ENVIRONMENTAL HEALTH PROJECT

Activity Report 115

Integration of Health, Population and Environment Programs in Madagascar

Midterm Progress Report

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Acknowledgments

This report summarizes an innovative and exciting activity in Madagascar. Although this report was written by home office Environmental Health Project (EHP) staff, the real credit goes to the EHP local staff in Madagascar and the various partners of Voahary Salama. In particular, the authors would like to acknowledge the EHP country director, Odile Randriamananjara and her two staff members, Bienvenu Razafitsialonina, the Monitoring and Evaluation Coordinator, and Iangotiana Rasikinaniaina, Program Assistant. As the people with full-time responsibility for the activity, they have made this effort a reality and contributed greatly to the widespread interest among the partners.

We would also like to acknowledge the Voahary Salama partners. This activity is truly a partnership and most of the field activities are actually carried out by them. The partnership would never have formed had it not been for their willingness to collaborate.

Finally, we would like to acknowledge the Office of Health, Infectious Diseases, and Nutrition and Office of Population and Reproductive Health for their support and interest in this activity. The activity required a five-year commitment and these offices were willing to provide the support for the long term.

Abbreviations

ASOS	Action Santé Organisation Secours
CCC	Community Conservation Coalition
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
ECHO	Environmental Change and Health Outcomes
ECHO/IP	ECHO/Integrated Programs
EHP	Environmental Health Project
FAFAFI	Fanentanana Fambolena Fiompiana
FANTA	Food and Nutrition Technical Assistance Project
HIV/AIDS	Human Immunodeficiency Syndrome/Acquired Immune Deficiency Syndrome
H-P-E	health, population, and environment
ICDP	Integrated Conservation and Development Projects
IEC	information, education, and communication
IFPRI	International Food Policy Research Institute
INSTAT	National Institute of Statistics
IPI	Integrated Programs Initiative
IR	intermediate result
JSI	Jereo Salama Isika
LDI	Landscape Development Interventions
M&E	monitoring and evaluation
MICET	Madagascar Institut pour la Conservation des Environnements Tropicaux
NGO	nongovernmental organization

ONP	National Office of Population
SAF/FJKM	Sampan'Asa momba ny Fampandrosoana/Fiangonan'i Jesoa Kristy eto Madagasikara
USAID	U.S. Agency for International Development
VS/IPI	Voahary Salama/Integrated Programs Initiative
WHO	World Health Organization
WWF	World Wildlife Fund

Executive Summary

Background

The purpose of this report is to summarize progress from 1999–2001 in planning and implementing an activity in Madagascar that integrates health, population and environment (H-P-E).

One of the tasks in the Scope of Work of the Environmental Health Project (EHP) is to "demonstrate in several rural settings the effectiveness of linking community-based natural resources management with interventions to improve health, including potential for scale-up involving both [nongovernmental] and governmental organizations." The intent is to work with sector-specific projects to foster greater collaboration and increased integration of health, population and environment activities. Environment is defined as the use of natural resources and natural processes and includes agriculture, forestry and biodiversity conservation. The anticipated outcome is that synergies created by the integrated approach will result in greater effectiveness of interventions than a single sector approach. In the broader context, EHP helps to advance Agenda 21 of the 1992 Rio Declaration on Environment and Development, which calls for "implementing integrated environment and development programmes at the local level, taking into account demographic trends and factors." The activity also addresses elements of the International Conference on Population and Development in Cairo in 1994. The conceptual framework for this activity is described in detail in Chapter Two.

Because the Madagascar mission of the U.S. Agency for International Development (USAID/Madagascar) has population, health and natural resources management activities, Madagascar was an ideal setting for conducting this activity. USAID has large bilateral projects in health, population and environment and a range of organizations working in key environmental corridors that are interested in improving the integration of activities. EHP began initial planning for the activity in November 1999, fielded a team with EHP and USAID staff to begin the detailed planning in March 2000, and completed the design of the activity and the first year work plan by July 2000. EHP determined that the field activity needed to be viewed as a four-year activity in order to allow adequate time to test the synergies that arise from integrated programming. In subsequent meetings with the Office of Health, Infectious Diseases, and Nutrition and Office of Population and Reproductive Health, both offices agreed to take a four-year perspective (June 2000–June 2004) and provide funding for the period. The total projected budget for the activity was $1.2 million.

In July 2000, EHP convened a workshop with the full range of partners working in Madagascar on integrating health, population and environment activities. At the workshop, the partners agreed to form a consortium to provide a forum for discussing programmatic approaches and an arena for partners to share challenges and successes. The partners agreed to call the partnership "Voahary Salama," which in Malagasy

means human health along with all that is natural. Voahary Salama (VS) currently consists of 24 partners including USAID, USAID-funded projects, international and Malagasy foundations, University of Michigan, and nongovernmental organizations (NGOs).

EHP has established a local office with three full-time Malagasy staff: a national coordinator, a monitoring and evaluation specialist and an administrative assistant.

Activities

The EHP work plan is divided into four activities:

- Management and Coordination. This includes overall coordination of VS and strengthening the capacity of the NGO VS partners to plan, implement, monitor and evaluate integrated approaches.

- Model Approaches. This includes the development, testing and funding of model approaches for integrating specific activities in health, population, food security and natural resources management.

- Monitoring and Evaluation. The goal of this activity is to evaluate the effectiveness and synergies created by different implementation modes of these integrated approaches.

- Dissemination. EHP will capture lessons learned and disseminate them within Madagascar and on an international level.

The first two years (1999–2001) have focused on developing the conceptual framework, establishing the local office, developing and testing model approaches, conducting a baseline study and supporting the VS partnership. While the dissemination has begun, most of the work is scheduled in the last year of the activity when the results are known.

Household Food Security and Livelihood Concept

The Household Food Security and Livelihood Concept implies that people's choices and actions related to H-P-E are based on economic forces that can be influenced by various programmatic interventions on different levels in the framework. Programs provide information and skills, and they may alter health behaviors or production patterns. They can improve access to services and tools, but they also must alleviate poverty to have a long-lasting impact. The Household Food Security and Livelihood Concept further assumes that interventions related to H-P-E should be implemented in the same time and space and not be sequential or in parallel (unlinked) if they are to be synergistic and lead to a more sustainable development. The challenge is to implement effective programs that integrate H-P-E interventions. EHP's contribution is to demonstrate not only that it can be done, but also that it is effective and that benefits are quantifiable.

Community-centered H-P-E Interventions

Integrated H-P-E interventions intervene at all levels of the Household Food Security and Livelihood Concept, though to a varying degree depend on the local context, resources and institutional capacity. The types of health, population and environment activities that could happen in a community may be numerous, but such a multitude is usually not found in a single community. To be practical, a more limited set of interventions, commensurate with community and NGO capacity, is needed. Too many targets and areas of interventions make it impossible for NGOs to support communities and for communities to implement changes. The diverse skills that are needed to address the broad range of topics do not exist, nor are there resources available to address all development issues simultaneously. Therefore, Voahary Salama has defined eight themes that lead to improved health, agricultural production, nutrition and household income and that are given priority in the programmatic integration of H-P-E:

1. Food security
2. Income generation
3. Environmental conservation
4. Family planning
5. Nutrition of children and women (food composition, micronutrients, exclusive breastfeeding)
6. Immunization
7. Prevention of diarrhea and malaria
8. Safe water, sanitation and hygiene

Social Marketing: The Innovator Model

The implementation of these eight themes at the community level relies on the "innovator model" employing various social marketing techniques such as champion communities, child-to-child and farmer-to-farmer education and model families. The "champion community" approach aims at strengthening social mobilization and works through the leaders and representatives of community organizations. The objective is not only to raise awareness about the links between H-P-E in the community, but also to invite people to engage in concrete actions. The ultimate outcome is a change in behaviors and attitudes towards health, reproductive health and the environment. Instead of re-inventing these social marketing approaches, Voahary Salama took the already existing and well tested models created by JSI, the Minister of Health, and LDI; EHP helped to add an environmental and integrated component to it.

Interventions are based on a behavior change model and a comprehensive series of actions designed to produce adoption of a series of behavior changes at the household level. This process assumes that households' reasoning and adoption of new technologies—and new behaviors for using these technologies—is basically the same across technical practices. The success of this "innovator model" depends on

mechanisms to create technical competencies and lower socioeconomic barriers in individuals and families so that they can use new techniques. This is especially important for more complex tasks such as improved agricultural methods. Processes in social marketing and skill building are likely to be similar in general, but they may vary substantially in emphasis and intensity depending on the topic, e.g., whether they intend to lead to "early adopters" of family planning or to entice farmers to try planting off-season crops. More importantly, once a community sees successful examples of some new practices, it becomes open to change, and other changes can follow more quickly and cross sector lines. The key to success of the social marketing model is to carefully define which behaviors should be changed. The notion of small, doable actions is extremely important for family planning, health, nutrition and food production. It keeps changes to a feasible minimum and is commensurate with the limited capacity and resources of community groups and local NGOs for creating competency.

Voahary Salama Partnership

Voahary Salama (which means "human health along with all that is natural" in Malagasy) is a consortium of funding, technical support and implementing partners working on integrating health, population and environmental activities in Madagascar. The VS eventually brought together 24 partners, including USAID, USAID-funded projects, international and Malagasy foundations, the University of Michigan, NGOs, private voluntary organizations and local Malagasy associations. In addition to providing a forum for discussing programmatic approaches, VS has gone on to serve as an arena for consortium partners to share challenges and successes as the programs have advanced. Working through a Malagasy consortium of partners of NGOs supported by donors and private foundations addresses four vital elements of program implementation:

- Sustainability
- Scaling up
- Partnership
- Leveraging resources.

Local NGOs are the only viable option for implementing and *sustaining* community-based integrated H-P-E interventions in remote rural areas in the long run. Organizational development and building of technical capacity of local NGOs has been a critical role of Voahary Salama, and this will remain a core function of the partnership. Through Voahary Salama the issue of *scale* has been addressed from the inception of the program. Instead of focusing on a few communities where integrated approaches are piloted, Voahary Salama partner NGOs work in well over 120 communities with a total population of approximately 50,000, and more than half of the population was covered by the baseline survey. By strengthening NGOs and by encouraging new NGOs to join Voahary Salama, the consortium is able to expand integrated H-P-E interventions far more rapidly than NGOs would on their own, as evidenced by the scattered and sporadic history prior to the creation of Voahary

Salama. The Voahary Salama *partnership* has brought sectors together whose strengths complement each other. For example, social marketing, which is well developed for health and population activities, found increasing use in agriculture and environmental activities. The strength of the agriculture sector lay in the emphasis on hands-on training and social contacts with community groups, which improves certain health interventions where an increase in knowledge is not sufficient. Both sustainability and scaling up require a continuous stream of resources. No donor project or private foundation alone can provide sufficient funding and sustain this funding over many years. A critical success factor has been the ability of Voahary Salama to *leverage* approximately four times the amount that, for example, EHP alone could have provided over a four-year period.

Key Achievements

The report describes three key achievements in the first two years of the activity.

1. Under subcontract to EHP, the National Institute of Statistics (DDSS/INSTAT) conducted a baseline survey in March/April 2001. The objectives of the survey were to provide information for designing integrated approaches and provide a baseline for evaluating program effectiveness over time using indicators for health, population and environment.

   Overall, communities targeted for H-P-E integration face poor outcomes in all three areas: only one in seven households produces sufficient food; almost half of all children under five are chronically malnourished (stunted); deleterious slash and burn practices are admitted by over half of all households; contraceptive prevalence rate of 9% for modern methods is low; the vast majority of households does not have access to safe water and appropriate sanitation; and less than 40% of children under five years are fully vaccinated. A major gap exists between knowledge and actual practice. Important barriers to appropriate health, population and environmental behaviors seem to be related to household income and technical competency.

2. VS has become a well functioning Malagasy consortium of partners and has proven to be an effective mechanism to coordinate integrated activities. VS has decided to become a formal Malagasy association and will finalize this at the general assembly in 2002.

3. VS partners including EHP have developed and implemented key social marketing and capacity-building approaches and materials for integrating activities at the community and program levels. The key approaches include champion communities, child-to-child education and farmer-to-farmer education. This effort also has included capacity-building of NGO partners to conduct these activities in target communities. These approaches are promoted through three issues of the Voahary Salama Gazety on tree nursery, reforestation and vegetable gardens.

Issues

- Institutionalization of VS. In 2002, both VS and the local EHP office will explore ways to become institutionalized. VS currently has no legal standing and therefore cannot receive and manage its own funds. As support for VS has grown, so has the interest in creating VS as a legally established association. EHP is also exploring ways to institutionalize the local office, either as an NGO or an association.

- Technical Directions. While the first two years indicate that the general direction of the program should continue, the findings from the baseline survey also suggest that economic barriers must be addressed to increase household income. If not, poor populations may not able to participate in and benefit equitably from interventions in health, population and environment.

- Funding. EHP estimates that $200,000 in additional funding will be needed over the last two years of the project.

1 Introduction

1.1. Background

The Environmental Health Project's (EHP's) involvement with the Integrated Programs Initiative (IPI) in Madagascar stems directly from interest expressed initially during the first EHP (EHP I) to address the interaction between human health and "green" environmental issues such as biodiversity conservation and sustainable use of natural resources. In EHP II, the U.S. Agency for International Development (USAID) included a task called Environmental Change and Health Outcomes (ECHO). One of the components of ECHO was to focus on integrated programs to address this interaction. EHP calls this aspect of the program ECHO/Integrated Programs, or ECHO/IP. Specifically, the EHP II statement of work called for EHP to demonstrate "in several rural settings the effectiveness of linking community-based natural resource management with interventions to improve health, including potential for scale-up involving both [nongovernmental] and governmental organizations."

The ECHO/IP activity targets sector-specific projects to foster greater collaboration and increase the integration of their respective activities in such a way as to increase the efficiency of each. This synergy would be produced through a better understanding of how the interaction between human health and the environment impacts communities located near regions that are heavily dependent on natural resource use and through the design and implementation of activities that address these interactions. In this model, the environment is broadly defined to encompass the use of natural resources and natural processes, which include agriculture, forestry, and ecosystem services, in addition to biodiversity conservation.

In early 1999, USAID was looking for a USAID mission that could partner with EHP to fund the activity. Because USAID/Madagascar had ongoing population and health programs as well as natural resource management programs, Madagascar was an ideal setting for conducting this activity. A USAID team visited Madagascar in 1999 to confirm this interest. USAID has a large bilateral child survival project—Jereo Salama Isika (JSI)—and a large natural resource management project—Landscape Development Interventions (LDI)—both of which are working near in the environmental corridors in Madagascar that are the subject of international preservation efforts. In addition, Tany Meva, a Malagasy environmental foundation, receives funding from the Summit Foundation to provide financial and technical support to local nongovernmental organizations (NGOs) that are implementing integrated approaches. Both JSI and LDI fund the activities of health and environment NGOs, respectively. USAID/Madagascar had already recruited a Fellow from the University of Michigan Population and Environment Program to work

alongside its health and environment projects in order to identify areas of integration. In short, the conditions in Madagascar were excellent for implementing ECHO/IP.

