent in other areas.

Table 20: Latrine usage by HH according to presence/absence of CARE WATSAN activities.

CARE Watsan	Latrine Type	Frequency	Percent
Present	*No latrine*	*69*	*15.3*
	Simple latrine	*64*	*14.2*
	Latrines with wall and roof	*317*	*70.4*
	Total	*450*	*100.0*
Absent	*No latrine*	*100*	*25.2*
	Simple latrine	*56*	*14.1*
	Latrines with wall and roof	*240*	*60.5*
	Improved latrines (norms)	*1*	*.3*
	Total	*397*	*100.0*

[24] ** Denotes significant change over baseline values at $p < .000$

Jerry Cans

Proper treatment and storage of water are key hygiene behaviors in the CARE project area. As shown above, the majority of households obtain their water from unprotected sources, so there is a high probability that household drinking water is contaminated. Fortunately, the vast majority of households treat their water, usually by boiling it or adding *sur eau*. After water has been treated it is important to store it properly to prevent the introduction of harmful bacteria.

In general, households are practicing good water storage behaviors. Overall, less than one percent of households do not use some type of vessel for storage. The majority use small, medium or large clay vessels with a cover (Table 21). In areas where CARE WATSAN activities are present, almost 11 percent are using jerry cans for water storage. In areas where WATSAN activities are not present the frequency of jerry can use drops by over half to 5.3 percent. Through FY05, CARE has sold over 5,200 jerry cans, slightly under the 6,000 it had planned to sell through the first two years of the project. Households may view the purchase price of 16,500 fmg as too expensive, especially if the jerry cans do not last as long as expected or do not serve any purpose other than water storage.

Table 21: Water storing practices according to presence/absence of CARE WATSAN activities.

CARE Watsan	Water Storage Vessel	Frequency	Percent
Present	*No vessel*	*4*	*.9*
	Vessel w/o cover	*351*	*78.3*
	Large vessel with cover	*3*	*.7*
	Jerry can	*49*	*10.9*
	Small vessel with cover	*41*	*9.2*
	Total	*448*	*100.0*
Absent	*No vessel*	*5*	*1.3*
	Vessel w/o cover	*330*	*83.3*
	Large vessel with cover	*5*	*1.3*
	Jerry can	*21*	*5.3*
	Small vessel with cover	*34*	*8.6*
	No response	*1*	*.3*
	Total	*396*	*100.0*

Tomadi Issues

Tomadi is making good progress in promoting changes in household practices to improve environmental health, as evidenced by the significant changes since the baseline survey in bed net ownership and use, the modest use of *sur eau* despite supply chain difficulties, and the increasing use of jerry cans to store water in the house. Latrine use, a key element to good environmental health, has also increased significantly throughout the project area. Information collected prior to the mid-term evaluation, as well as quantitative data collected during

household surveys, suggests that personal hygiene practices are also good. Tomadi mostly needs to keep on doing what it has done well, but may need to alter its implementation strategy to explore further issues in environmental health, such as the protection of water sources and the disposal of solid wastes. The gains in the use of impregnated bed nets have been impressive, but the staff need to decide if more IEC efforts, or more emphasis on impregnated bed net sales by sales agents, would result in further gains.

The results of *sur eau* use are below CARE expectations, thus some thought needs to be put in to assessing further what benefit *sur eau* brings to the communities. The evaluation was not able to assess the costs of boiling water versus the costs of using *sur eau*. If there is no real cost benefit to the household of using *sur eau* (aside from fuel wood savings, which normally are not perceived by individual households as an internal savings), then it will be difficult to increase sales further. If it is truly a supply and demand issue coupled with an understanding by households of how to use it properly, then *sur eau* sales may increase significantly. In qualitative interviews with key informants and focus groups, several cited the fact that instructions on use were either not clear or were difficult for households members to comprehend and follow. While this may be one factor, there are likely other factors that are reducing demand. Assuming the supply of *sur eau* can be guaranteed, sales agents need to be well-trained in providing instructions. It may also be that promotion of *sur eau* through sales agents is not the most appropriate strategy. Given the margins on sales of bed nets and jerry cans, there may be motivational factors that impact the behavior of sales agents with respect to *sur eau*.

There is some strong evidence in the qualitative studies that community-based organizations are struggling to address local conflict (e.g., water management associations addressing problems with livestock grazers, fishing in canals, etc.). It is not clear to what extent CARE is assisting associations with conflict resolution, if at all. Given CARE's orientation to human rights, it would be highly appropriate for CARE to focus on conflict resolution as a means of strengthening local institutions. Conflict resolution can also be a factor that motivates individuals to participate in local institutions. There is also the potential for institutions to generate and manage revenues through the imposition of fines and penalties for inappropriate behaviors.

Community-based sales agents vary considerably in quality, and results suggest that many are not providing consistent training in *sur eau*, providing consistent stocks, or visiting sites as often as expected by the communities.

Overall the use of jerry cans is positive, but there are indications that people use them for other purposes as well since they are a convenient means for transporting any type of liquid. There are also reports that the jerry cans do not last as long as households expected. One of the problems that arise is that the corners of the plastic jerry cans wear out fast when scraped across rocks or other sharp objects.

Tomadi Recommendations

Tomadi is one of the strongest DAP components, and is making good progress in improving environmental health. Below are a few recommendations that can improve on current implementation strategies and provide information useful for assessing the value of different approaches in environmental health.

1. DAP activities should continue to encourage sound environmental health behaviors, but be aware that bed net ownership and use is already quite high and that water treatment is high as well. Opportunities to promote the sale of Palustop should continue, as it is evident that malaria remains a serious health issue even with the increased use of bed nets.

2. CARE should also monitor water quality more closely at the household level to determine if there is an advantage in using jerry cans versus simple vessels with covers. Jerry cans represent a considerable investment for the household, so their sale and use needs to be more closely linked to improvements in environmental health.

3. CARE needs to develop a system for evaluating community-based sales agents and replacing those who are not effective. This could be an important role for Communal associations, and could empower them to make decisions based on appraisal and performance, which is also a part of governance often overlooked.

4. The strategy for *sur eau* sales should be reviewed. CARE first needs to determine what the bottleneck is. Qualitative results suggest that the methods are confusing, or that the promotion and demonstrations conducted by sales agents are not clear. There is also a strong link between availability and use. In communities where *sur eau* availability is reported as rarely or never available, use is also low.

IV.A.5 Component 5: Maheri (Maternal and Reproductive Health Improvements)

Maheri Overview

Environmental health, as addressed by the actions of Tomadi component, focus on the household itself and behavioral modifications that will improve the health of all family members. The last component discussed, Maheri, addresses a number of related issues relating to health. It seeks improvements in nutrition-related behaviors achieved through the promotion of key child feeding practices known to be beneficial in reducing child nutrition. These behaviors include: the promotion of appropriate infant and child feeding practices; proper treatment of illnesses, and the promotion of nutritious foods[25].