Once EHP II was under way, a joint EHP/USAID team conducted a field visit to Madagascar in March 2000 to begin the development of the activity. The team determined that there was significant interest in the activity and in developing and implementing integrated approaches. During this visit the USAID mission requested that EHP work in two regions: Fianarantsoa and Moramanga (see map in Figure 1). An EHP consultant returned to Madagascar in July 2000 to finalize the design of the activity and develop a detailed work plan for the first year of the activity. During this visit, a planning workshop was conducted, whereby all partners agreed on a common vision, mission, and objectives for the integrated program. This would later provide the basis for implementation activities. EHP determined that the activity had to be seen as a four-year effort; anything shorter would not allow adequate time to test the synergies that arise from integrated programming.

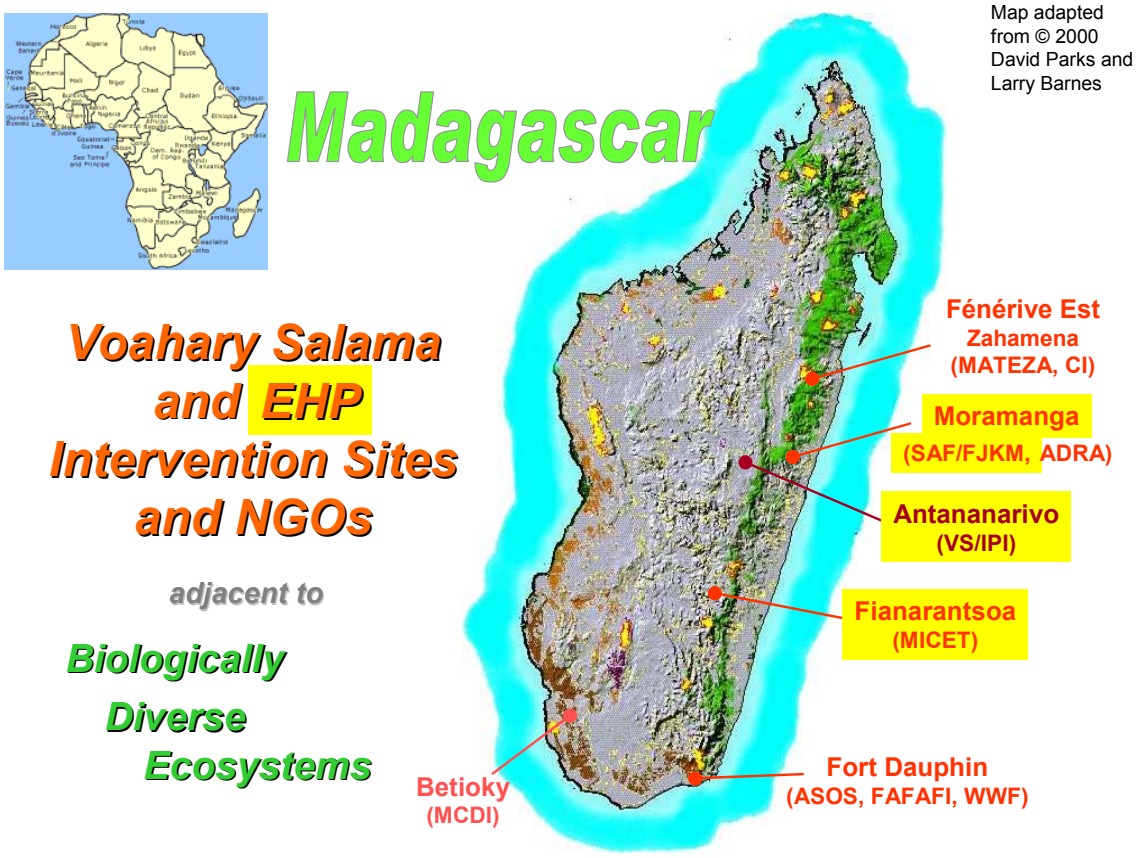


Figure 1. Regions with H-P-E integration under Voahary Salama (regions with direct EHP support highlighted in yellow)

At this workshop, the partners agreed to establish the Integrated Programs Initiative, or *Voahary Salama* (VS/IPI) (which means "human health along with all that is natural" in Malagasy), a consortium of funding, technical support, and implementing partners working on integrating health, population, and environmental activities in

Madagascar. The VS/IPI would eventually bring together 24 partners, including USAID, USAID-funded projects, international and Malagasy foundations, the University of Michigan, NGOs, private voluntary organizations, and local Malagasy associations. In addition to providing a forum for discussing programmatic approaches, VS/IPI has gone on to serve as an arena for consortium partners to share challenges and successes as the programs have advanced. This report will describe Voahary Salama in more detail as it has become an established mechanism for coordinating the efforts of multiple partners.

The VS/IPI partners defined the following vision and mission:

- VS/IPI Vision
  - A healthy population living in a healthy environment based on sustainable development and on a rational management of natural resources on the community level.
- VS/IPI Mission
  - To ensure an approach of sustainable integration
  - To strengthen community structures through an integrated approach that increases their capacity to manage the population's health status and food security by using practices that protect the environment.

EHP determined that it could play three principal roles in support of VS/IPI:

1. Monitoring and evaluation. Since only the University of Michigan Population and Environment Program was focused on monitoring and evaluation, EHP could make a valuable contribution to the project. Michigan's interest is in participatory approaches whereas EHP's interest is in quantitative approaches using questionnaires and household surveys.
2. Support to NGOs. EHP could provide both financial and technical support to local NGOs to strengthen their capacity to implement integrated approaches.
3. Coordination. EHP could play a valuable role in ensuring timely communication among the Voahary Salama partners. EHP decided to hire a national level coordinator to take on this role.

The Office of Health, Infectious Diseases, and Nutrition and Office of Population and Reproductive Health jointly fund ECHO/IP. The overall budget is $1.2 million for five years.

1.2. Integration of Health, Population, and Environment in Madagascar

The central hypothesis of the ECHO/IP activity is that by integrating health, family planning, and natural resource conservation activities in community-based projects, communities will be able to take advantage of synergies that make these interventions more effective and more sustainable than if they were pursued in a vertical, sector-specific fashion. Synergies would result from a better understanding of how interactions between human health and the environment impact communities located near regions that are heavily dependent on natural resource use. The purpose of this activity is to test this hypothesis to determine, through the design and implementation of activities that address these interactions in Madagascar, if such synergistic benefits occur when health and environment activities are integrated.

The main reason for linking such disparate-seeming programs as natural resource management with health and population is that the health of families and individuals depends on a healthy community environment. EHP's role falls into an area where environmental factors and health consequences overlap directly, whereby poor environmental quality adversely affects people's ability to lead productive lives. Moreover, existing population and health programs in communities provide an entry point for protecting the environment and vice versa. Activities under ECHO/IP help communities to protect environmental resources while maintaining the community's health.

Although the rationale for linking environmental and health interventions is plausible, benefits remain largely a hypothesis. Evidence to support claims of greater effectiveness and sustainability is limited. Evaluations of integrated programs have been more qualitative than quantitative and have produced equivocal results, sometimes showing that vertical programs are more effective. It appears that neither organizations dealing specifically with natural resource management nor those implementing health and population programs have taken a leadership role in addressing this knowledge gap.

For the purposes of this activity, "natural resources" include watersheds, forests, and arable land. EHP has partnered with international and Malagasy organizations that have natural resource management expertise. Together, EHP and these organizations have pursued a dual ECHO/IP strategy that is based on the context of natural resource management as follows:

- Management of natural resources in communities surrounding parks and protected areas to explore programmatic synergies between natural resource management and health and population interventions

- Management of natural resources in general settings (in or outside buffer zones around protected areas) to explore the relationship between environmental factors and their impact on health in a broader sense

Health and population interventions can include family planning, reproductive health, child health, HIV/AIDS, and infectious diseases, but EHP's focus is on the primary prevention of diarrheal disease, acute respiratory infections, and malaria. For interventions outside EHP's scope, the project has fostered links between communities and existing programs to ensure that required interventions are implemented.

1.3. EHP Scope of Work

ECHO/IP activities contribute to USAID/Madagascar Strategic Objectives Two and Three, and focus on achieving the following intermediate results (IRs):

- Strategic Objective Two: Smaller, Healthier Families
  - IR2.1: Family Level: Increased use of services and healthy behaviors
  - IR2.2: Community Level: Increased community participation leading to improved health and food security
  - IR2.4: Institutional Level: Increased capacity to plan and manage programs
- Strategic Objective Three: Biologically Diverse Ecosystems Conserved in Priority Conservation Zones
  - IR3.1: Improved management of critical biodiversity habitats
  - IR3.2: Sustainable use of natural resources in broader landscapes

In line with contributing to both of these strategic objectives, in early 2000, EHP developed an implementation framework, which included an operations research agenda to address the integration of health, population, and environment interventions. Pertinent questions and issues were identified: what are the types of synergies and interventions that are best integrated to maximize synergies; how are effective integrated interventions designed; and how can community participation in the implementation process be ensured. The EHP framework also provided guidelines for developing and building consensus around a core set of indicators and tools for measurement of both single-sector and integrated approaches. In addition, the EHP framework included activities for promotion of systematic monitoring and evaluation of integrated programs among international and local partners. Finally, the framework included a dissemination component to address national and international scale-up of an integrated approach.

Thus, ECHO/IP's four implementation objectives over the life of the project are as follows:

1. *Management and Coordination.* Strengthen the capacity of VS/IPI partner NGOs to plan, implement, monitor, and evaluate integrated approaches.

2. *Model Approaches.* Develop and test model approaches for integrating specific activities in health, family planning, food security, and natural resource management.

3. *Monitoring and Evaluation.* Evaluate the effectiveness and synergies created by different implementation modes of these integrated approaches.

4. *Dissemination.* Disseminate lessons learned and generalize the integrated approach in the intervention areas of VS/IPI and promote their use by new partner organizations on national and international levels.

The first project phase (1999-2001) has focused on establishing a local office, developing and testing the VS/IPI model approaches, conducting a baseline study, and supporting the VS partnership. Chapter 3 provides a detailed summary of the accomplishments over the past 18 months. Dissemination activities are scheduled for 2003-2004.

1.4. Organization of Report

This report has five chapters, including this introduction. Chapter 2 defines the overall conceptual framework behind the ECHO/IP Madagascar activity. Chapter 3 explores each of the four main activities, including the accomplishments to date, and provides information on the structure of VS/IPI, the EHP local office in Antananarivo, and key VS/IPI partners. Chapter 4 describes in more detail three key overall achievements to date. Finally, Chapter 5 discusses several project issues and important next steps, including likely features of the ECHO/IP Year 4 work plan.

2 Conceptual Framework

2.1. Health, Population and Environment in the International Context

Through its support of Voahary Salama in Madagascar, EHP explores synergies of linking health, population, and environment (H-P-E) programmatically, and in the process addresses some key principles and activities defined in Agenda 21 of the 1992 Rio Declaration on Environment and Development and the 1994 International Conference on Population and Development in Cairo. These milestone events have clearly delineated a vision for linking H-P-E issues within the broader context of sustainable development and livelihood. The program in Madagascar contributes specifically to "implementing integrated environment and development programmes at the local level, taking into account demographic trends and factors," but also addresses three essential Agenda 21 objectives (United Nations, 1992):

- Developing information and raising public awareness of demographic and sustainable development interactions
- Strengthening institutions and research programs that integrate population, environment, and development
- Promoting human resource development and developing and/or enhancing institutional capacity and collaboration.

While Rio and Cairo stressed the need of addressing population dynamics to protect the environment and achieve sustainable development, cross-sectoral policies including health and education are also important. Agenda 21 makes several references to health: "Special emphasis should be placed on the linkage between these programmes [population], primary environmental care and the provision of primary health care and services." Chapter 6 of Agenda 21 calls for specific actions for "Protecting and Promoting Human Health":

"Health and development are intimately interconnected. Both insufficient development leading to poverty and inappropriate development resulting in over-consumption, coupled with an expanding world population, can result in severe environmental health problems in both developing and developed nations. Action items under Agenda 21 must address the primary health needs of the world's population, since they are integral to the achievement of the goals of sustainable development and primary environmental care. The linkage of health, environmental and socio-economic improvements requires intersectoral efforts. Such efforts,

involving education, housing, public works and community groups, including businesses, schools and universities and religious, civic and cultural organizations, are aimed at enabling people in their communities to ensure sustainable development. Particularly relevant is the inclusion of prevention programmes rather than relying solely on remediation and treatment. Countries ought to develop plans for priority actions, drawing on the programme areas in this chapter, which are based on cooperative planning by the various levels of government, non-governmental organizations and local communities. An appropriate international organization, such as WHO, should coordinate these activities."

Agenda 21 set very ambitious goals for achieving sustainable development and protecting the environment by addressing demographic trends involving numerous sectors. However, progress in implementing these goals on international and national levels has been slow. Nearly a decade later organizations are still struggling to work together to implement this vision and to work in a truly integrated fashion on conservation and development, rather than treating these as separate "sectors." EHP's support of Voahary Salama and its collaboration with conservation organizations is a small but necessary contribution that can be combined with similar efforts by other organizations.

Experience, especially in Sub-Saharan Africa, has shown that success in addressing demographic trends, improving health, and protecting the environment requires that people's basic needs be met. A follow-up to the Rio declaration stressed that "the impact of the relationship among economic growth, poverty, employment, environment and sustainable development has become a major concern" (United Nations, 1997). The agenda for the Rio plus 10 conference will address the progress and future direction for implementing Agenda 21 as described, for example, in the Report of the Commission on Sustainable Development acting as the preparatory committee for the World Summit on Sustainable Development in Johannesburg in 2002 (United Nations, 2001).

The importance of addressing relationships between health, population, environment, and sustainable development was reiterated in the recent UN report *The State of World Population 2001* (UNFPA 2001). It points out links between population and environmental change and their impact on health in general and reproductive health specifically. The report also cites numerous examples of programs that combine H-P-E interventions and stresses the need for improving the information base for more sustainable population, development, and environment practices.

2.2. Household Food Security and Livelihood Concept

Agenda 21 provides a general policy context for integrating H-P-E interventions, but this broad vision needs to be transformed into a programmatic concept to guide the design and implementation of specific activities. A conceptual model should explain clearly how H-P-E issues interrelate on a household and community level and what

the driving forces are for improving outcomes. None of the existing models provides a perfect fit, but several address some of the major issues, especially livelihood (or poverty) and food security. Achieving food security is especially important for countries like Madagascar where malnutrition in the form of stunting affects nearly 50% of all children less than 5-years old in remote rural communities (Voahary Salama 2001). Lack of food to meet basic caloric and micronutrient needs is closely linked to high levels of poverty, which reaches 70% in rural areas (UNDP 2001). A household's ability to produce sufficient food and generate income necessary to access basic services including health and education depends on household characteristics as well as external factors.

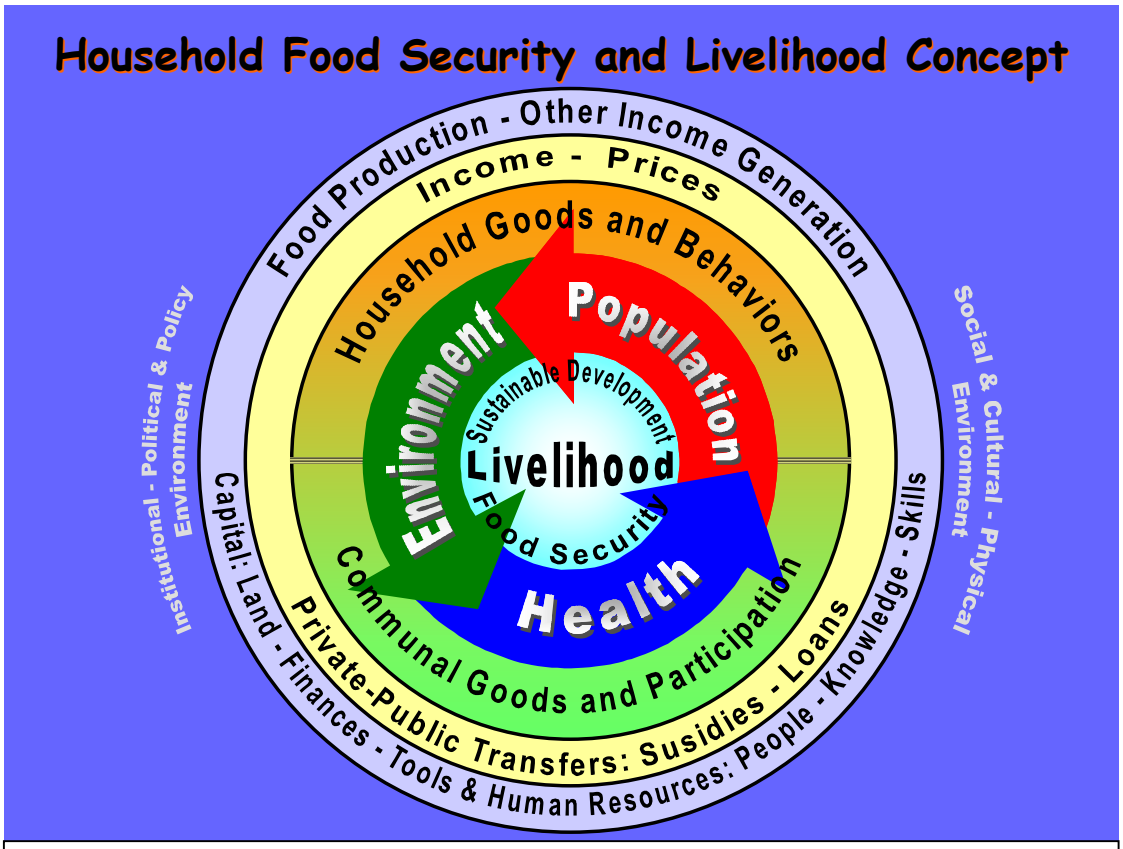


Figure 2: Conceptual Framework

Based on EHP's experiences in Madagascar during the first 18 months of the project and that of organizations addressing sustainable development and food security, it became clear that a conceptual framework indicating H-P-E integration within the context of a broader livelihood was needed. Such a framework, the Household Food Security and Livelihood Concept, is illustrated in Figure 2 by interconnecting arrows around an inner circle. Without understanding and acknowledging the importance of social and economic determinants and their associated inequities, as represented by the outer circles of the concept, synergies of integrated H-P-E programming may be limited and will not achieve the greatest impact. It is the social and economic conditions that determine what families can do to improve their nutritional and heath

status; how to slow demographic trends and conserve natural resources, which are captured under household and communal goods; and how to change people's behavior and engage them in community activities in the framework. How much health or conservation households can "afford" is largely determined by income generated through production factors of capital and labor and market prices. However, prices and household preferences are influenced by external factors such as transfer payments, public and private sector institutions, political situations, and other environmental factors, which are shown in the periphery of the conceptual framework.

In summary, the Household Food Security and Livelihood Concept implies that people's choices and actions related to H-P-E are based on economic forces that can be influenced by various programmatic interventions on different levels in the framework. Programs provide information and skills, they may alter health behaviors or production patterns, they can improve access to services and tools, but they also must alleviate poverty to have a long-lasting impact. The Household Food Security and Livelihood Concept further assumes that interventions related to H-P-E should be in implemented in the same time and space and not sequential or in parallel (unlinked), if they are to be synergistic and lead to a more sustainable development. The challenge is to implement effective programs that integrate H-P-E interventions. EHP's contribution is to demonstrate not only that it can be done, but also that it is effective and that benefits are quantifiable.

In developing the Household Food Security and Livelihood Concept, EHP explored several models and focused on three in greater detail. The determinants of household food security model developed by the International Food Policy Research Institute (IFPRI) shows relevant elements and how they are interrelated (Hoddinott 1999). A somewhat different approach to modeling food security (Riely et al. 1999) was adopted by the Food and Nutrition Technical Assistance Project (FANTA). FANTA's Food Security Conceptual Framework represents many of the same elements as the IFPRI's model without showing links consistently based on economic reasoning. Neither model addresses demographic trends and population dynamics and either does not represent community resources, household participation in communal action, and poverty at all or only to a very limited extent. CARE's Household Livelihood Security Framework expands these elements (Frankenberger et al. 2000 and CARE, 1995). All the components in the three food security and livelihood models are necessary for representing the context, interventions, and outcomes of the integration of H-P-E in Madagascar. They are combined into a Household Food Security and Livelihood Concept, which provides an analytic framework for a baseline survey (see Chapter 4.1) and program monitoring and serves as a blueprint for the design of program interventions.

The Household Food Security and Livelihood Concept tries to convey rather complex mechanisms for achieving food security, household livelihood, and natural resource conservation by using economic reasoning. The conceptual framework can be broken down into nine components:

1. Links between health, population, and environment
2. Direct program outcomes: food security, health, demographic trends, natural resource conservation
3. Impact on food security, livelihood, and sustainable development
4. Household goods and practices affecting food security, health, and natural resources
5. Communal goods and actions affecting food security, health and natural resources (role of civil society)
6. Household income and market prices
7. Working capital and human resources
8. Institutional environment: public and private sector institutions and organizations affecting food security, health, and natural resources
9. Social and cultural, political and policy, and physical environment

A brief description of specific elements of this conceptual framework follows. As in most complex models, mechanisms have to be overly simplified, and interactions between elements may appear more direct then they are in reality where relationships are often indirect and not linear or unidirectional. Only a few of the important links can be mentioned here to illustrate this complexity.

1. *Links among Health, Population, and Environment*

   Links among health, population, and environment are at the center of the Household Food Security and Livelihood Concept, based on three assumptions that seem plausible according to evidence gathered to date:

   i. A cause-effect relationship exists between changes in one sector and outcomes in another.

   ii. Programmatic integration of H-P-E interventions is synergistic.

   iii. A holistic approach to H-P-E issues corresponds better to people's needs and improves the outlook for sustainable development.

   The usually high fertility in many poor countries and the rapid population growth in communities close to endangered ecosystems threaten natural

resources and biodiversity. The scarcity of land and forest resources encourages households to migrate and cultivate land needed to protect animal and plant species. Reducing population pressure is one goal of family planning, but smaller and healthier families are also essential to support household livelihood and economic well-being, which rely on the ability to plan family size and to protect children from preventable diseases.

The link between poor land use practices and the environment and health is obvious. In Madagascar, deleterious agriculture practices, such as slash and burn, lead to deforestation and environmental problems such as soil erosion. Sustainable agriculture and use of natural resources are important to protect watersheds to maintain the quantity and quality of water resources. When safe water sources such as springs are depleted because of erosion, households turn to less safe alternatives such as streams or unprotected shallow wells. The type of water households use for drinking and handwashing is related to the risk of diarrheal diseases. Environmental management techniques such as modified or improved irrigation schemes in rice fields can reduce diseases transmitted by mosquitoes and other vectors. Figure 3 shows a safe water source, a public stand-pipe.

Figure 3. Public standpipe constructed by the European Development Fund in Tolongoina

The loss of biodiversity has direct impact on health in areas where forests serve as a source for medicinal plants used by traditional healers. Families may also depend on renewable natural resources such a wild fruits and honey that improve nutritional status and household income. Conservation efforts have become increasingly important in attracting ecotourism, which can generate income and improve health and livelihood.

In addition to conceptual links between health, population, and environment there are synergies that can make integrated programs more efficient and effective. Communal efforts to build water supply systems and manage water resources may be linked to messages about hygiene. Baseline data presented in Chapter 4 suggest that early adopters of improved agricultural methods may also be more open to practicing family planning. Health interventions may provide an entry point for environmental education and vice versa. NGOs and other organizations working together can share scarce resources and increase program outputs.

2. *Direct Program Outcomes: Food Security, Health, Demographic Trends, Natural Resource Conservation*

   The Household Food Security and Livelihood Concept focuses on four outcomes: nutritional status, health status, fertility and demographic trends, and biodiversity and natural resource conservation.

   – *Nutritional status:*

     Nutritional status is determined by several factors beginning with food availability, food intake, and the ability of the human body to utilize nutrients. Year-round food sufficiency for the family, greater food variety, and higher nutritional value improve the nutritional status of children and women. Because they have lower resistance, malnourished children are more prone to suffer from infectious diseases, and their illnesses tend to be more severe than those of well-nourished children. It is also true that repeated bouts of diarrhea aggravate malnutrition and measles infections can severely reduce nutritional status. In addition to children's nutrition, maternal nutrition constitutes an important predisposing factor for birth weight. While education, formal and informal, can have a positive influence on nutritional behaviors, it has also been shown that malnutrition inhibits children's ability to learn. Poor nutritional status is expressed as stunting or chronic malnutrition (low height for age), underweight (low weight for age), and wasting or acute malnutrition (low weight for height).

   – *Health status:*

     According to the World Health Organization (WHO, 1978), "health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Health or illness is the result of many physical, behavioral, environmental, social, economic, and other factors (see WHO website for a more detailed description [http://www.who.int]). Households influence some factors such as preventive behaviors, while communities influence others such as access to services. Demand for health services is to some extent determined by need, but also depends on cultural norms and socioeconomic status. The use of services depends on the supply of infrastructure and financial and human resources by public and private sector health service providers and the cost to users. Health status is measured in terms of life expectancy at birth and morbidity and mortality from infectious and noninfectious diseases and expressed often as disability adjusted life years. Of particular interest in the Household Food Security and Livelihood Concept are diarrhea in young children that is preventable through household hygiene and access to safe drinking water, childhood communicable diseases that can be prevented by vaccination, malaria that can be prevented through environmental management and individual protective measures, and pneumonia that requires case management by caretakers and health workers.

– *Fertility and demographic trends:*

The demand for family planning in many rural communities in Madagascar is low despite a considerable unmet need of 26% according to the results from the Demographic and Health Survey (DHS) in Madagascar in 1997 (MACRO International, 1998). One reason for a less than 10% rate of modern contraceptive use is the lack of access to these services in rural communities, but social and economic barriers play an important role as well. Social marketing, community-based distribution of contraceptives, and the availability of long-acting contraceptives from qualified providers are key factors in reducing fertility and decreasing population pressure. Common measures used are contraceptive prevalence rate (proportion of women aged 15 to 49 using modern contraceptives or using traditional methods, sexually active and married or unmarried), fertility (average number of children a woman has at the end of her childbearing years assuming a constant lifetime fertility rate), and annual population growth rate (exponential growth rate based on mortality and birth rates).

– *Biodiversity and natural resource conservation:*

Individual households may contribute little to the conservation of plants and wildlife, but combined on a community level, they can have major impact. Community efforts can change norms for acceptable behavior and provide alternative sources for products such as meat and wood taken from protected ecosystems . Civil society groups, including farmers' associations, youth clubs, and women's groups, provide the venue for participation and play an important role in environmental education and in building capacity for better natural resource management. However, the success of conservation efforts related to protected ecosystems depends on a legal and enforcement environment that encourages and reinforces community participation. Measuring the loss of vegetation and biodiversity over time is difficult on a micro level and expensive on a macro level. It usually involves detailed species counts per defined area and the use of geographic information systems for a spatial analysis of changes in forest coverage and soil erosion due to slash-and-burn practices.

3. *Impact on Livelihood and Poverty Alleviation*

Improved nutritional status is linked to better health outcomes, which results in greater productivity and household resources. Disease, on the other hand, is often a considerable economic burden, either directly in the form of payment for health services or indirectly by reducing human capital available for food production and other income-generating activities. When met with catastrophic illness it is not uncommon for families to have to deplete their savings and sell household assets, sending them into a downward spiral of illness and poverty. Although this is the most difficult challenge, programs need to provide communities and households with greater opportunities for generating income in

order to substantially impact the outcomes of the Household Food Security and Livelihood Concept mentioned above. Poverty and household income are difficult and expensive to measure. EHP has applied an innovative method to approximate poverty through an asset index that is based on household assets readily available from survey interviews (see Chapter 4 for details).

4. *Household Goods and Practices Affecting Food Security, Health, and Natural Resources*

   Household consumption patterns of certain goods combined with knowledge and behaviors are related to nutritional, health, fertility, and environmental outcomes. Goods include food produced by the household, or, where production is insufficient, food acquired through purchase or barter; health and family planning services; education; shelter; and sanitation and water.

   Most goods and services, especially health services and medications, require direct or indirect payments. For example, direct and indirect (opportunity) costs may prevent households from seeking family planning and preventive services such as immunization against childhood infectious diseases.

   Environmental health in the household context, especially safe drinking water and sanitation, are also dependent on household income. Similarly to health, formal and informal education has direct and opportunity costs and plays a major role in household choices and opportunities. Improved agricultural and natural resource management techniques allow a better and more sustained use of land and forests, but there are usually costs associated with the use of new techniques, and these costs may be too high for poor families. While intensification of land use can be more labor intensive, it can also help to absorb more labor where fertility is high. Adopting new farming methods farming practices can produce much higher yields closer to home, but they can also increase the risk of poor harvests.

Figure 4. Schoolgirl in Ambohimarina II showing how to wash hands

In addition to economic forces, human behavior is very much determined by social and cultural norms. People's choices and practices depend on information available to households through formal and informal education, mass media, and community communications channels. Information not only affects which foods are produced and consumed, but also whether families practice prevention and access health services when needed. Figure 4 shows a schoolgirl washing hands, which is an important hygiene behavior to prevent diarrhea.

5. *Communal Goods and Actions Affecting Food Security, Health, and Natural Resources (Role of Civil Society)*

   Healthy communities are vital to achieving sustainable development, because they provide the human resources, infrastructure, and community groups that take full ownership of development activities, including family planning, education, and skill development. This conceptual framework assumes that participation in community action and membership in groups presents opportunity costs. Poor households may be less able to contribute labor to community projects when their basic survival requires all efforts to focus on food production and income generation. In addition, they often lack the information to participate, for example, in women's groups, or they lack necessary resources such as land to participate in farmers' groups. Other community activities may require direct payments to be sustainable; for example, family planning services, maintenance of a water supply system, or the repair of a school building. Not all households will be able to pay for these activities, or they will pay a lesser amount than others. Broad participation in community activities may require cross-subsidies or external support to mitigate the negative effect that user fees, voluntary contributions, or taxes may have on poor families.