Maheri has been a pilot activity under the DAP, and as such has been exploring implementation approaches that would best promote its objectives. The current implementation strategy of Maheri is based on expanding the coverage of community health programs by intervening in areas not highly involved in any other health interventions offered by other NGOs or bilateral projects. It works directly with communities through community-based organizations to help increase peoples' awareness of relevant health problems facing them, and it also works with communities to find viable and sustainable solutions to the most pressing health problems related to maternal and child care. Maheri uses a variety of approaches in its programming to provide benefits for the communities where CARE works.

The nutrition aspect focuses on child malnutrition and maternal health. It uses a number of different approaches, including IEC, growth monitoring, and the Positive Deviant Hearth model to promote improved caring and feeding practices of young children. The Positive Deviant Hearth model is a relatively new approach that helps communities identify and treat child malnutrition. Communities look within themselves to identify key child caring behaviors and food types being used by 'positive deviant' mothers. These mothers are able to adequately care for their children, despite being faced with similar barriers to health and food security as others in their community. These mothers then train others about their key behaviors and cooking techniques.

CARE also promotes the IEC package designed by LINKAGES, and uses it as a basis for educating mothers and raising community awareness about important child feeding practices. The kit adopted by CARE includes newsletters highlighting important behaviors. There are three different types pertaining to different ages of children: 0-6 months (focusing on breastfeeding), 6–12 months (discussing the introduction of weaning foods), and 12-24 months (further reinforcing the need for weaning foods and continued breastfeeding).

Malnourished children are identified through community-based growth monitoring, conducted by both local health committees and village health promoters (VHPs). Together they conduct these weighings on a monthly basis. The VHPs then counsel families based on their child's results. The monthly progress of the child is recorded in their health booklet. This booklet is

[25] For a more detailed discussion on these behaviors, see Infant and Child Feeding Indicators Measurement Guide, by Mary S. Lung'ao.

another IEC tool designed by LINKAGES. It contains a growth curve along with important messages relating to vaccinations, family planning, feeding practices, and the care of sick children.

A separate family planning component teaches families about the different contraceptive methods available to them. It is similar to the nutrition component in that Village Health Promoters (VHPs) are selected by communities and trained to implement activities in the areas they live in.

Both project components are planned and implemented through locally-selected village health committees. They help to develop action plans, manage materials, and keep their respective communities informed about the project's progress.

The project also promotes the integration of Title II food commodities into food for work (FFW) participant's diets. Through a training of trainers approach, the project is able to conduct cooking demonstrations to a large number of people. A cooking demonstration booklet was created by the DAP staff and distributed to the different members of the food for work Management Team and Team Supervisors. This booklet, written in Malagasy, is an IEC tool that guides people through the demonstration. It contains nutritional information, as well as various recipes using the different Title II commodities.

Maheri Performance to Date

Through Maheri, CARE is attempting to fill a gaping hole in access to health and nutrition information. Historically, households living in rural east coast villages have had scant access to quality health care services, and many have not had opportunities to learn appropriate health care behaviors. By implementing its programs in more remote sites, CARE has been able to promote basic health care behaviors to its communities, but the Maheri component has faced challenges in finding a suitable mode of implementation.

In the first year of implementation, Maheri was considered a pilot activity. It began by adopting the Hearth/Positive Deviance model to promote community-based nutrition. After gaining experience with this approach, an internally-driven, participatory evaluation was conducted to determine how the Hearth/Positive deviance approach might be scaled up in subsequent years of the DAP. According to CARE, the evaluation showed mixed results. Using the Hearth Model required considerable staff input and involvement. Also, most beneficiaries had difficulty in accessing appropriate complementary foods throughout the year that were necessary to make gains in nutrition. After the evaluation, nutrition activities were redesigned in a way to maximize benefits and lessons learned in FY04.

The evaluation also showed that the groups that were most successful in nutrition were those that were also involved in home gardening and/or revenue generating activities. Maheri altered its approach to center more around gardening and income generation (although more around gardening). In FY05, nutrition and health education components along with cooking demonstrations were conducted at garden sites during work breaks, rather than in separate education sessions as in FY04. Nutrition education sessions at food-for-work sites were also

decreased in favor of education sessions with women's groups and gardening groups. Health education activities were restructured and integrated through the Champion Commune model in mid-2005. According to Maheri staff, this resulted in better coordination of health activities (family planning, nutrition, environmental health, and community-based management of health promotion), but delayed the start of intensive family planning activities through community groups, Village Health Promoters, and Community-Based Sales Agents. The family planning activities are scheduled to be promoted more in FY06.

The obstacles encountered by the Maheri component are largely the result of trying to forge a meaningful health and nutrition component with limited resources and staff. If the DAP were purely a health project, CARE would be much more focused in its health interventions. However, the current DAP design requires CARE to address a wide range of livelihood problems (perhaps too many). With limited staff and resources CARE was a little overwhelmed in trying to pilot Maheri in year 1. The results of key indicators bear this out. Through the first two years of implementation, a total of 128 Village Health Promoters were to be trained, but as of the end of FY05 only 34 had been trained. Also, the number of participants attending nutrition education sessions was less than 20 percent of that planned. The project intends to make up ground by intensifying trainings in FY06. Likewise, training of VHPs and CBSAs in family planning promotion was delayed to coincide with the implementation of the Champion Commune model, and will be conducted in early FY06.

Participation in community events is high. Table 22 provides attendance records from 2004 general assembly events. A significant number of community members are attending these events, and the events themselves provide an important forum for the dissemination of information.

Table 22: Number of people attending General Assemblies in 2004.

Date	Commune	Fokontany	Village	Number
08/10/04	Soanierana Ivongo	Ampasimbola	Ampasimbola Ambodivoara	200
08/19/04	Soanierana Ivongo	Ampasimbola	Sahamalaza	145
08/31/04	Ampasimbe Manatsatrana	Ambodibonara	Ambodibonara	191
09/07/04	Ampasimbe Manatsatrana	Ambodiampaly	Ambodiampaly Ambodirambo	116
09/09/04	Ambatoharanana	Anjahamarina	Anamboreno Anjahamarina	276
09/06/04	Amboditavolo	Ambodifotatra	Ambodifotatra Ambodiriana	86
09/07/04	Tsivangiana	Niarovana Manandra	Niarovana M.	193
09/28/04	Antanambao Mahatsara	Ambatoharanana	Sahamaloto	52
09/24/04	Antanambao Mahatsara	Ambatoharanana	Ambatoharanana	58