   On the other hand, participation in community groups can have a very positive impact on household behaviors and practices. Social marketing efforts and groups that deal with agricultural or family planning issues will impact on a household's ability to access family planning services or to improve agricultural practices. Micro-projects to generate income, cooperatives, and micro-credit schemes can be designed in a way that allows poor households to participate and benefit; for example, crafts and cottage industries. User fees may allow maintenance projects to pay for themselves; for example, community water supply systems or infrastructure projects such as roads, schools, and health centers. Management of communal resources such as forests can provide reliable benefits to all households in the form of construction material and firewood.

6. *Household Income and Market Prices*

   Households face market prices for food and other goods that impact on food availability and access to goods related to nutritional and health status. In a simplified way, available income and market prices determine how much food

and health households can afford compared to other goods. Income and prices also govern households' ability to incur opportunity costs such as participating in community activities. Moreover, they affect a family's capability to cope with adverse events; for example, droughts or major illness. Additionally, the economic situation determines how much risk a household can take; for example, adopting new farming methods, which could increase crop yield substantially, but could also result in total failure. Another example is the ability of families to migrate into and develop unexploited ecosystems. Transfers from the public to the private sector, which includes subsidies and loans, affect household income and prices as well as household preferences.

7. *Working Capital and Human Resources*

   Working capital includes money, land, livestock, tools, and other household assets. Human capital consists not only of people but their knowledge and skills as well. Ownership and control over working capital and the unequal distribution of these are important issues that affect people's ability to change production patterns and their livelihood. Capital inputs are converted through agricultural production and other activities into total household income. Food production within the household food security context includes crops for cash income and subsistence farming, both of which increase the variety and nutritional value of food. Other income-generating activities not related to food production include gainful employment, seasonal work, and small business activities.

8. *Institutional Environment: Public and Private Sector Institutions and Organizations Affecting Food Security, Health, and Natural Resources*

   The public and private sectors interact with households and communities in numerous ways. The public health system provides basic services, which include family planning, nutrition education, disease prevention, and curative care. A household's physical and economic access to public facilities may be limited, and, therefore, the private sector may be the only source for contraceptives; for example, in a community-based distribution system or NGO-managed programs. Other public services may build skills and provide information; for example, agricultural extension programs, environmental protection, public schools, or public works and transportation. However, the public sector addresses household and community needs only to a limited extent. The private commercial sector fills some important gaps, for example, through private clinics, pharmacies, or traditional healers. Other needs that are not met by the public or private for-profit sector are often addressed by NGOs with a strong commitment to social responsibility. In remote rural areas NGOs may be the only source of external support and provide vital information, skills, and resources. NGOs are also vital for ensuring the sustainability of community-based activities and for scaling up H-P-E interventions locally. Donor support is generally needed for testing approaches and for providing seed funding to bring programs to scale regionally and nationally.

9. *Social and Cultural, Political and Policy, and Physical Environment*

   Communities and households do not exist in a vacuum, but rather act and react within a social and cultural, political and policy, and physical environment, which is shown as layers within the Household Food Security and Livelihood Concept. Social and cultural norms determine behaviors and practices, which social marketing tries to change to attain a specific result; for example, improved health. Environmental policies and the willingness to enforce them govern communities' willingness and ability to participate in conservation efforts. The physical environment, including climate, altitude, vegetation coverage, and biological diversity, present in the community's sphere of influence impacts household practices and livelihood and should influence program design.

2.3. Voahary Salama: An Operational Model for Integrating Health, Population, and Environment Interventions

Having highlighted attention to H-P-E in the international context and having shown how they are linked on a conceptual level, the rationale for integrating H-P-E on a programmatic and operational level needs to be established. The argument for integration can be made for two reasons:

1. Meeting people's needs and conserving the environment can only be attained by simultaneously implementing interventions in the H-P-E sectors. Focusing on one sector does not ensure benefits in another, especially in those communities located near endangered ecosystems.

   For example, curbing demographic trends, improving health, and increasing household income and food security do not mean that people will conserve natural resources. Historically, often the opposite has occurred with the accumulation of wealth going hand in hand with a degradation of the environment. A focus on agricultural improvements and environmental protection does not automatically lead to lower fertility and population growth unless appropriate family planning services are provided and the use of contraceptives is widely accepted.

2. The programmatic integration of H-P-E results in better program outcomes than single-sector approaches because of synergies that increase program efficiency and effectiveness.

   This rationale takes advantage of the fact that while different development organizations often work through the same community structures in the same geographic areas, their efforts are usually not coordinated. Integration leads to interventions that mutually reinforce each other rather than compete with one

another and increases the possibility of sharing scarce organizational resources. Moreover, a program started in one sector can serve as an entry point for interventions in other sectors.

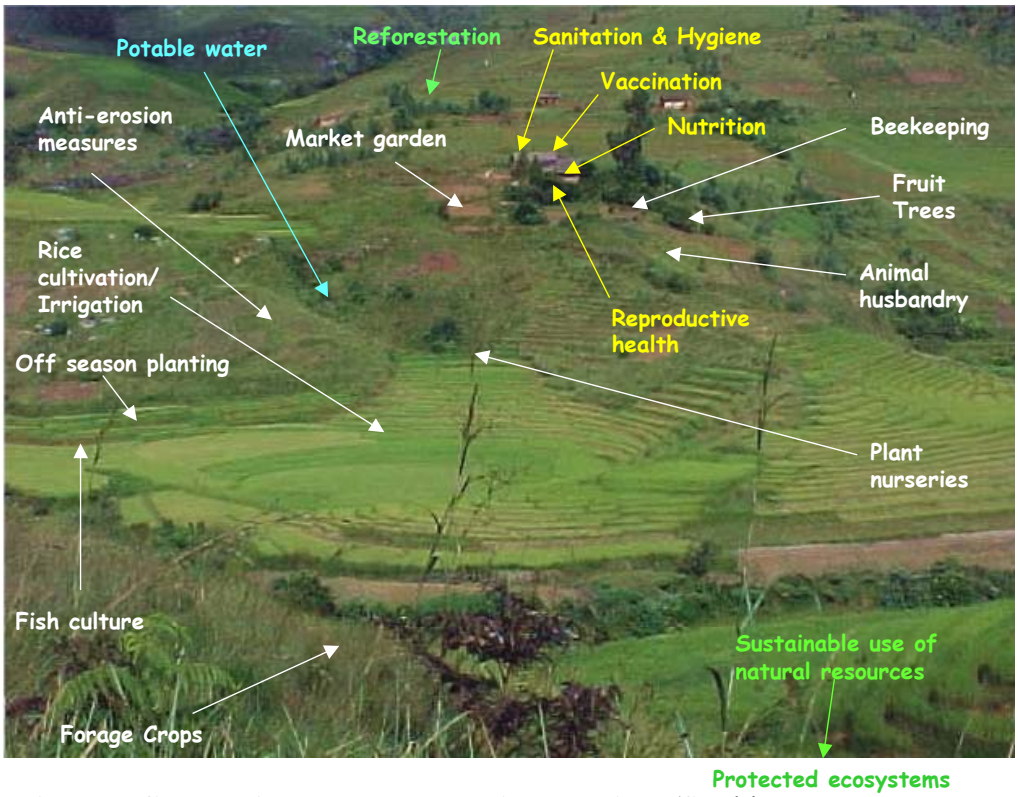


Figure 5. Community-centered H-P-E interventions (Sendrisoa, Western Corridor, Fianarantsoa Province; adapted from Dan Whyner, 2000)

Integrated H-P-E interventions intervene at all levels of the Household Food Security and Livelihood Concept, though to a varying degree depend on the local context, resources, and institutional capacity. Figure 5 illustrates the different H-P-E interventions that may happen in a community. The types of health, population, and environment activities shown represent the full spectrum of H-P-E interventions, but such a multitude is usually not found in a single community. To be practical, a more limited set of interventions, commensurate with community and NGO capacity, is needed. Too many targets and areas of interventions make it impossible for NGOs to support communities and for communities to implement changes. The diverse skills that are needed to address the broad range of topics do not exist, nor are there resources available to address all development issues simultaneously. Therefore, Voahary Salama has defined eight themes that lead to improved health, agricultural production, nutrition, and household income and that are given priority in the programmatic integration of H-P-E:

1. Food security

2. Income generation

3. Environmental conservation

4. Family planning

5. Nutrition of children and women (food composition, micronutrients, exclusive breastfeeding)

6. Immunization

7. Prevention of diarrhea and malaria

8. Safe water, sanitation, and hygiene

Interventions related to these eight themes are implemented through basically four strategies:

1. Partnership with NGOs and supporting organizations: collaboration and communication ("Voahary Salama")

2. Social marketing and "innovator model"

3. Development of materials

4. Capacity building of NGOs and community groups to inform and instill practical skills

Implementation of social marketing and capacity building activities requires competent organizations that have agents with the appropriate knowledge, skills, and people-centered attitude. Experience with Integrated Conservation and Development Projects (ICDP) has shown that implementation is very expensive and difficult if done by one project or organization covering the complete range of H-P-E activities. Moreover, dependence on a single source of funding makes programs difficult to sustain. To attract a range of organizations and funding, EHP has opted to support a Malagasy consortium of eight NGOs, "Voahary Salama," that share the goal of integrating H-P-E activities in communities located in the vicinity of threatened ecosystems. Together with 16 other partners, many of them USAID and foundation funded, EHP assists in building the technical and organizational capacity of these NGOs. Through grants or subcontracts, these NGOs receive the necessary financial resources for implementing essential activities that cut across sector lines.

3 Description of Activity

3.1. Objectives and Expected Results

The IPI has four objectives during the life of the activity:

1. Strengthen the capacity of VS/IPI partner NGOs to plan, implement, monitor, and evaluate integrated approaches

2. Develop and test model approaches for integrating specific activities in health, family planning, food security, and natural resource management

3. Evaluate the effectiveness and synergies created by different implementation modes of these integrated approaches

4. Disseminate lessons learned and generalize the integrated approach in the intervention areas of VS/IPI and promote their use by new partner organizations on national and international levels

At the end of the activity, two overall results are anticipated:

1. Synergies: Synergies created by the integrated approach will result in greater effectiveness of interventions. Synergies manifest themselves in an improved capacity at program and organizational levels and in communities' progress towards self-determined and sustainable development.

2. Efficiency: The integrated approach will achieve relatively better outcomes for low incremental costs compared with single-sector (vertical) approaches.

At the U.S. level EHP has provided general technical and administrative support to the field activity in Madagascar and focused on two activities that created the rationale and conceptual basis for the program in Madagascar:

- Development of the Household Food Security and Livelihood Concept (described in Chapter 2) as the basis for designing an integrated program for H-P-E

- Development of indicators and an evaluation approach based on the Household Food Security and Livelihood Concept (described in Chapter 4)

3.2. Structure of VS/IPI

In July 2000, 20 organizations working in Madagascar in H-P-E agreed to form the Voahary Salama, a consortium of technical support, funding, and implementation partners working on integrating H-P-E activities. Most of these partners have a long-term presence in Madagascar. Table 1 provides a list of these partners and their roles.

Table 1. Voahary Salama Partners and Roles

Financial Assistance	Financial and Technical Assistance	Technical Assistance	NGOs
• Summit Foundation • Packard Foundation • USAID/Madagascar • USAID/Washington	• Tany Meva Foundation • Pact • JSI/R&T Project • LDI Project • EHP	• National Office of Population (ONP) • University of Michigan Fellows Program • Intermedias • Linkages • Measure Communications • AGERAS (ONE/SAGE) • MCDI (PVO)	• MICET • ASOS • FAFAFI • WWF • SAF-FJKM • Adventist Development and Relief Agency • Conservation International • MATEZA

Figure 6 shows the geographic and organizational responsibilities of key partners.

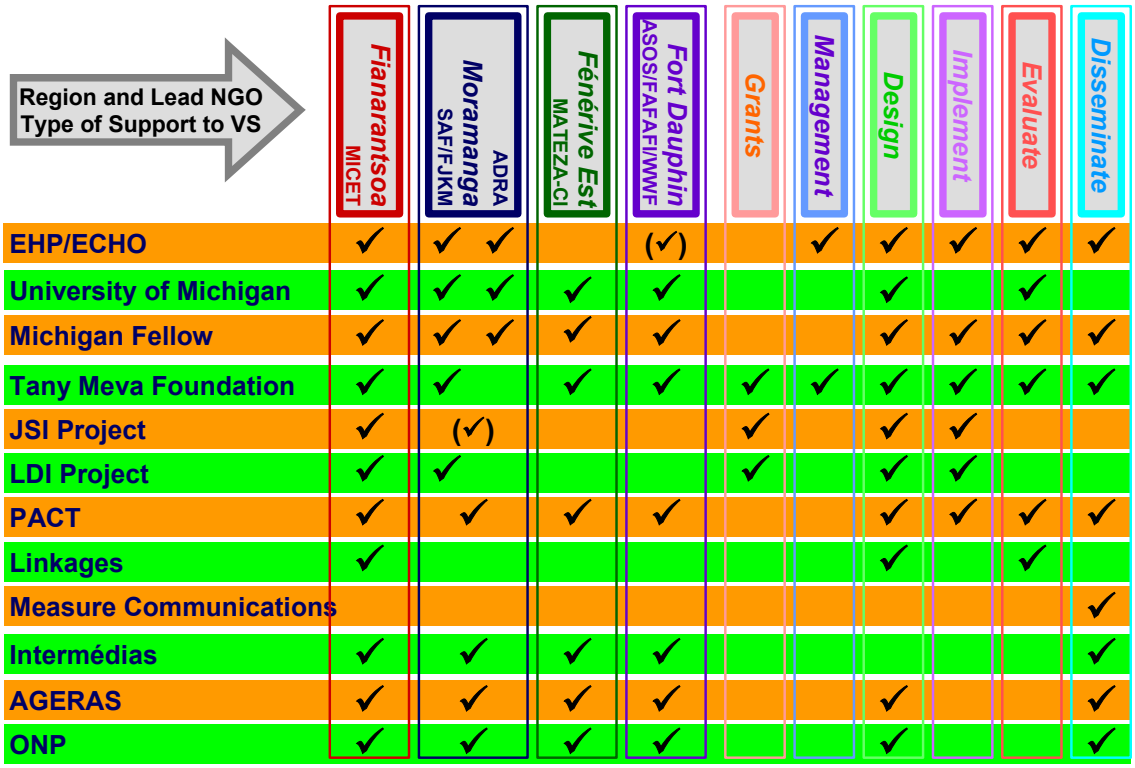


Figure 6. Geographic focus and organizational responsibilities

The Voahary Salama consortium currently consists of 24 partners that meet in general assembly once a year, elect a president, vice-president and secretary annually, and have committees for monitoring and evaluation, community development, information and communication, and finance and logistics. In addition, USAID Global and the Mission to Madagascar and two U.S. foundations (Packard and Summit) currently provide funding. USAID/Madagascar plays an active role in Voahary Salama. Voahary Salama serves as a forum for its partners to coordinate activities, develop common approaches, and promote the concept of H-P-E integration.

3.3. EHP Local Office

Given the modest funding for the activity and the fact that other organizations are active in H-P-E activities, EHP identified three valuable roles in furthering the integration of H-P-E.

Monitoring and evaluation. Since no other organization active in H-P-E in Madagascar is currently focusing on monitoring and evaluation (M&E), EHP could have a valuable role in this area. M&E support consists of a quantitative baseline using questionnaires and household surveys, operations research, and the development of systems for reporting progress on an ongoing basis.

Strengthening integrated activities at the grassroots level. EHP is providing modest support to two NGOs—Madagascar Institut pour la Conservation des Environnements Tropicaux (MICET) and Sampan'Asa momba ny Fampandrosoana/ Fiangonan'i Jesoa Kristy eto Madagasikara (SAF)—to implement integrated activities. In addition to funding community-level activities, EHP is working to develop integrated approaches and to provide training and technical assistance to the NGOs to implement them.

Coordination among VS/IPI partners. EHP provides a national level coordinator to maintain the flow of information among the partners and to provide technical leadership for VS/IPI at the national level. The national coordinator's role is to facilitate VS/IPI activities and not to be a spokesperson or leader of the initiative, which is the role of the Voahary Salama president.

To carry out these roles EHP has established a local office with three full-time Malagasy staff: a country director, an M&E specialist, and a program assistant. Pact provides office space at no cost to the activity. The local EHP office is commonly referred to as ECHO, after the Environmental Change and Health Outcomes component in the larger Environmental Health Project.

3.4. Overview of Specific Subactivities

Each of the four objectives corresponds to a specific subactivity. Under the EHP management system the overall activity is divided into subactivities, and each subactivity has its own budget and scope of work. The focus in the first three years until June 2003 will be on the first three subactivities, which will run concurrently. During Year 4, the focus will turn to the sustainability of the activity in Madagascar and dissemination of the results. Below is an overview of each subactivity.

3.4.1. Management and Coordination

This subactivity is for the management and coordination of the activity for both the EHP home and local offices.

3.4.1.1. Description

- As the Secretariat for the VS/IPI partnership as a whole, each year EHP develops an annual work plan for the VS/IPI partnership, which currently consists of 24 partners.

- EHP provides ongoing coordination among the various partners through regular meetings with the coordinating committee and various technical committees and occasional meetings with the general assembly. This includes regular communication with all partners.

- EHP supports the implementation of integrated activities through subcontracts with two NGOs--SAF (working in Moramanga) and MICET (working in

Fianarantsoa). This subactivity supports the development of work plans and budgets with both of these NGOs as well as the development of their capacity through assistance in the implementation of work plans and training. EHP's funding complements other resources and is specifically targeted at the integration of H-P-E. Both NGOs have used the funds to hire a M&E specialist or a community mobilization specialist or both.

- Although it has only a three-person office, EHP has developed a management system that includes procedures for financial management, hiring consultants, job descriptions, roles and responsibilities, and correspondence. The local office consists of the EHP country director, an M&E specialist, and a program assistant.

- The local office produces regular quarterly reports as well as trip reports associated with specific field visits.

- EHP has also entered into a subcontract with Pact to provide support services such as the production of materials and reports and technical services.

- EHP/W provides regular backstopping of the local office.

3.4.1.2. Accomplishments

As of December 31, 2001, the project had achieved the following:

- Firmly established Voahary Salama as a mechanism to coordinate integrated H-P-E programming among a range of partners. Voahary Salama has been fully functioning for 18 months, including conducting general assembly meetings in July of 2000 and 2001.

- Fully established the local EHP office, including three full-time staff members, and established its role as the coordinator of VS/IPI.

- Developed a management system and a procedures manual that documents the system.

- Developed the capacity of NGOs to develop grant proposals and work plans.

3.4.2. Development and Testing of Model Approaches

This subactivity is for the development and testing of model approaches. The implementation mechanism for much of the work under this subactivity will be subcontracted with two NGOs: SAF and MICET.

SAF/FJKM (Sampan'Asa momba ny Fampandrosoana/Fiangonan'i Jesoa Kristy eto Madagasikara) is the development department of the FJKM church and was created in 1974. Its mission is to undertake community development activities that meet the worldly and spiritual needs of the population. SAF's development activities target rural communities. Since 1987 SAF has been engaged in the health sector by

rehabilitating health facilities and initiating community pharmacies in remote rural areas. Prevention and health education were added in 1997. Since 1989 SAF has implemented community-based natural resource management programs that include reforestation, sustainable agriculture and forestry, animal husbandry, income generation, and environmental education.

MICET was created in 1997 as an NGO with a mission focusing primarily on the conservation of biodiversity, using the strategy of community development activities such as health services, environmental education, and research of animal and plant species. This NGO played a specific role in the Ranomafana National Park project under Environmental Plans 1 and 2 (1997 to 1998). MICET received grants under the USAID family planning project APPROPOP/PF to test the feasibility of integrating family planning services into environmental conservation within ICDP in Madagascar. MICET received a grant through the USAID-funded JSI project to implement reproductive health and child survival activities in communities and schools along the Ranomafana–Andringitra environmental corridor from December 1999 through June 2002.

3.4.2.1. Description

- The EHP local office worked closely with SAF and MICET to identify specific actions that could be carried out as part of an integrated approach. The actions served as the basis for a work plan for each NGO and a budget that could serve as the basis for subcontracts with EHP. EHP has budgeted $25,000 per NGO for Years 2 to 4 of the activity.

- This subactivity also calls for the development and implementation of integrated approaches that the NGOs and others can use. These include the community champion approach, the farmer-to-farmer approach, and the child-to-child education approach in schools.

- Information, education, and communication (IEC) for integrated approaches to H-P-E is an important aspect of this activity. EHP worked with JSI in July 2001 to develop an approach and related materials for IEC (Gazety, Champion Communities, Child-to-Child Approach).

3.4.2.2. Accomplishments

- SAF and MICET are implementing integrated H-P-E activities in target communities. Subcontracts are in place that can be easily renewed on an annual basis to continue these activities in 2002 through 2004.

- EHP has developed environmental and integrated aspects (to complement the already existing health components) of the child-to child education approach and is implementing it/launching it in Fierenana, Beforona, Ambinanisahavolo, Ambatoharanana, and Antandrokomby II. A local consultant developed the

methodology and a training guide, which has been used to train 16 teachers. The implementation will be evaluated early in 2002.

- EHP is currently finalizing the community champion approach and will implement it in early 2002. Three Voahary Salama Gazety were published, which cover tree nursery, reforestation, and vegetable gardens.

- In collaboration with JSI, EHP has initiated the IEC program. An IEC tool has been developed for community animators, and community development agents have been trained.

- Integration of H-P-E with EHP support has begun in 16 intervention villages in four communes. Voahary Salama covers 85 intervention and control communities.

3.4.3. Monitoring and Evaluation

One of EHP's primary roles in the VS/IPI partnership is the monitoring and evaluation of the effectiveness of integrated approaches in rural communities. While other partners are actively engaged in the actual implementation of field activities and provide financial assistance, EHP's special contribution to the partnership is M&E. The two key research questions that this M&E component attempts to answer are the following:

- Is an integrated approach more effective than a single-sector approach (health or environment alone)?

- What is the most effective model for integrating multisector programs that include natural resource management, health, and population?

3.4.3.1. Description

- The initial activity in M&E was to conduct a quantitative baseline survey in intervention and control communities. The design of the survey was based on key indicators that will serve as the basis for the analysis of the data. This baseline survey was carried out in three regions--Moramanga, Fianarantsoa, and Fort Dauphin--in March and April 2001. Follow-up household surveys are planned in 2003 to determine the impact of the interventions. The baseline survey is described in greater detail in Section 4.1.

- EHP is also coordinating with the University of Michigan Population and Environment Fellows Program. Michigan's program is focusing on qualitative research that will determine changes in community participation in development activities, the degree of interaction between communities and organizations, and better correlation between community needs and development actions. Michigan trained six NGO partners in the use of qualitative research methods. These NGOs in turn worked in 34 villages to establish a baseline and to use participatory

planning techniques to develop integrated programs. Appendix 1 shows in which villages the quantitative and qualitative assessment have been carried out.

- EHP is also responsible for developing a community-based monitoring system at the regional level for the NGO partners to use. The objective is to involve the communities in monitoring and evaluating their own integrated activities. This model is based on involving the villagers in planning activities, using tools the villagers already use for monitoring; giving them clear roles and responsibilities; and training them on how to use the system. The system includes a monthly preliminary analysis of data at the zonal level, a quarterly analysis at the regional level, and an annual report. The M&E system will describe community events and processes to determine why changes did or did not occur and what mechanisms may have produced these changes.

- EHP also carefully coordinates plans and approaches for ongoing M&E with Voahary Salama partners. EHP is currently developing a guide for monitoring integrated activities as well as training materials in the use of the guide.

- The M&E component also includes an operations research task. Although this program has not yet been developed, possible research questions to explore include determining the efficiencies of the integrated approach, determining whether an integrated community-based approach will lead to sustainability and scale-up, and identifying which interventions can be effectively linked. The operations research task will be developed and implemented in conjunction with JSI, LDI, and the Adventist Development and Relief Agency.

- The Monitoring and Evaluation Committee of Voahary Salama, with support from EHP, is identifying the operation research themes, using the quantitative survey as the basis.

3.4.3.2. Accomplishments

- EHP contracted with the National Institute of Statistics (INSTAT) in Madagascar to design and carry out the baseline survey, which was successfully implemented in March and April 2001. An EHP consultant assisted INSTAT in the design and preparation of the survey. After the survey was implemented, INSTAT analyzed the data and drafted the report. The report has been finalized, and the local EHP office has shared the results with the partners.

- EHP has developed an M&E manual as the basis for the regional community-based system. The manual includes basic definitions, tools for planning and monitoring, roles and responsibilities of different actors, and system specifications. The manual has been pre-tested in two villages in the Moramanga region and the system established in three regions (Moramanga, Fianarantsoa et Fort-Dauphin) for a second round of testing on a large scale over a period of three months (December 2001-February 2002).

- An overall M&E system has been defined that includes the quantitative and qualitative surveys, the community-based system, regular progress reports from NGO partners, special surveys to be determined, and the use of geographic information systems to obtain a spatial dimension.

3.4.4. Dissemination

This subactivity is for the dissemination of key lessons learned. Because of the nature and size of the VS/IPI partnership, the dissemination process within Madagascar has already begun. On the international level, only very limited dissemination activities are expected until the last year of the activity in 2003-2004 when the results will be known.

3.4.4.1. Description

- The EHP senior technical director participates in regular meetings in Washington, D.C., with other organizations interested in the integration of H-P-E activities. EHP is an active member of the Community Conservation Coalition (CCC), which includes Population Action International, Conservation International, The Nature Conservancy, World Wildlife Fund (WWF), and the Michigan Fellows Population and Environment Program. The main objectives of the CCC are to share experiences in implementing integrated H-P-E approaches and advocate for the concept of integration.

- The EHP country director and ECHO country director participated in a meeting organized by Population Action International and the Summit Foundation in May 2001 to discuss integration in general and VS/IPI in particular.

- EHP is also responsible for periodic progress reports, such as this document, which review progress and make recommendations for the coming year.

3.4.4.2. Accomplishments

- This progress report is the first product that will be widely disseminated outside of Madagascar.

- Voahary Salama provides a forum for ongoing dissemination in Madagascar.

- EHP has prepared a comprehensive presentation and presented to various audiences, including USAID/Washington, USAID/Madagascar, the CCC, the Summit Foundation, and the American Public Health Association. These will be updated and expanded and include the Global Health Council in the coming year.

Table 2 summarizes the subactivities and accomplishments to date. The subactivities and achievements are grouped by the four program objectives described in Chapter 3 and by the eight themes described in Chapter 2. Most subactivities and achievements

cut across the eight themes, which is expected because of the integrated nature of the program, but several are related to specific themes reflecting a greater emphasis.

Table 2. Summary of Activities and Achievements, Decmber 1999–December 2001

Objectives/Themes	Activities and Achievements
Cross-cutting (achievements affecting all eight themes)	
Management and Coordination	● Planned and supported the creation and operation of Voahary Salama, a Malagasy consortium of eight NGOs and 16 supporting organizations ● Collaborates closely with USAID-funded (Mission and global) projects in JSI, LDI, and Madagascar including Michigan Population and Environment Fellows Program and Impact Assessment Project ● Collaborates closely with population and conservation organizations in the U.S., including Population Action International, International Center for Research on Women, Conservation International, World Wildlife Fund, The Nature Conservancy, and International Resources Group ● Annual review and planning meetings of Voahary Salama general assembly ● Conducted monthly coordination meetings with NGOs ● Subcontracted with two NGOs, regular activity reports received ● Assisted eight NGO partners in developing grant proposals and work plans ● Conducted organizational development training for five NGOs in collaboration with Pact, JSI, LDI ● Conducted Finance and Administration working group technical meetings ● Assisted in the preparation of a grant proposal to the Packard Foundation
Model Approaches: Social marketing (SM), Capacity building, Field implementation	● Developed a conceptual and operational framework for H-P-E integration ● Developed child-to child SM tool; trained 16 teachers ● Planning to develop a farmer-to-farmer SM tool ● Developed champion community SM tool ● Conducted three IEC working group and three technical meetings; published quarterly newsletter ● Trained 10 villages in participatory planning—Moramanga/SAF and 6 villages—Fianarantsoa/MICET, expansion into additional communities supported by Mateza, MICET, ASOS/FAFAFI/WWF is planned ● Trained a total of 50 trainers in community development and IEC—Moramanga/SAF, Adventist Development and Relief Agency, LDI ● Trained 53 community development agents—Moramanga/SAF ● Began integration of H-P-E: 10 intervention villages in Moramanga/SAF; 6 intervention villages in three communes—Fianarantsoa/MICET
Monitoring and Evaluation	● Designed, implemented, and analyzed an integrated H-P-E household survey to serve as a baseline ● Designed a community monitoring system to observe processes and progress of integration; all NGOs trained ● Developed integrated supervision instrument; 13 intervention villages supervised (SAF, MICET), very detailed reports received ● Developed participatory assessment and planning tool (collaboration with University of Michigan, which had the technical lead) ● Trained NGOs in participatory assessment and planning (collaboration with University of Michigan), applied tool in all intervention villages ● Held monthly M&E working group and two technical meetings ● Established GPS measurements in collaboration with Pact to develop an H-P-E geographic information system

Objectives/Themes	Activities and Achievements
Dissemination	● Developed presentations and progress reports ● Presented at USAID, American Public Health Association, Global Health Council, Community Conservation Coalition, Summit Foundation, other major meeting events ● EHP country director presented the Madagascar experience to U.S. senators' staff in collaboration with conservation organizations ● Collaborating with Measure Communications/PRB to organize and co-facilitate workshops on population and environment targeted to journalists and policymakers using baseline H-P-E survey as key document during 2002
Achievements Related to Specific Health, Population, and Environment Themes	
Food Security	● Market garden education tool (Gazety) developed ● Started four school model gardens—Moramanga/SAF
Income Generation	Same as above
Environmental Conservation	● Developed tree nursery and reforestation education tool (Gazety) ● Started three school tree nurseries—Moramanga/SAF ● Started reforestation activities in two villages—Fort Dauphin/ASOS ● Started training of trainers in solar oven/improved wood-burning stoves—Fort Dauphin/ASOS ● Conducted forest management project with WWF, ANGAP, CEL, Projet Radio, FAFAFI—Fort Dauphin/ASOS
Family Planning	● Trained 93 community animators in family planning and chloroquine distribution (SAF) ● Trained 12 MICET field agents in family health—Fianarantsoa *Others covered under cross-cutting*
Nutrition of children and women	● Trained 93 community animators in nutrition (SAF) *Others covered under cross-cutting*
Immunization	*Covered under cross-cutting*
Prevention of diarrhea and malaria	See below and also *Covered under cross-cutting*
Safe water, sanitation, and hygiene	● NGO partner has assisted villages to improve water supply ● Constructed two school latrines with community participation – Moramanga/SAF ● Established two water users' committees—Fort Dauphin/ASOS ● Constructed household latrines and waste pits in two villages – Fort Dauphin/ASOS ● Trained 16 teachers in sanitation and hygiene—Fianarantsoa/MICET ● Carried out feasibility studies for community water supply in four villages – Fianarantsoa/MICET

See Appendix 2 for more details based on the tests of the Voahary Salama Monitoring System.