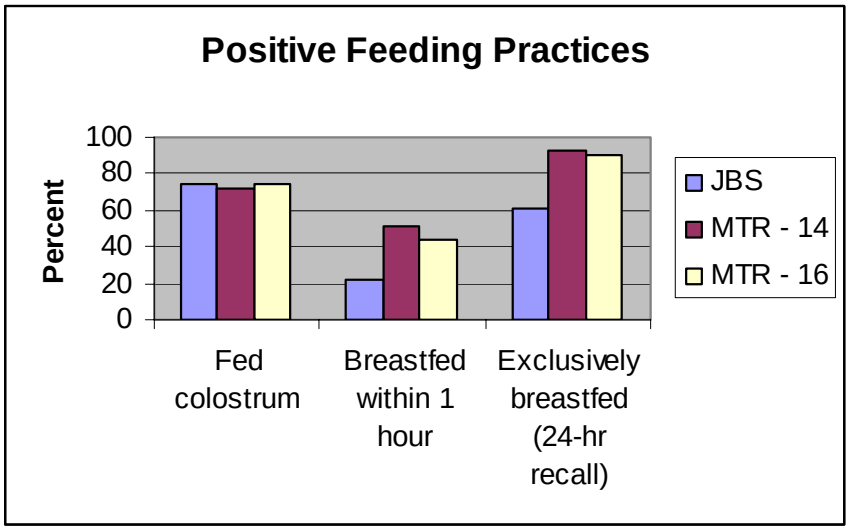
Maternal Nutrition and Feeding Practices

Despite the difficulties, indicators reflecting changes in care-giving practices of mothers have been positive. The key indicators for tracking progress in Maheri include:

1. ***Promotion of exclusive breastfeeding from birth through the first 6 months of life;***
2. ***Introduction of complementary foods from 6 – 10 months;***
3. ***Proper care of children during and after illnesses;***
4. ***Breastfeeding continuing until the age of 2; and***
5. ***Promotion and production of nutritious foods, including vitamin A rich foods.***

Figure 9 provides data from the baseline and mid-term surveys on breastfeeding indicators: feeding colostrums, breastfeeding within one hour of birth, and exclusively breastfeeding. The proportion of mothers providing colostrums to their newborns had remained steady since the baseline at about 72 percent (P=.832). There was also no difference in the proportion of mothers providing colostrums between sites where CARE nutrition activities are present versus sites where nutrition activities are not present.

Figure 9: Positive Feeding Practices of Mothers in the Baseline and Mid-term Surveys



There is no significant difference (p=.894) among mothers feeding colostrum. The percentage of babies breastfed within one hour and exclusively breastfed is significantly higher (p<.001) in the midterm survey.

There has been a significant increase in the proportion of mothers' breastfeeding within one hour. Baseline data showed that only about 20 percent of mothers were practicing this behavior. In the mid-term survey, almost half of mothers from the same survey sites as the baseline (MTR -14) breastfed within one hour and about 40 percent from the other sites breastfed within one

hour. Women in sites where CARE nutrition activities are present are much more likely to feed their babies breast milk within one hour than those where CARE nutrition activities are not present (54% versus 37%). The mean length of time between birthing and breastfeeding was 7.7 hours for mothers in sites where nutrition activities are present as opposed to 10.4 hours in sights where nutrition activities are not present. This difference is significant ($p<.010$).

Diet and Diet Diversity

Approximately 55 percent of households prepared at least one vitamin-A food[26] in the 24 hours prior to the survey. Of these households, the average number of vitamin-A food groups prepared was two. Use of vitamin-A foods was not significantly higher ($p=.236$) where CARE has nutrition programs (52%). Also, no difference was found by District ($p=.541$). Literacy, however, does make a difference ($p=.090$), where more literate households are also more likely to consume Vitamin A foods. This suggests that means should be sought on how to engage illiterate participants more effectively in health and nutrition messages.

The average number of food groups consumed, using 24-hour recall, was 4.1. The results for Vatomandry and Fenerive diet diversity were significantly lower than the other districts.

No information was available on family planning indicators.

Maheri Issues

CARE has spent considerable time and effort in providing nutritional training to FFW participants. However, the population-based household survey conducted as part of the mid-term evaluation cannot provide any information on the effect of this intervention. No other data was reviewed that could show what behavioral changes were taking place as a result of this training. Anecdotal evidence suggests that corn-soy blend (CSB) is used more, and there is a monetary value for CSB now whereas before it had no value.

It is also unclear what progress, if any, is being made in family planning. There is no quantitative or qualitative data to support any conclusions about what behavioral and attitudinal changes are occurring at the household level.

Maheri Recommendations

1. CARE should continue to seek ways to consolidate local-level management of health care under the CCD. It is likely that in the near and mid-term, the State health care system will not function well in remote communities, so the more local communities and communes can do to analyze their own health status, and seek ways to improve the health of vulnerable people, especially newborns, infants and mothers, the better overall health will be.

[26] Vitamin-A foods included greens, dairy, eggs, papaya/mangos and yellow foods (carrots/squash)

2. CARE should explore promoting home gardens through other partners. In order to do so, they would need a portfolio of information that demonstrates the nutritional value of home gardens, their economic potential, how they can be promoted and managed, and what the gender implications are.

3. There still appears to be either a stigma or misconceptions surrounding the value mothers place on feeding their child the first milk produced, or colostrums. Being rich in antibodies and white blood cells, colostrums help to protect a child from infections as well as different growth factors. However, some mothers are apparently unaware of these benefits, or think that it is dirty or bad for their child, and discard it before beginning to breastfeed. When asked why they do not give colostrums, several say they were ill during birth, and others felt they could not feed colostrums because they felt that they would pass the illness on to their child, or were told by older women in the community not to give it. Mothers who did give colostrums are likely to report that they learned the benefits through health messages. No significant change in the percent of mothers giving colostrums has occurred, so the strategy needs to be reexamined to look at what barriers still exist. This is an excellent opportunity to use focus groups in the manner in which they are intended. Focus groups with a mix of mothers who have and who have not provided colostrums would be appropriate.

IV.B. Urban Program

IV.B.1 Urban Antananarivo – Mahavita

Mahavita Overview

Program Mahavita is the longest running urban DAP component in Madagascar, operational from 2000 until the present. It remains somewhat unique among CARE's projects in Southern and Western Africa and among Title II DAPs in general. During its early years of operation it applied a number of theoretical concepts and focused on building organizational structure and establishing a common vision and principles in thirty urban Fokotany of Antananarivo. This "inception phase" was a well-crafted strategy to accomplish solid team building, empower staff, and understand communities and the operational environment of Antananarivo well enough to enable effective programming. During the first DAP, Mahavita was mainly geared toward empowering communities to address constraints affecting their ability to control their own resources and livelihoods. Along the way, it fostered a mindset among urban dwellers that encourages the creation and maintenance of healthy and hygienic environments in support of productive livelihoods.

Based on the lessons learned from DAP I, the current Mahavita expanded to 80 Fokotany in four Arrondissments (sub-Districts), focusing on increasing the capacity of urban municipalities to participate with communities in the planning and coordination of development activities. Through participation and appropriate delegation, communities are taking more ownership of their development and becoming empowered to take responsibility in improving their environment, thus increasing their level of resilience and their capacity to coordinate sustainable development activities and mobilize resources.

The main thrusts of Mahavita include reinforcement and strengthening of various urban institutions (Municipal government, SFFs, NGO partners, and CBOs) in civil society to work in harmony and 'take-charge' of their community's development. Through improved and more accessible information and strategic and coordinated development plans, these entities will be better equipped to advocate for their needs and demonstrate capacity for change.

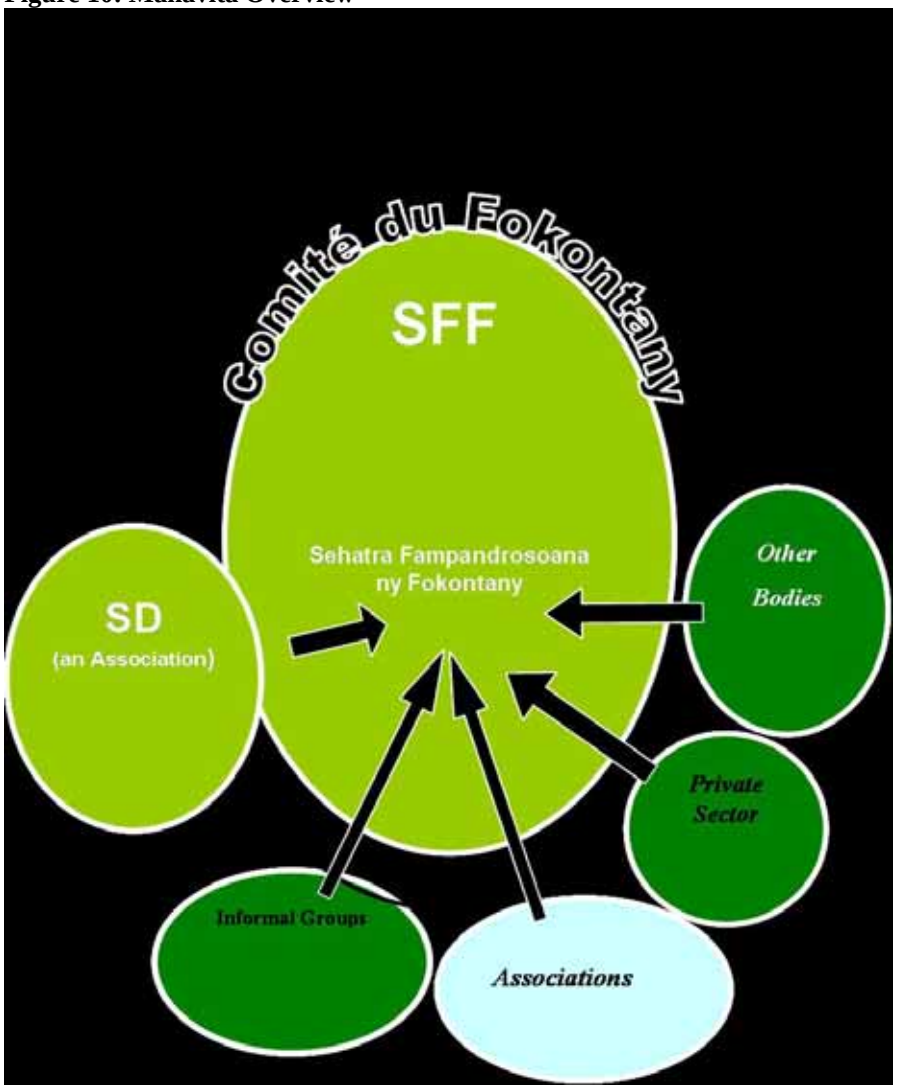
Figure 10 above shows the primary organizational framework for Mahavita. Each community has a committee referred to as Sehatra Fampandrosoanany Fokontany, or SFF. The SFF is made up of diverse members, but importantly it includes the Fokotany President. The SFF can also include formal Associations (such as the Structures du Developpement), informal groups (e.g., local interest groups), private sector bodies, and other actors[27]. SDs can and often do take responsibility for managing infrastructure such as public toilets, pathways, wash basins and water supplies, but the private sector can also manage local infrastructure. The SFF also interacts with the Arrondissement[28], the private sector (especially with respect to delivery of

[27] For historical reasons this is important. In the first DAP, the SDs were the representative body at the Fokotany level. In the current DAP, the SFF was created to be more inclusive and to implicate the Fokotany authorities in the development process.

[28] Municipal Antananarivo is divided into sub-districts, or Arrondissements, each headed by an authority selected by the Mayor of Antananarivo.

services such as water and solid waste collection), various associations, CARE and its partners, and others.

Figure 10: Mahavita Overview



The current Mahavita represents a bold and important departure from the first Mahavita program. Although the focus remains on a community-driven development approach to improve urban livelihoods, more emphasis is placed on the interactions of institutions and how they can and should work together in an urban environment so that planning is coordinated, representation is equitable, and access to service providers is open.

Mahavita Performance to Date

One of the early decisions by Mahavita staff during the current DAP was to reflect on how communities were organized and the strategic alliances that were formed through the SDs that were facilitated in DAP I. One important insight from the DAP I final evaluation was that the

SD structure was excluding key members of the Fokotany, mainly the local government officials. While DAP I aimed to foster governance and participation, the isolation of the SD from Fokotany power structures threatened to undermine the good intentions of all.

Community Structure

From the analysis by Mahavita staff emerged the concept of a more inclusive structure and better governance – the SFF described above. SDs were "redesigned" to create a broader governance platform that now links Fokotanys with Arrondissements and Communal departments.
The SFF is a negotiated structure, allowing communities flexibility in how it functions within their particular context. Mahavita's objective is to implement the SFF platform in 80 Fokontany in Antananarivo. CARE agreed with the request of the CUA to support the development of an SFF in all 144 Fokotany of the four arrondissements where Mahavita is committed. In exchange, Mahavita requested the support and the involvement of the arrondissements in the process. CARE and its partners focus on the four most impoverished sub-Districts of the CUA, and together have facilitated the establishment of 143 SFFs out of 144 Fokotany. Since the SFF has the official endorsement of the CUA, it is envisioned that eventually each of the 192 Fokotany of Antananarivo will have an SFF. One interesting note is that in many discussions about the SFF, local authorities no longer make reference to CARE, but refer to the strategy of the CUA. This shows a strong Communal affiliation with the process.

The powerful element of the SFF structure is that it makes it possible for more citizens to participate, and people actually want the local Fokotany authorities to participate. This provides credibility to the process and makes the SFF and the community itself more visible in the Arondissement. Evidence suggests it also may curb some local-level corruption due to the level of transparency in the budgeting process and the collaboration in planning and execution of community activities.

SFF's have been established largely by CARE partners, with CARE providing guidance and oversight as well as training in specific areas of capacity building. Each SFF is free to establish sub-committees as it sees fit. Each SFF carries out an introspective diagnosis using problem analysis and other methods to identify problems and opportunities in their community, as well as solutions on how to address the problems or capitalize on the opportunities. From this diagnosis a development plan is developed, the DFF. The DFF is used to document the planning process, identify and plan activities, and solicit support from within and outside the community for local level development. The process of developing the DFF alone is one positive element of improved governance taking place in the Fokotanys. Another interesting and positive result is that several Fokotany have now implemented development activities without the assistance of Mahavita. Examples include the development of water points built in partnership with the private sector in the 6th arrondissement. Currently, one of Mahavita's local association partners is negotiating a contract with a French NGO to implement a social project.