4 Key Achievements to Date

This chapter explores in greater depth the three key achievements of this EHP activity. These achievements are related to EHP's mandate to "implement, evaluate, document, and disseminate the effectiveness, sustainability and potential for scaling-up of integrated health, population and environment programs in several rural settings along environmental corridors in Madagascar." Sustainability of community-based and integrated health, population, and environment interventions and going to scale have driven the design of EHP's activity in Madagascar from its inception. The following are the three major results of this activity since it started in 1999 through the beginning of 2002:

1. Attained current levels for key outcome indicators related to the eight themes[1] established for 56 intervention and 29 control communities through a *baseline survey* covering 1,010 households

   – Voahary Salama has designed and tested a comprehensive monitoring system. Results from applications of this system in two regions are shown in the Appendix 2. These tables summarize activities by SAF and MICET in partnership with by LDI and JSI and assistance provided by EHP/ECHO and Tany Meva (Summit Foundation grants).

2. Established a well-functioning Malagasy consortium of partners of NGOs *"Voahary Salama"* as a mechanism to coordinate integrated H-P-E programming among a range of partners

   – Voahary Salama has leveraged over $4 million through 2004 (including EHP) in in-kind and cash resources benefiting partner NGOs, most of it from USAID and private foundations (in the United States and Madagascar).

   – NGO partners have seen qualitative improvements in planning and implementing integrated H-P-E interventions.

3. Designed innovative *social marketing and capacity-building approaches and materials* for integrating H-P-E interventions at the community and program levels in close collaboration with Voahary Salama partner organizations.

   – Voahary Salama partner organizations and the EHP team have developed and implemented key approaches and materials (Table 2 presents a more detailed

[1] (1) Food security; (2) income generation; (3) environmental conservation; (4) family planning; (5) nutrition of children and women; (6) immunization; (7) prevention of diarrhea and malaria; (8) safe water, sanitation and hygiene.

summary of specific activities and achievements grouped by program objectives and themes).

- EHP designed integrated interventions based on the Household Food Security and Livelihood Concept.

- EHP's support strategy for Madagascar has been to focus on activities in country, using local resources whenever possible, and to minimize headquarter-related expenditures.

- The EHP team built the capacity of NGO partners to conduct outreach activities in target communities that included training of IEC trainers, field agents, animators, and other community resource people in close collaboration with Voahary Salama partner organizations.

The following sections describe each of these three results in detail.

4.1. Household Baseline Survey

The H-P-E baseline survey was conducted in March and April 2001 by INSTAT at the Department of Social Statistics with support from EHP and the Tany Meva Foundation. The survey followed a quasi-experimental design and took place in 85 communities, of which 56 were intervention communities and 29 were control communities. In intervention communities, NGOs that participate in Voahary Salama are conducting integrated H-P-E activities. Control communities either have no support from Voahary Salama partner organizations or have single sector H-P-E interventions only. Although other organizations unrelated to Voahary Salama may work in control and intervention communities, they do not provide integrated H-P-E interventions.

The objectives of the household baseline survey were as follows:

- Provide information for designing integrated approaches and program activities

- Provide a baseline for evaluating program effectiveness over time using key H-P-E indicators

The baseline survey was a first step in a multiyear process to test the following working hypotheses and research question:

- Integration (multisector approach; constitutes the intervention group) is synergistic and more effective than a single-sector approach (health or environment alone; constitutes the control group).

- What is the most effective model to integrate multisector programs that include natural resource management, health, population, and education?

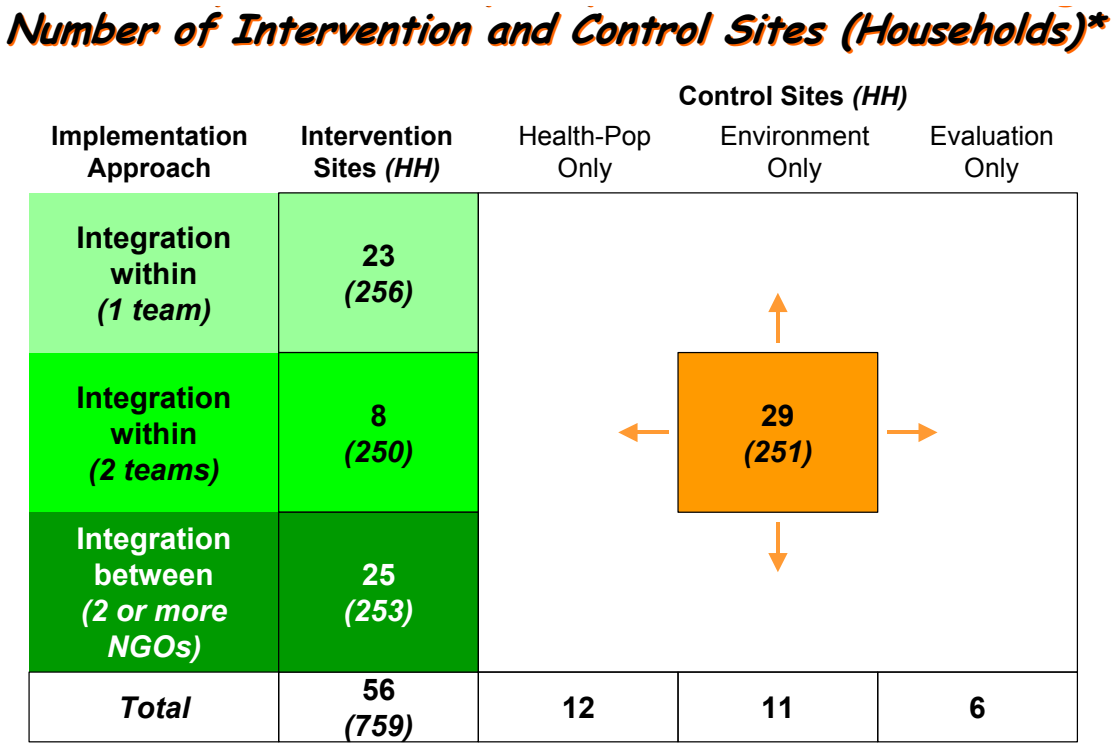
To address the second question the intervention group was divided into three types of operational approaches. Each type was represented in the survey by an equal sample size (about 250 each) and coincided with a single geographic area for the first two, and two geographic areas for type 3.

- ***Type 1—Multidisciplinary teams*** *(integration within)*: includes field agents from several sectors in one team. Geographic area: Mangoro region, five communes (excludes Beforona), Moramanga

- ***Type 2—Different sector-specific teams within the same organization*** *(integration within)*: two or more teams that have separate management structures and resources but coordinate their activities. Geographic area: Matsiatra region, Fianarantsoa

- ***Type 3—Field agents from different sector-specific organizations collaborate*** *(integration between)*: each organization has field agents working in the same commune or community. They plan and implement together with the community and coordinate on an organizational level. Geographic area: Anosy region, Fort Dauphin; and Mangoro region, Beforona commune, Moramanga.

Figure 7 shows the overall survey design and sample size.



*Sample size per site proportional to population size, *households (HH)* selected at random *(1010 total) from 85 villages*

Figure 7. Quasi-experimental (pre-post) evaluation design

Communities for the control group were drawn from all regions. The sample size was one-fourth of the total number of households (1,010) included in the survey and represented a mix of single-sector programs and those that had no Voahary Salama-related activities at all. Households were selected randomly from complete sample frames comprising 5,391 households and representing a total population of 27,044. Data were collected from 983 heads of households, 1,003 women 15- to –49-years old, and 952 children under the age of 5. The overall response rate was 98.5% for households, 97.6% for heads of households, and 84.1% for women. The lower response rate for women was mainly due to absenteeism at the time of the survey, which was conducted at the peak of agricultural activities in some geographic areas. Two other intervention zones, Zahamena (CI/MATEZA) and Betioky (MCDI), were not included in the baseline survey because of financial constraints.

Perhaps the best way to evaluate the quality of the study is to refer selected results to the DHS of 1997 for Madagascar (MACRO International, 1998). Table 3 summarizes these comparisons.

Table 3. Rural Household Demographic Characteristics

Characteristic	Voahary Salama—2001	DHS—1997
Number of households	1,010	5,407
Average household size	5.7	4.7
Male/female ratio	100	99.5
Age groups (%)		
< 5 years	18.1	18.9
< 15 years	48.6	48.0
15-64 years	47.8	48.4
Eligible persons per household		
Children < 5 years	0.93	0.88
Women 15-49 years	0.98	0.98

That the results of the two surveys are virtually identical provides evidence for the validity and reliability of the data. The consistency between other variables within the baseline survey itself adds further strength to this statement.

The selection of indicators was based on the Household Food Security and Livelihood Concept described in Chapter 2. Key findings from the baseline survey are presented in Figures 8 through 15 for the following nine indicators as well as supportive information following the eight priority themes of Voahary Salama:

1. Year-round food security (agricultural production)

2. Reported non-use of fire in agricultural activities (slash and burn)

3. Children with normal height for age (stunting)

4. Contraceptive Prevalence Rate (CPR)
5. Children's complete vaccination coverage rate
6. Children without diarrhea in the last two weeks
7. Household use of improved water sources
8. Community participation
9. Household wealth

Implications for program design and implementation are presented as well. Charts show relative proportions by geographic area corresponding to the three operational types of integration and the entire control group. The findings presented are based on a descriptive analysis; a more in-depth analysis using multivariable techniques is published in a separate report.

4.1.1. Year-Round Food Security (Agricultural Production)

With minor variations, only 16% of all households claimed that food production was sufficient for one year, with Type 3 and the control group appearing to be somewhat better off (see Figure 8). Although 11% received food aid, this varied considerably by type, reaching 26% for Type 1 and 0% for Type 2. The majority (90%) of all households depended on agriculture for their livelihood, and between 50 and 70% noted that income from agricultural production had decreased over the last two years, a sign that poverty may rise in these communities.

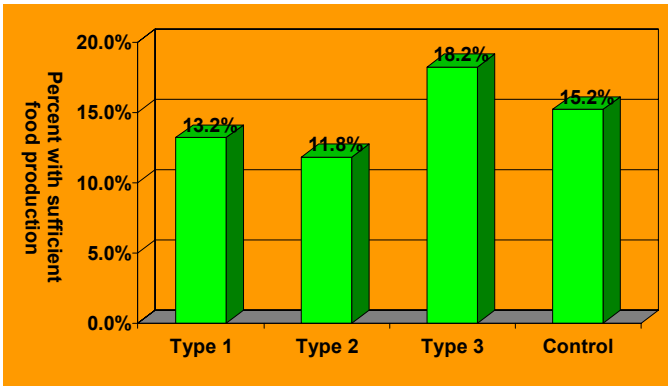


Figure 8. Proportion of Households Claiming Yea-Round Sufficient Food Production

4.1.2. Reported Non-Use of Fire in Agricultural Activities (Slash and Burn)

Fewer than half of all households (45%) admitted to not using slash-and-burn practices with virtually identical proportions for the three intervention types (see Figure 9). In the control group, however, nearly 12% fewer households reported not using such practices. This may be explained by the fact that only some of the control communities currently receive support in environmental education and improved agricultural practices. However, over 60% of all households were aware of soil erosion as a negative effect of slash-and-burn practices, with only 49% in the control group and more than 78% for Type 1 reporting having such knowledge. Knowledge of improved agricultural practices is high overall, varying between 70 and 80% for several methods. However, the proportion of households actually practicing these improved techniques was much lower, by about 20 to 40%, depending on the method. Barriers to applying conservation techniques cited by households included the lack of resources (time, land, and money) and the lack of know-how.

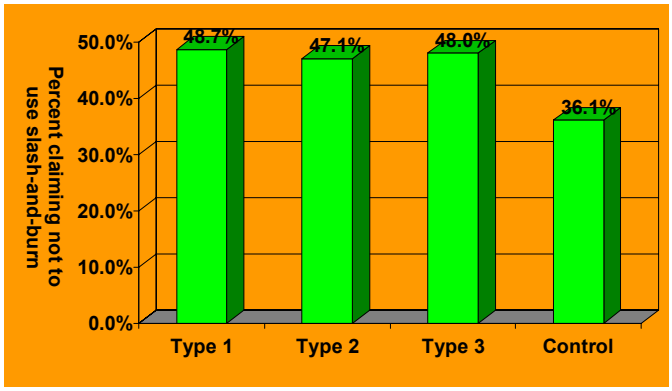


Figure 9. Proportion of households admitting use of slash-and-burn practices

4.1.3. Children's Height for Age (Stunting)

Malnutrition is a serious problem in the intervention and control communities. Slightly more than half (51%) of all children under the age of 5 did not show moderate or severe stunting and only 57% were not underweight (see Figure 10). Chronic malnutrition was worse for children one year or older. One in 10 children six months or older had acute malnutrition (wasting). The intervention types had the highest malnutrition levels while the control group had the lowest levels for any of these three measures. This contrasts with the finding that fewer women (over 10%) in the control

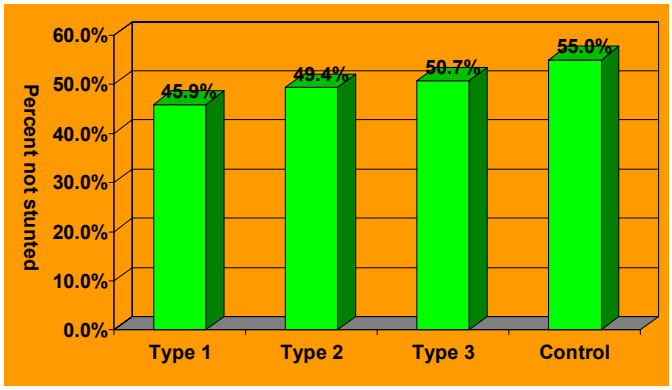


Figure 10. Proportion of children under 5 with normal height for age

group had previously heard about child nutrition, which may indicate that knowledge is not the decisive factor in determining a child's nutritional status.