Community Awareness of SFF and DFF

Despite the relative success in establishing SFFs, awareness of them among community members is lower than expected. Overall, about one-in-four, or 25 percent, of community members are aware of the SFF. Table 23 shows that a lower proportion of those in the poorer social class are aware of the SFF, but that awareness is generally low in all three classes. Of those that are aware of the SFF, slightly over half, about 54 percent, gained their awareness from general assemblies. Another 28 percent heard from others, about 6 percent learned from information panels, and about 4 percent from the actions taken by the SFF.

Table 23: Awareness of the SFF among social categories.

CATEGORIE SOCIALE ENQUETEE		Frequency	Percent
Pauvre	OUI	*50*	*21.7*
	NON	*180*	*78.3*
	Total	*230*	*100.0*
Moyen	OUI	*54*	*26.3*
	NON	*151*	*73.7*
	Total	*205*	*100.0*
Riche	OUI	*7*	*28.0*
	NON	*18*	*72.0*
	Total	*25*	*100.0*

Of the 111 individuals in the survey that knew about the SFF, about 10 percent had participated in some manner in developing the SFF and about 16 percent had some contact with the SFF in the thirty days prior to the survey. Thus, overall about 2 percent of the population both knew about the SFF and participated in the process. This may be lower than expected, but there are no established benchmarks for awareness of community structures. It should be noted, though, that Mahavita works at the Arrondissement level with local associations and Fokotany structures, and as such, CARE is not direct implementer of the process. Most of the SFF are new and perhaps will be better known after more time has elapsed.

There is a seemingly high variation in capacity, partly due to the capabilities and interests of individual members, but also due to the quality of assistance provided by partners since they have the most day-to-day contact (consequence of implementation style). All SFFs seem strong in spirit and organization.

Of the 460 respondents in the sample, 49, or slightly above 10 percent, played a role in developing the DFF (Table 24). Over half of respondents worked on the development plan while about 20 percent worked on the document itself. Only about five individuals worked on more than one aspect of the DFF. *Surprisingly, households classified as poor accounted for about half of the households that worked on the DFF.*

Table 24: Type of participation with respect to the DFF.

Aspect of Working on the DFF	Responses		Percent of Cases
	N	Percent	
Development Plan	*26*	*53.1%*	*59.1%*
Manual Development	*1*	*2.0%*	*2.3%*
Working Document	*10*	*20.4%*	*22.7%*
Project	*7*	*14.3%*	*15.9%*
Other	*5*	*10.2%*	*11.4%*
Total	*49*	*100.0%*	*111.4%*

Membership

Being a member of an association is still rather new in Antananarivo. Table 25 shows the proportion of households that have at least one person belonging to an association. Overall about 20 percent of households have at least one such member. However, in those households classified as poor, fewer than 15 percent have such members. Association membership is significantly higher in richer households, where almost one-third have such members.

Table 25: Households with members in an association, by social class.

Households With Members in an Association

CATEGORIE SOCIALE ENQUETEE		Frequency	Percent
Pauvre	Oui	*33*	*14.3*
	Non	*197*	*85.7*
	Total	*230*	*100.0*
Moyen	Oui	*48*	*23.4*
	Non	*157*	*76.6*
	Total	*205*	*100.0*
Riche	Oui	*8*	*32.0*
	Non	*17*	*68.0*
	Total	*25*	*100.0*

Arondissements and SFBs

CARE, through Mahavita, has made significant progress in bringing higher-order government structures into the local planning and development process. The current DAP differs significantly from DAP I in that local sub-districts (Arondissements) and the Antananarivo

Cummunal Government (Mayor's Office) are integrally involved in the program. The long-term future of SFFs seems much more certain than that of SDs for this and other reasons. The SFFs are officially recognized by the Commune as representing the Fokotany. This would not have happened if CARE had not restructured the community organizations and brought Fokotany government into the fold. This was one of the critical elements identified at the end of DAP I and stressed as an early DAP II need. CARE staff are to be commended for their clear analysis in how to integrate essential elements into the SFF structure.

One of the most impressive aspects of Mahavita is its efficiency. With a very lean and experienced staff, CARE is able to guide the work of its partners while at the same time keeping aware of the pulse of the communities. While the loss of day-to-day contact with communities is evident (when compared to DAP I), Mahavita staff are balancing needs with resources as well as this evaluator has ever seen.

Heads of each Arondissement were interviewed during the evaluation. Each had a clear understanding of Mahavita and what it was trying to accomplish in communities.

Capacity Building

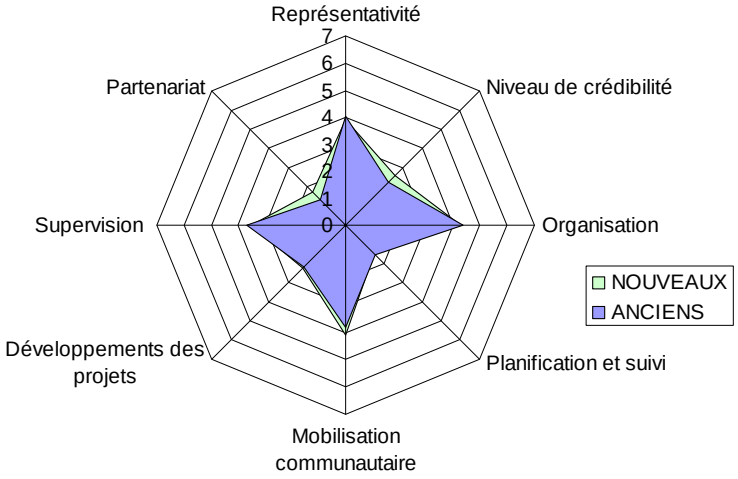
CARE capacity building is a key element of the urban program. In each discussion with government officials, association members, and relay partners the subject of training and capacity building come up. It is clear that everyone is appreciative of the training provided by CARE. The only common complaint is that it often takes too much time, or is scheduled contiguously instead of, for example, half days. The other interesting aspect of training is how its benefits are accrued. It may be that individuals are gaining more from training than the institutions they serve (especially for such groups as the SFFs). What may be motivating some people to participate in organizations is not any benevolent cause or altruistic behavior, but simply motivation for gaining personal knowledge and competency through trainings.

CARE's use of institutional capacity assessments is useful[29]. The spider model, such as the example shown in Figure 11, is a useful tool for visualizing the differences from group to group or over time. There are some questions as to how the model is being applied and the specific indicators that are used to assess institutional capacity. The evaluator's experience with similar tools in CARE Bangladesh suggests that two issues need to be addressed. The first issue is how the indicators are articulated and the second issue relates to the subjectivity of the scoring system. It appears that the model needs to incorporate more spread in the data, perhaps using Z-scores as a means for comparing individual groups against group means.

So far the evidence that CARE has developed the appropriate indirect model of capacity building is weak (elements may be revealed when the quantitative data are reviewed). It is skewed towards training, and this could benefit from a closer link between M&E and operations.

[29] CARE US is currently looking at institutional assessment under its USAID Strengthening Grant, and the experience of CARE Madagascar in assessing institutional capacity through the matrix approach and its visualization using spider models would be of interest to them.

Figure 11: Spider Model Comparing Institutional Capacity of Older and Newer Community-based Development Groups



Infrastructure

CARE has facilitated the development of important community infrastructure, but no funds are provided through the DAP to build infrastructure. To date, all infrastructure development has been realized thanks to external funding[30]. Many DFFs reflect the communities desires in environmental infrastructure improvements, such as canal cleaning and pathway constructions, but also include activities in beautification, community mobilization around health issues, and recreation facilities. Canal embankments and construction of pathways and "diguettes" (built-up walkways) has been the main focus of infrastructure improvement in DAP II. Approximately 32 kilometers of these pathways have been built, and there is no doubt that this reflects the priority of residents in the majority of the Fokotany's where Mahavita works – most of which are located in the low-lying floodplain of Antananarivo. Every year the rainy season flooding causes extreme hardship for residents - relocation, resorting to travel via pirogue, and exposure to highly contaminated water. Also, this type of construction is an ideal FFW activity. In addition, approximately 725 meters of embankments have been constructed or improved, and 26 water collection points have been constructed or rehabilitated.

[30] It should be noted here that for many years donors have generously funded rural projects (agriculture, food security, infrastructure, etc.) and neglected the majority of initiatives from urban civil society (15% of the population of Madagascar is living in Antananarivo). This could exacerbate future problems since crises often originate in urban centers. Cash income is needed for survival, particularly where the quality of life is impacted by environmental conditions and overcrowding.

Mahavita Issues

As Mahavita moves onward into the next two years of implementation there are some issues that should be addressed.

Arrondissements

Arrondissements are now linked closer to development plans and are aware of the needs of Fokotanys under their jurisdiction.[31] However, there is not a clear understanding by the Delegues (sous-Mayors) of exactly what their role is under Mahavita. On the one hand, each senses that they are supposed to be part of the planning and development process, but they differ in how they interpret this and how much importance they give to the program. Some feel they are the "rubber stamp" for the DFF, to give blessing to the Fokotany development plans and wish them good luck in finding a source of funds.[32]

The understanding of what CARE is trying to accomplishment under the heading of *good governance* is very well understood. Most Delegues mention transparency, especially in financial management, as one of the keys to good governance. Broad-based participation is also mentioned often, and all identify the development of the SFF and DFF as important elements of governance. Accountability is also mentioned as a key element, but several pointed out that people have a responsibility to inform themselves by attending general assemblies and other meetings, but that many do not (this observation is confirmed by the quantitative survey results).

It may be that Delegues retain an interest in Mahavita for the capacity building they receive. This point applies not only to Arrondissements, but all other committees and organizations that are implicated in the project. Other issues emerge such as funding, internal capacity, and the specific role of the Arrondissement in the planning process. Currently, all funding comes from Communal authorities. Often the only way Arrondissments can specifically help Fokotanys is with technical assistance from their staff, but then the capacity of many of the Arrondissement staff is lacking or not in line with the needs of the program. Therefore needs to be caution with respect to building skills without proper funding, job descriptions and other outstanding human resource issues. Also, there is debate about which skills Arrondissements need. Clearly, not every Arrondissement needs duplicate skills, and there should be ample opportunity to share various skills sets across Arrondissements, housed either within an Arrondissement or at the Commune level.

A few Delegues were concerned that there was too much burden being placed on Fokotany authorities, that their time was limited and they were busy doing other things (what these 'other' things were was not clear). Several also thought the training sessions were too long, or at the least they should be organized in half-day sessions so that other work and meetings could go on as well.

[31] Interviews were held with each of the four heads of Arondissements that take part in Mahavita.
[32] Part of the problem lies with the CUA, which is not clear on the role it wants the Arrondissements to play. Mahavita is planning a workshop to provide feed back to Government on the mid-term evaluation. This workshop will bring this issue to the table and hopefully will bring clarification from the Mayor on the role he wants the Arrondissement to play in the future, in a decentralized framework.

Most Arrondissements meet regularly with the Fokotanys. For example, in Arrondissement 1, there is a meeting once each month with about 175 participants. Additionally, Delegues receive regular briefings about what is happening in their various Fokotany, what the major problems are, what the security situation is, etc.

Eventually it would seem that Arrondissements have to be a source of funds for Fokotany to enable the realization of at least some concrete activities included in the DFFs. If funds come directly from the Commune, there is no significant role to play for the Arrondissements, and they will lose motivation in participating. If no funds come from the Commune or the Arrondisements, likewise SFFs will eventually lose interest unless they can generate their own funds.

Partners

Mahavita has a reliable group of partners through which it conducts most of the activity at the Fokotany level. The staff of partner organizations is highly motivated to work with CARE, if for no other reason than the professional and personal benefits they receive from the training they take part in and the on-the-job experience they gain.

There are two main issues that emerge when discussing Mahavita with partners. The first is their varied capacity. The differences among the relay partners in terms of capacity are large. This is creating a problem in that the quality of interaction they have with SFFs is also large, reflecting the capacity of the relay partner itself.

The second issue is their ability to interact at the Arrondissement level, particularly with Delegues. Each partner commented on the fact that access to Arrondissements and the Commune is not easy. They feel they are not seen as equal in status to CARE, and officials would rather interact with CARE and may not always understand or appreciate the role of the partner organizations.

Private Sector

Comparatively little has been done to link the private sector into the development process. This has two main elements: how does the current private sector support urban development, and how can more financial resources flow from the private sector to FKTs. The second element is the use of new or existing entities to support high quality service delivery (e.g., water and sanitation).

Funding

Successes include Ft. Dauphin infrastructure development and EDF-supported infrastructure in Tana. CARE still needs to fine tune a strategy that is not tied exclusively to non-external development (i.e., donor) resources, but also brings in local (e.g., private sector) resources. Or, if cost-recovery can be demonstrated, seek a loan mechanism for communities.

Training

CARE has 27 modules dedicated to provide adequate skills at the community level to promote development and good governance. It is not clear what type of monitoring is done on these training activities to determine their value and if there is needed adjustment. Closer monitoring will be required to assess which trainings are adding value to the process and what additional type of capacity building will be required.

Mahavita Recommendations:

CARE's Mahavita program in urban Antananarivo is progressing well, and the evaluation team commends the staff for their dedication and hard work. As always, there is room for adjustments to make the program even better. This evaluation has identified important issues that should be considered as CARE continues its urban programming efforts under the DAP II and other funding. The recommendations highlighted here are presented in the spirit of hope that Mahavita continues as a shining example of urban programming in CARE.

1. CARE needs to develop clear exit strategies related to eventual disengagement from urban programming in Mahavita, or moving away from the governance programming it has engaged in since DAP I. Exit strategies are essential to reduce the potential for dependency and prevent undermining development structures. It is important to convey issues related to time frames to communities, the government, and the USAID mission. The exit strategy should include a phase down, phase over and phase out analysis. Phase down, which involves a gradual reduction of program inputs, is the preliminary stage to both phase over and phase out. Phase over refers to the transfer of responsibility for activities aimed at accomplishing program goals to another entity. Mahavita has capacity building within a community as the main mechanism for ensuring sustainability. This is, of course, a phase over approach, with a transfer of responsibility to community groups created or supported and strengthened by the Title II program. Phase out should refer to

the withdrawal of program inputs without making arrangements for the inputs or activities to be continued by another organization.