4.1.4. Contraceptive Prevalence Rate (CPR)

The use of modern contraceptives is low overall with just 9% reporting using contraceptives, but it is considerably higher for Type 1 (16%) than in the control group (2%), as shown in Figure 11. The NGO intervening for Type 1 has promoted family planning intensively for several years. The most used methods were injections (5%) and oral contraceptives (3%). The difference between a low CPR and high levels of knowledge about family planning is striking. Overall, nearly three in four women had heard about contraception--as much as 89% for Type 1 (highest), but only 64% in the control group (lowest). Although the CPR in the communities covered by Voahary Salama is low, progress compared with the 1997 DHS is substantial, considering that these are very remote rural areas. The use of antenatal care services is relatively high with over 52% of the women having had three or more visits during their last pregnancy. It was as high as 67% for Type 2 and 45% for Type 3. In 42% of the pregnancies, the woman's last delivery occurred in a health facility, mainly public, but this varied markedly by type with 54 percent for Type 1 and 32 percent for Type 3. The same pattern was observed when a trained provider attended the delivery, which occurred in 52% of cases overall (75% for Type 2 and 39% for Type 3).

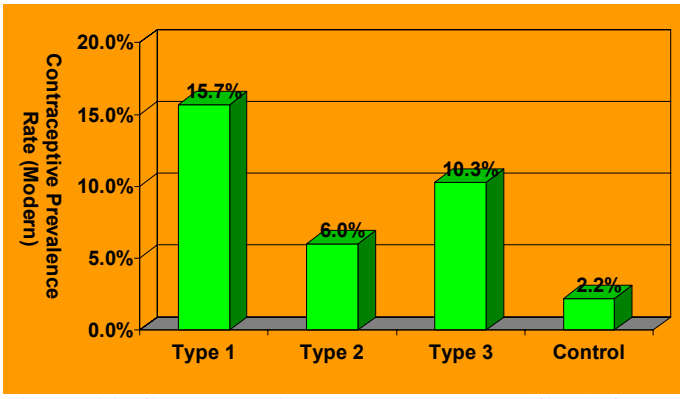


Figure 11. Contraceptive prevalence rate (CPR) for modern methods (nonpregnant and nonpregnant women 15–49 years old)

4.1.5. Children's Complete Vaccination Coverage Rate

For 55% of all children aged 12 to 23 months a vaccination card was available at the time of the survey. Of these children 62% had received all vaccines by the age of 1 (91% for Type 1, 50% in the control group, see Figure 12), and 12% had never been vaccinated. Among those children without a vaccination card 31% were without vaccine, which indicates that much less

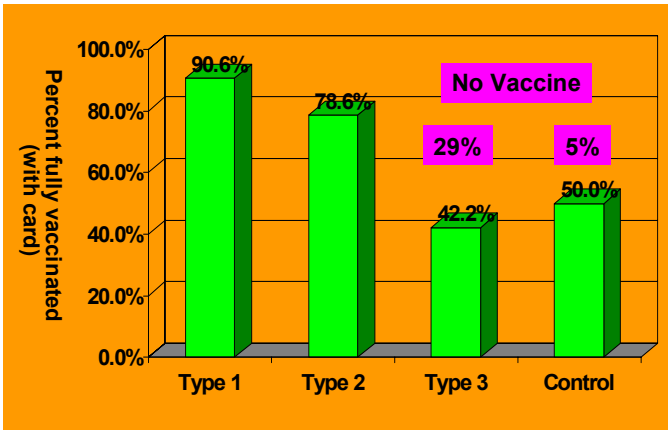


Figure 12. Children's complete vaccination coverage rate

than half of all children were fully immunized age appropriately. Based on vaccination cards, no child was without vaccine for Types 1 and 2, but as much as 29% for Type 3 and 5% in the control group were without vaccine. A third of all children aged 6 to 59 months had received Vitamin A during the six months prior to the survey according to a health card or mother recall (45% for Type 1, 28% in the control group). Variations in vaccination and Vitamin A coverage cannot be attributed to NGO activities alone. Although this is likely to be a major factor for Type 1, it also reflects the variability of access to public health services in different geographic areas.

4.1.6. Children without Diarrhea in the Last Two Weeks

Data indicated that 15% of all children less than 5-years old had experienced at least one episode of diarrhea during the two weeks preceding the survey. As shown in Figure 13, Types 3 and the control group had the highest prevalence (17% and 16%, respectively). Overall 41% of children with diarrhea received some form of treatment, but Type 3, with only 29% receiving treatment, was much lower than any other group, including the control group. Caretakers of children with diarrhea claimed in 61% of the cases that they increased liquids fed to the child. The two-week prevalence of fever was high at 45% overall, with minor variations across types. As much as 63% did not seek treatment, mainly because caretakers felt that the disease was not serious. In a quarter to a third of the cases, financial reasons were given for not seeking treatment for fever and diarrhea. Type 3 cited that the next health facility was too far away as an important reason not to seek care for fever (14%) and this was even more pronounced for diarrhea (29%). This corresponds well with the observation that the median distance to a health facility for Type 3 was 8 kilometers, about twice the amount than in the other types.

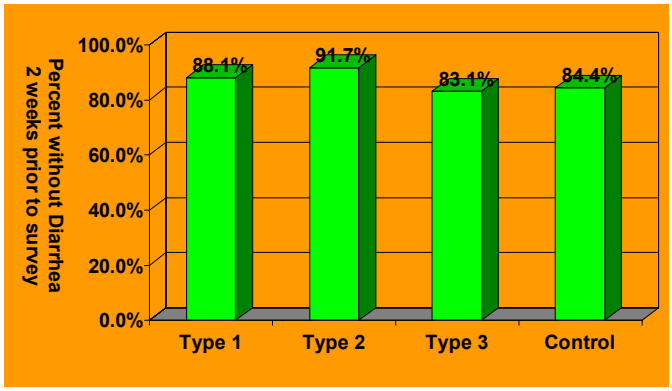


Figure 13. Proportion of children without diarrhea

4.1.7. Household Use of Improved Water Sources

Only 14% of all households had access to an improved water source that could be considered as providing water safe for drinking. The control group had the lowest amount with 3% having access to safe water, and Type 2 had the highest with 39% as shown in Figure 14. None of the households had a direct pipe connection. Access to appropriate sanitation facilities was nonexistent (only 1% overall). Slightly less than half had latrines with an open pit, and in over half of the households defecation occurred somewhere out in the open. About one in 10 households reported using household chlorination of drinking water with "Sûr Eau."

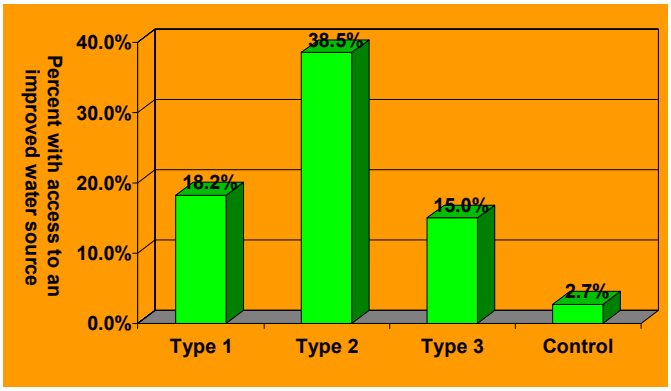


Figure 14. Proportion of households with access to improved water sources

4.1.8. Community Participation

In more than 50% of all households either the head of the household or another member participates in community groups. As shown in Figure 15, as much as 83% for Type 2 participate in community groups and only 39% for Type 3 participate. Mostly these are village associations, but for Type 1, over 50% of these are natural resource management committees. About one fifth are members of women's groups, and this varies between 5% in the control group and 37% for Type 3. Although the same pattern of responses was observed from women as from heads of household, the overall level of participation for women alone was lower with 30% overall. Type 2 had the highest amount of community participation with 47% and Type 3 the lowest with 21%.

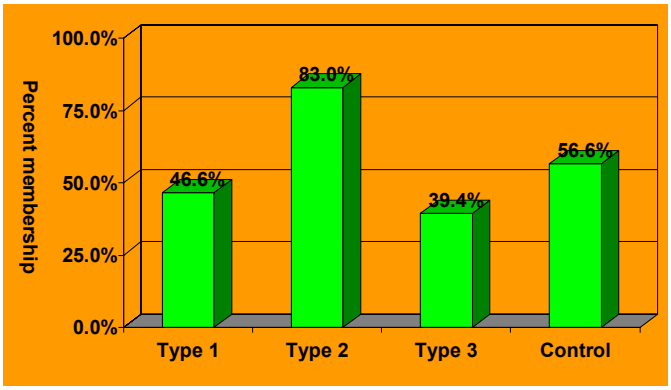


Figure 15. Proportion of households with members participating in community groups

4.1.9. Household Wealth

Using factor analysis, a wealth index based on household assets was constructed and divided into terciles: low, medium, and high (Riely et al. 1999 and Gwatkin et al. 2000). The following assets were included:

- Human capital: Household head's gender, household head's educational level, and household dependency ratio (members < 15 or > 64 years of age/members 15 to 64 years of age).

- Physical capital: House quality (floors, walls, and roof), number of bedrooms, ownership of a luxury item (radio), access to arable land, and ownership of at least one cow.

The survey indicated that 37% of households had a radio, which is an important channel for communication. A distribution of assets per wealth category is shown in Table 4.

Table 4. Distribution of Assets in the Wealth Index by Tercile (in percent of all households in a tercile)

Asset Variable	Low	Medium	High	Average
1. Household head - male	73.6	92.5	90.4	86.1
2. Household educational level				
Primary school – read and write	21.6	52.8	54.1	43.9
Secondary school plus	3.2	14.2	35.1	18.4
3. Household dependency ratio ≥ 1	85.2	84.3	78.7	82.5
4. House quality index ≥ 10	20.5	46.5	80.2	50.9
5. Number of bedrooms ≥ 2	14.4	33.0	61.4	37.7
6. Ownership of luxury item – radio	0.4	23.3	80.5	37.0
7. Access to arable land ≥ 250 acres	12.3	26.4	36.8	25.9
8. Ownership of at least one cow	40.1	48.1	44.7	44.5

Of the households classified as having a low wealth index (being in the poorest category) only 0.4% of them owned a radio, whereas 23.3% of the households classified as having a medium wealth index had a radio, and 80.5% of the household classified as having a high wealth index (the wealthiest) owned a radio. An analysis of several outcome variables shows a clear relationship with household wealth in the direction expected as shown in Table 5.

Table 5. Distribution of Selected Indicators by Three Levels of the Wealth Index

Indicator	Low	Medium	High	Average	Poor/Rich Ratio	Chi Square Prob.
Impact Indicators						
1. Food Security (Adequate food production for the year)	5.8	13.2	18.0	12.7	0.322	0.00
2. Children < 3 years stunted (Height for age z-score < -2 SD from the median)	42.9	45.5	39.0	42.4	1.100	0.01
3. Children < 3 years low weight/age (Weight for age z-score < -2 SD from the median)	37.2	45.0	38.2	40.2	0.974	0.47
4. Diarrhea Prevalence 0-59 months (2 weeks recall)	18.1	11.3	15.0	14.6	1.207	0.08
Knowledge Indicator						
5. STD Prevention – Women	64.8	78.7	84.5	76.6	0.767	0.00
Intermediate Results Indicators						
6. Modern Contraceptive Prevalence Rate (Non pregnant women 15-49)	4.7	10.3	13.5	9.8	0.350	0.00
7. Children completely vaccinated (12-23 months)	22.6	43.2	40.0	36.5	0.565	0.05
(Women 15-49 years)						
8. At 3 prenatal visits during last pregnancy	40.2	51.6	55.6	49.5	0.723	0.01
9. Last delivery by health professional	38.8	48.7	53.8	47.6	0.721	0.02
Access Indicators						
10. Households with protected water	8.6	6.9	17.4	11.2	0.494	0.00
11. Households with latrines/toilets	31.3	49.7	61.1	48.3	0.512	0.00
Sustainability Indicators						
12. Women with at least secondary education	6.9	13.4	21.3	14.4	0.324	0.00

*Averages shown here vary slightly from those based on a univariable analysis shown earlier. Averages across wealth terciles are based on denominators varying between 576 and 952, depending on the indicator. Averages from univariable analysis include all valid observation for one variable; averages across wealth terciles are based on valid observations for the wealth index and the indicator of interest for each study participant, which leads usually to a smaller denominator than in a univariable analysis.

4.1.10. Implications of Findings on Program Design and Implementation

Survey findings related to the nine key outcome indicators and supportive information suggest that Voahary Salama partners strengthen their focus in the following areas:

- Basic economic needs of households have to be met to maximize the impact of social marketing interventions on food security, health, fertility, and natural resources.
- The considerable unmet need for family planning must be satisfied by increasing community-based access to contraceptives and by lowering social and economic barriers to use.
- The emphasis on building "competency" on household and community levels should be increased as part of the social marketing strategy to narrow the gap between knowledge and practice.
- Collaboration between the educational sector and others engaged in formal and informal education needs to increase in order to improve choices and opportunities for families and better their livelihood.
- Support to NGOs needs to be strengthened and become more dependable, as NGOs play an essential catalytic role in building social capital, which is necessary to integrate H-P-E interventions and achieve sustainable development in communities close to endangered ecosystems.

4.2. Voahary Salama Partnership

Working through a Malagasy consortium of partners of NGOs supported by donors and private foundations addresses four vital elements of program implementation:

- Sustainability
- Scaling up
- Partnership
- Leveraging resources

Local NGOs are the only viable option for implementing and *sustaining* community-based integrated H-P-E interventions in remote rural areas in the long run. Organizational development and building of technical capacity of local NGOs has been a critical role of Voahary Salama, and this will remain a core function of the partnership. This has enabled NGOs to obtain grant funding. Systematic and participatory planning sessions have greatly strengthened NGOs to develop work

plans that are results oriented and to monitor achievements regularly. As numerous training activities listed in Chapter 3 show, building technical competency has been a priority for partners that support Voahary Salama. Through its various committees and working groups, Voahary Salama provides an effective structure for NGOs to communicate and share approaches and experiences in integrated H-P-E programming and implementation.

Through Voahary Salama the issue of *scale* has been addressed from the inception of the program. Instead of focusing on a few communities where integrated approaches are piloted, Voahary Salama partner NGOs work in well over 120 communities with a total population of approximately 50,000, and more than half of the population was covered by the baseline survey. By strengthening NGOs and by encouraging new NGOs to join Voahary Salama, the consortium is able to expand integrated H-P-E interventions far more rapidly than NGOs would on their own, as evidenced by the scattered and sporadic history prior to the creation of Voahary Salama.

The Voahary Salama *partnership* has been fruitful on several levels. It has not only facilitated communication among Malagasy NGOs, it has also brought together supporting organizations that receive USAID and foundation funding. In the past these organizations worked mainly in a specific sector such as health and population, agriculture, and environment, and there was no systematic exchange of approaches and experiences across sector lines. While developing an integrated programming approach for Voahary Salama, it became obvious that each sector has strengths that complement each other. For example, social marketing, which is well developed for health and population activities, found increasing use in agriculture and environmental activities. The strength of the agriculture sector lay in the emphasis on hands-on training and social contacts with community groups, which improves certain health interventions where an increase in knowledge is not sufficient. Practice and role models are important for activities to generate income and to alleviate poverty. Collaboration has not only been essential in Madagascar, but has also played an important role in the development of the Household Food Security and Livelihood Concept.