2. In continuing to work with Fokotanys on situational analysis and planning, CARE and its relay partners should emphasize opportunity analysis more. The emphasis in DAP I and II has been on problem analysis, and this is appropriate. However, it will give SFF's a "fresh" look at their environment if they look from a perspective of opportunities. This may also help communities brainstorm about how to get community goals accomplished in light of difficulties in securing funding.

3. CARE should develop a private sector engagement strategy that explores a variety of means for engaging the private sector in supporting local communities. This effort could be initiated by first holding a series of half-day workshops with private sector representatives on how they can become involved. CARE has to create win-win scenarios so that the private sector is motivated to participate. Examples of how the private sector may participate include, but are certainly not limited to: creating advertising space for business sponsors (e.g., soap manufacturers at basins lavoirs or billboards at Fokotany entry points); Fokotany competitions sponsored by local companies (e.g.; clean Fokotany campaigns); donated items for construction and maintenance of local infrastructure.

4. As in DAP I, the sustainability of CARE's efforts is not guaranteed unless financing of DFFs becomes more secure. Therefore, CARE needs to explore and advocate on tax revenues to pass through the Arondissement and to be managed through the SFB. (How active can USAID be in advocacy??)

5. CARE should extend the M&E system to ensure the capture of information about project/development activities implemented by the SFF/Fokotany's with their own initiative. Information should include details of where Fokotany's are acquiring resources and how these resources were obtained.

6. Health mutuals on the east coast look promising, and CARE could explore the potential for establishing pilot health mutuals in urban areas.

7. IEC is an important component of the urban program. Currently there are only two staff positions. As a result the IEC component is poorly organized and lacks a clear plan of action. It has already been shown that community mobilization and IEC go hand-in-hand (e.g., petit boulevarde). Mahavita needs an IEC strategy for second half of DAP II to articulate the role of IEC in the program.[33] Often there is not enough support when FKTs have a training activity, especially for the new FKTs. CARE can provide information to leaders, and expect them to pass along IEC messages. Still, CARE needs to articulate a strategy for guaranteeing that these messages are correct, completed, etc. It may be better

[33] CARE is currently developing a community-based health project. The project will be implemented by local association and CBO's from the SFF in conjunction with the District Health Centers and will have a significant IEC componsnt.

to integrate IEC with the training component. Internal training is also needed for CARE staff that conduct support activities.

8. There still needs to be more formal operational arrangements with the key urban institutional actors – the Prefecture, the Commune, and relevant service delivery institutions, such as Jirama (water) and Apipa (canals). Not everybody perceives their role as the same, and higher-level brainstorming would be useful. The evaluator has the impression that most of the ideas are generated internally, and that more input could be sought from other stakeholders.

9. A weakness of Mahavita in DAP I was its under-emphasis on personal empowerment. One consequence of this is that comparatively little attention was paid to understanding and addressing root causes of livelihood insecurity, outside the arena of environmental health. If CARE wants to continue to program in urban areas, it should develop responses to root causes of livelihood security. Participation through civil society is one aspect, but more direct intervention in improving livelihoods will be needed in the future. This should be explored in the coming two years by soliciting support from CARE regional headquarters and using appropriate consultants (which should include a socio-economist).

10. A small grant program to SFFs for community-based activities would be a powerful way to test the competency of SFFs and provide a means to accomplish some of the goals in the DFF. The activity could: 1) provide experience in seeking funding; 2) generate competition among SFFs; 3) link the Arondissement closer to SFFs; and 4) create community-driven projects. Grants could be awarded by competition based on simple proposals developed by the SFF. This should be explored with USAID and other donors.

11. The monitoring and evaluation unit should evaluate DAP I infrastructure to determine what has worked and what has not worked in terms of quality of construction, growth or reduction in demand, maintenance, fee structures, and perceptions of value. Research is also needed on the management of water points. This requires an economic analysis of costs and benefits, and thus a competent economist would be required.

12. CARE should continue to investigate urban gardening. CARE Haiti has previously implemented some interesting urban gardening activities and maybe there are some lessons learned from their experiences. Organic recycling is also promising, and Mahavita may want to engage the private sector in discussion of recycling opportunities, especially key Chinese businessmen.

13. Mahavita is planning to conduct a water management study this summer. CARE should explore the possibility of the regional office supporting this activity with experienced consultants.

14. CARE should advocate for official policy on payment systems during the remaining two years of the project. This would require obtaining evidence from individuals on their

willingness or reluctance to pay. Be prepared to recommend details of how such a system would function.

IV.B.2 Urban Fort Dauphin

CARE's governance program in Fort Dauphin, located on the extreme southern tip of Madagascar, is a pilot activity whose primary aim is to test governance interventions in a small urban setting. It builds on the successful Title II Urban Household Livelihood Security Program implemented in Antananarivo under the previous DAP, and includes interventions designed to improve community and personal empowerment, infrastructure, and health behaviors of the urban poor.[34] Activities in Fort Dauphin bring together public and private sectors to reinforce and strengthen civil society. By bringing various actors together, CARE is facilitating community actions to work in harmony and 'take-charge' of their development – promoting a community-driven development model in a smaller urban setting.

In the two Fokontany's where CARE has piloted its interventions, the associations[35] were responsible for the management of infrastructure. The evolution of community organization and participation closely followed the experiences from Antananarivo. The main difference in Fort Dauphin and Antananarivo may be the ease and speed at which decisions can be made in smaller communities. CARE is very visible in the community and has more immediate access to the Mayor and other Communal officials. This access is key to driving the process, and from this point forward it should be easy to scale up the pilot activities in Fort Dauphin.

A separate study was conducted for urban activities in Fort Dauphin, and the report is available through CARE Madagascar. Athough Fort Dauphin is a smaller community, it shares many of the same challenges that Mahavita faces in Antananarivo. With the surge of interest and economic activity in Fort Dauphin, there should be more opportunities for co-financing activities.

[34] It is based on successes from the previous DAP and CARE Madagascar's TOUCH 2000 project, both funded by USAID.
[35] Called then "associations porteuses" (AVOTRA and SEVA).

V. Other Conclusions and Additional Recommendations

CARE has a solid reputation among all the individuals and organizations the consultants met during the mid-term review, in both rural and urban settings. It is recognized as the most important and influential urban development entity, and as an international NGO that works in the more remote rural areas, it is known to serve people who are otherwise left out of the mainstream of development.

1. CARE should provide staff with additional training in qualitative research. There is a strong tendency not to probe when conducting key informant interviews and focus groups. Much of the qualitative work conducted for the MTR was superficial, and thus not as useful as it could have been.

2. Many of the annual operational objectives are focused inward, such as improving capacity of DAP staff, conducting team-building exercises, liasing with other DAP components, etc. A shift towards including more learning objectives, and more objectives specific to results among beneficiaries would be beneficial.

3. All staff should have access to the Internet for research and information on interventions. People are working in isolation from what is happening in other parts of CARE and with other NGOs. Training should be arranged for staff on Internet searches and use of the CARE Intranet.

4. The quality of quantitative surveys, essential for collecting information on effect and impact-level changes, could be greatly improved by a few simple changes. First, future surveys should limit the scope of the questionnaire to those issues relevant to the study objectives (e.g., the MTR explored many issues related to cash crop production and input use without clear objectives for using the information). Second, all questionnaires should have clear internal logic (e.g., skip rules, data limits). Third, enumerators should be closely monitored to ensure that all questions are being asked and that internal logic is being respected (in the MTR there were many questions that should have been answered by each and every household, but many of these questions had unacceptable levels of missing values). Finally, data should be properly cleaned (using appropriate techniques) before it is summarized and analyzed.

References

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Annex 1
Performance Indicator Tracking Table - CARE Madagascar DAP 2004-2008

Indicators							
Specific Objective 1: Sustainable improvement in the availability of food for poor households in selected communes of Toamasina and Fianarantsoa Province by 2008.	Baseline	FY2004			FY2005		
		Target	*Achieved*	*Ach'ved/ Target*	*Target*	*Achieved*	*Ach'ved/ Target*
Sub Specific Objective #1.1 Communities sustainably manage water resources for increasing agricultural production.							
# of small dams rehabilitated	0	24	0	0%	40	31	78%
# of meters of canal rehabilitated	0	126000	119000	94%	210000	89550	43%
# of hectares of slope protected	0	0	0	N / A	140	2.1	2%
# of person-days of FFW participation	0	641850	228227	36%	855800	970562	113%
# of committees trained in water management / WUAs formed	0	24	24	100%	40	68	170%
# WUA's undertaking maintenance activities	0	0	0	N / A	24	28	117%
Sub Specific Objective #1.2: % of smallholders are using new technical knowledge to increase their food production.							
# of farmer leaders trained in improved rice-culture techniques	0	450	419	93%	750	631	84%
# of farmer leaders trained in improved cropping techniques (other food crops)	0	450	419	93%	750	631	84%
# of home gardens established	0	225	342	152%	375	1252	334%
# of new farmer associations formed and trained in management of agricultural inputs	0	24	22	92%	40		0%
% of HHs growing two or more recommended vegetables	5.30%	300			500		0%
# of hectares of "new" irrigated rice cultivated in the project zone		1680	2033.51	121%	2800	1620.6	58%
Average annual production per HH of irrigated rice (tones per hectare)	1.02					1.21	
% of HHs establishing improved garden	0.6%					42.1	
Specific Objective #2: Improved economic access to food for poor h'holds engaged in infrastructure development in communes of Fianarantsoa and Toamasina Province by 2008.							
Sub Specific Objective #2.1 Reinforcement of regional and local capacity in planning, selection, rehabilitation and management.							
# of villages/communes receiving training in problem analysis & planning	0	28	32	114%	46	69	150%
# of village and commune development plans developed and meeting set criteria	0	28	30	107%	46	69	150%
% of intervention sites (commune or village) undertaking community projects outlined in the development plan	0	0	0	N/A	28		0%
# of Commune information systems developed	0	5	5	100%	5		0%
# of Communal communication plans validated	0	5		0%	5		0%

# of Commune officials trained in municipal management	0	15		0%	15	113	753%
% of communes meeting basic standards for transparent financial management	0	5		0%	5	34	680%
% of Commune Development Commissions accessing at least 2 external financing mechanisms from Technical Partners	0						unknown
Sub Specific Objective #2.2: Poor households participate in Food-for-Work activities.							
# of kilometers of road rehabilitated and meeting standards	0	40	34.4	86%	67	74.1	111%
# of kilometers of foot path rehabilitated and meeting standards	0	20	8.6	43%	33	21.7	66%
# of bridges and culverts constructed by local micro-enterprises	0	18	0	0%	30	71	237%
# of person-days of FFW participation	0	319950	64419	20%	426600	296059	69%
# of Road User Associations formed and legally-recognized	0	6	3	50%	10	8	80%
# of HHs served by rehabilitated roads and footpaths	0	7500	5644	75%	12500	9810	78%
Sub Specific Objective #2.3: Increased marketing opportunities for agricultural products.							
# marketing workshops conducted	0	5	0	0%	5	8	160%
# of Producers Associations formed and trained	0	24	0	0%	40	60	150%
# of contracts signed between Producers Associations and buyers	0					16	
% of HH revenue generated from the sale of cash crops							
Sub Specific Objective #2.4: Increased use of agricultural information systems by farm households.							
# of information 'products' developed and disseminated in villages	0	5	3	60%	5	8	160%
# of information panels erected in prominent village sites	0	24	0	0%	40	24	60%
# of village information officers trained	0	48	0	0%	80	118	148%
% of smallholders that have access to current market prices	32.80%					70%	
Specific Objective #3: Sustainable improvement in environmental health of rural households and communities.							
Sub Specific Objective #3.1: Improved community management of water and sanitation resources.							
# of CBOs receiving training in problem analysis and planning	0	24	40	167%	40	32	80%
# of water and sanitation plans developed and meeting set criteria	0	24	37	154%	40	32	80%
# of infrastructures developed and meeting standards	0	24	0	0%	40	41	103%
# of person-days of FFW participation	0	50625	0	0%	67500	20601	31%
% of HHs with an improved latrine	37.5					63.2	

% of households obtaining drinking water from an improved water source	32.80%					37.60%	
Sub Specific Objective #3.2: Increased use by rural households of hygiene and sanitation-related products.							
# of commune sales networks	0	10	29	290%	10	16	160%
# of community-based sales agents trained and operational	250	406	1252	308%	290	556	192%
Total bed net sales	0	5000	0	0%	5000	10191	204%
Total Sur-eau sales	0	36000	3982	11%	36000	10911	30%
Total Jerry can sales	0	3000	937	31%	3000	4264	142%
% of households with an insecticide-treated bed net						64.10%	
% of children under 5 sleeping under an insecticide-treated bed net	12.4%					60.2%	
% of HHs using Sur'Eau daily	0%					9.2%	
% of HHs using a covered container with spigot to store household water	0%					10.9%	
Sub Specific Objective #3.3: Improved hygiene, sanitation and nutrition practices in rural communities.							
# of VHPs trained in environmental health promotion	0	48	0	0%	80	32	40%
# of FFW participants attending health education sessions	0	12000	0	0%	20000	5658	28%
# of VHPs trained in nutrition	0	48	0	0%	80	32	40%
# of VHPs trained in family planning							
# of FFW participants attending nutrition education sessions	0	12000	10068	84%	20000	2968	15%
% of mothers initiating breastfeeding within one hour of birth	22.4%					42.2%	
% of caregivers demonstrating correct handwashing behavior						No Data Available	
% of children age 12-24 months receiving a 'high diversity' diet						Need to define "High Diversity"	
% of couples using any type of contraceptive method						No Data Available	
% of children age 6-60 months underweight						No Data Available	
% of children age 6-60 months that are stunted						No Data Available	