Both sustainability and scaling up require a continuous stream of resources. No donor project or private foundation alone can provide sufficient funding and sustain this funding over many years. A critical success factor has been the ability of Voahary Salama to *leverage* approximately four times the amount that, for example, EHP alone could have provided over a four-year period. Many of the contributions are in kind through technical assistance, but three private foundations-- Summit, Packard and Tany Meva—also provide considerable cash funds.

Changes experienced by NGOs

NGO partners have seen qualitative improvements in their ability to plan and implement integrated H-P-E interventions since the creation of Voahary Salama:

- With assistance from EHP/ECHO and other supporting partners of Voahary Salama NGOs have been able to plan integrated activities more systematically and to focus on interventions that have been proven to be effective in sector specific programs.

- Voahary Salama has also helped to coordinate donor support to the NGOs, which lead to a greater complementarity of funding and strengthened integrated programs.

- NGO teams that worked along sector lines and in different communities before are more coordinated in their efforts, which resulted in these teams working together in the same villages following a common schedule of field activities.

- NGOs have benefited from a broad range of resources and support brought together through Voahary Salama, especially the sector programs supported by JSI, LDI and others. This has strengthened the technical and management competency of NGOs.

- A more explicit collaboration between Voahary Salama NGO and supporting partners has increased the efficiency of operations by sharing resources such as transportation and training facilities more frequently.

4.3. Design of Integrated Interventions

The design of integrated H-P-E interventions drew on the experiences of existing programs, mainly in the health and agricultural sectors, and focused on three elements necessary for an effective program:

- Social marketing

- Community resources and organizational structures

- Development of materials and capacity building

Voahary Salama has developed three *social marketing* approaches and is in the process of developing the fourth, as described in the following paragraphs. The social marketing approach is basically built around an "innovator model," which uses as its role models individuals, families, and communities that become early adopters of positive practices.

- Early adopters (model families and farmers, champion communities)

Interventions are based on a behavior change model and a comprehensive series of actions designed to produce adoption of a series of behavior changes at the household level. This process assumes that households' reasoning and adoption of new technologies--and new behaviors for using these technologies--is basically the same across technical practices. The success of this "innovator model" depends on mechanisms to create technical competencies and lower socioeconomic barriers in individuals and families so that they can use new techniques. This is especially important for more complex tasks such as improved agricultural methods. Processes in social marketing and skill building are likely to be similar in general, but they may vary substantially in emphasis and intensity depending on the topic, e.g., whether they intend to lead to "early adopters" of family planning or to entice farmers to try planting off-season crops. More importantly, once a community sees successful examples of some new practices, it becomes open to change and other changes can follow more quickly and cross sector lines. The key to success of the social marketing model is to carefully define which behaviors should be changed. The notion of small, doable actions is extremely important for family planning, health, nutrition, and food production. It keeps changes to a feasible minimum and is commensurate with the limited capacity and resources of community groups and local NGOs for creating competency. Examples for promoting the innovator model are three issues of the Voahary Salama Gazety on tree nursery, reforestation, and vegetable gardens.

- Child-to-child education

  The goal of the child-to-child approach in education is to increase children's involvement in their own future and to conserve natural resources, but more specifically, it seeks to improve the nutritional status of school children and their families. Voahary Salama took the already existing Child-to Child approach created by JSI and the Minister of Health, and EHP helped to add an environmental and integrated component to it. The approach is grounded in the educational system and uses school programs to promote the integration of health and environment. Specific topics include hygiene and sanitation, good nutrition, reforestation, and income generation. It builds the competency of local school officials and teachers to teach these subjects and to become role models for students. Guides on how to implement the child-to-child approach were developed and followed by trainers and schoolteachers. One NGO (SAF Moramanga) has established this approach in five communities with funds from EHP.

- Champion community

  The champion community approach aims at strengthening social mobilization and works through the leaders and representatives of community organizations. The objective is not only to raise awareness about the links between H-P-E in the community, but also to invite people to engage in concrete actions. The ultimate outcome is a change in behaviors and attitudes towards health, reproductive health, and the environment. Voahary Salama took the already existing champion

community approach created by JSI and the Minister of Health, and EHP helped to add an environmental and integrated component to it. Activities include holding meetings of community groups, conducting participatory planning and target setting, fostering collaboration between different community groups, and monitoring progress. A guideline and training documents have been finalized and introduced by SAF and LDI in the Moramanga region.

- Farmer-to-farmer education

  Building on the social marketing strategy of early adopters or innovators, farmer-to-farmer education is central to improving agricultural practices and food security. The goal is to help families to increase food production and practice more sustainable agricultural methods. New guidelines have been adapted from materials developed by others who work in the agriculture sector. The approach is practiced in the Fort Dauphin region by ASOS and Fanentanana Fambolena Fiompiana (FAFAFI) and is considered by SAF and LDI for application in the Beforona Commune in the Moramanga region.

These social marketing approaches are implemented through *community resources and NGO structures*. Within each are specific change agents and committees, as shown in Figure 13, with various roles in planning and implementing integrated H-P-E activities. Voahary Salama partners support a development committee at the level of each commune, and this committee also serves as a coordinating mechanism for all organizations with development activities in a specific commune.

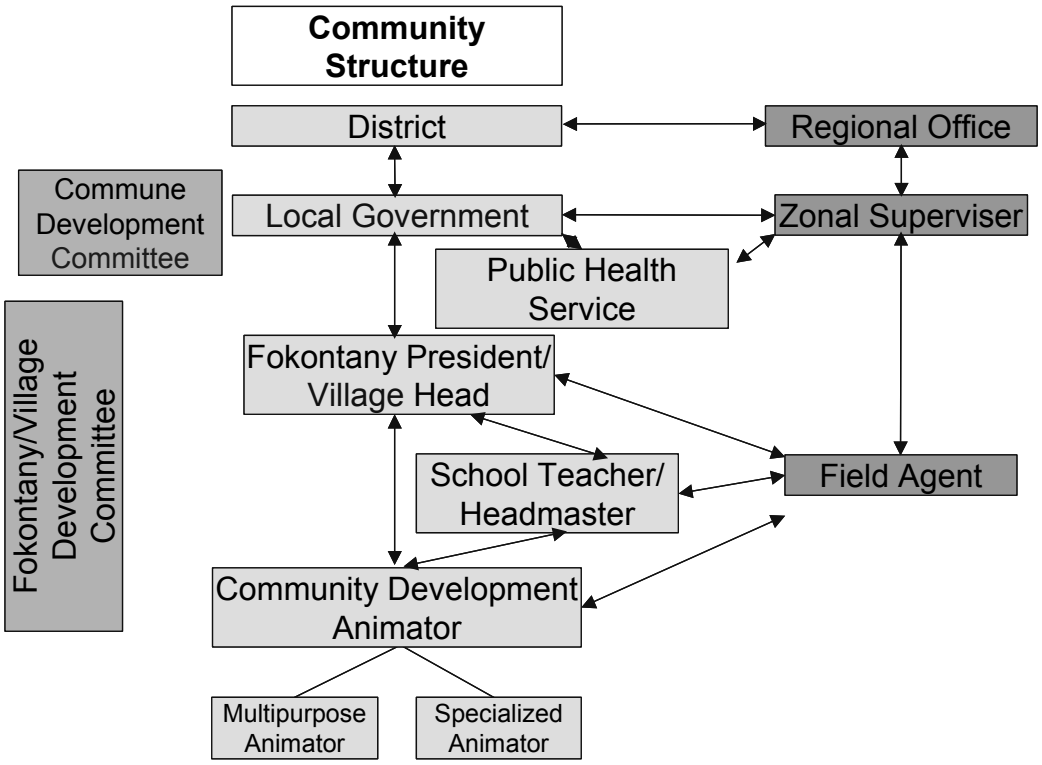


Figure 13. Community support structure

Similar committees are found at the community (Fokontany) and village levels, but there may be many such committees as well as specific community groups. This complexity reflects specific donor, project and government interests and their interaction with communities that follows sector lines. The goal of Voahary Salama is to assist communities in streamlining and harmonizing social mobilization activities that involve H-P-E. Two types of volunteers exist on the village level: a multipurpose animator and a specialized animator. The multipurpose animator helps communities to plan and conduct social events and focuses on communication efforts around different topics related to H-P-E. The specialized animator is a multipurpose animator who has also received specific training and is therefore more skilled in interventions such as family planning or agricultural methods and leads efforts to provide access to commodities and build technical competency. An example would be a community-based distributor of contraceptives. Voahary Salama has trained NGO trainers and a number of these animators as shown in the appendix. In addition to the animators, schoolteachers, health workers, and other sector-specific agents have an important role in promoting integrated H-P-E activities on the community level and are included in various training activities.

The link between these community resources and structures and the NGO support structure are the field agents, also known as field technicians. The Voahary Salama partners have made a significant effort to build the technical competency and communication skills of these agents. Dedicated staff on zonal and regional levels supervise the field agents. Through the Voahary Salama structure, NGOs have been able to access resources such as transportation, meeting space, and technical resources from supporting partners like LDI and JSI. This has improved their ability to supervise and support their field agents and has made the NGO operation more efficient. In cases where several NGOs work together, for example, ASOS, FAFAFI, and WWF in the Fort Dauphin region, similar economies were realized.

The area of *development of materials and capacity building* has focused on social marketing approaches and specific technical topics. The Voahary Salama partners have built on materials and training concepts already used by existing sector-specific programs in the areas of health, reproductive health, food security, agriculture, and environmental protection. However, the new educational and training materials incorporate the links between H-P-E. These material and training activities take into account that people must cope with many competing messages and that too much information is confusing and makes it impossible for NGOs to support communities and for communities to implement change. Therefore, a considerable technical effort is being made upfront to ensure that the recommended actions are simple, doable, and effective; are adapted to the climatic zone and seasonal conditions; and will utilize proven techniques that lead to improved health, agricultural production, nutrition, and household income. Training approaches on all levels are vocational and aim to build competencies rather than simply communicate knowledge. This is consistent with findings of the baseline survey that levels of knowledge, for example, in family planning and natural resource conservation are already high, but that people need skills and resources to overcome barriers to adopting better practices. Extensive efforts have also focused on developing a supervision and community monitoring

system that provides continuous information about progress and why certain changes at the household and community levels may occur. The systems are in place and all NGOs were trained.

The social marketing approach based on the "innovator model" is implemented through a series of social mobilization efforts related to specific H-P-E topics and includes the following:

- Educational sessions for community groups
- Demonstration sites
- Recruitment and support of model families and farmers
- School-based activities and H-P-E education
- Organized community participation in specific projects assisted by materials from NGOs; for example, materials to improve water supply, construction of school latrines, or seedlings for tree nurseries
- Established social norms and contracts related to environmental practices
- Income generation and micro-credit projects
- Village theater
- Village festivals

NGOs supported by EHP directly and those supported by other Voahary Salama partners have helped communities to organize social mobilization activities. Capacity building included the training of community animators and school teaches as well the members of various development committees. Future reports will provide more specific information about these achievements by incorporating information from the supervision and community monitoring processes.

5 Issues and Next Steps

This chapter discusses three key issues affecting the long-term success of VS/IPI.

5.1. Issues

5.1.1. Institutionalizing VS/IPI and ECHO

As VS/IPI has become firmly established and the role of the local EHP office appreciated, EHP has begun to think about the long-term sustainability of the effort. Institutionalization must be understood on two levels: the institutionalization of Voahary Salama and the institutionalization of ECHO.

Voahary Salama currently has no legal standing and therefore cannot receive and manage its own funds. As support for Voahary Salama has grown, so has the interest in establishing it as a legal association. Under Malagasy law, a registered association is easier to establish than an NGO, but it provides a legal structure for all essential organizational functions including the ability to receive funding, provide grants, and employ staff. A consultant is currently studying the issue and a decision will be made at the general assembly of Voahary Salama 2002.

In addition, EHP will explore the institutionalization of the local EHP office. The local office is currently staffed by three long-term people all hired directly by EHP. Although the activity has two and a half years to run with EHP funding, it is already possible to see the need to establish a more permanent mechanism that will go beyond the life of the EHP II project. To explore the issue, EHP will hire a consultant to explore the feasibility of the local EHP office become either an association or an NGO. EHP could then provide the same level of funding it is currently providing to the newly established association. The benefit of this approach is that the new entity could then receive other sources of funding, which is not currently permissible under the current set-up, and it could function as a permanent entity. With EHP funding during its first year of operation, it would be able to develop the systems to become established and have some time to try to identify new sources of funding. A decision on the viability of this idea is expected by July 2002.

5.1.2. Technical Directions

The experience collected and summarized in this progress report is useful in examining the technical direction of the program. The first 18 months of implementing integrated H-P-E interventions through NGOs associated with Voahary Salama have shown that these organizations are effective and that the technical approaches are consistent with community needs. This indicates that the general

direction of the program should continue and that any changes should serve to fine-tune interventions. Such adjustments are suggested by findings from the household baseline survey and participatory assessments. Household and community data suggest that knowledge related to several H-P-E themes is relatively high in general, but people may lack the details necessary to implement that knowledge. This would indicate a greater emphasis on increasing specific technical knowledge and skills to adopt new practices. Moreover, the data also point to important economic barriers to behavior change. Communities and households need better access to basic technical resources and interventions that increase household income; otherwise destitute populations may not be able to benefit equitably from integrated H-P-E interventions. Income-generating activities may require an increase in funding of micro-projects, assistance to start micro-credit systems, and vocational training. These are difficult tasks for NGOs with limited resources to realize, especially when they are located in remote rural areas. Together with other partners, including the commercial sector and donor projects, NGOs may need to explore the possibility of providing communities with easier markets for their products. Voahary Salama and its supporting partners will play a vital role in assisting NGOs in meeting these challenges, and additional technical skills may have to be brought into this group.

5.1.3. Funding

The original anticipated funding level for ECHO/IP was $1.2 million over a five-year period. The first year was used to design and plan the activity and the remaining four years were for the implementation of the activity in Madagascar. The $1.2 million translated to an average of about $250,000 per year. However, the activity has developed in such a way that it costs $300,000 per year, thus leaving a shortfall of $50,000 per year, or a total of $200,000 over four years.

Two primary factors have resulted in the higher than anticipated costs. The first is the widespread interest in the activity in Madagascar and the time needed to develop and support the VS/IPI partnership. This has necessitated hiring a full-time M&E coordinator as well as a full-time administrative assistant in addition to the country director. The second factor is the decision to work in two regions instead of one, which increased the scope of the activity.

EHP has been able to fund the activity at $300,000 for the past two years. The project received $400,000 in funding for ECHO/IP in its first year, but only spent $200,000. This enabled EHP to top off the funding for the first two years of the field activity with an extra $100,000 per year. EHP's current fiscal year will end on June 30, 2002. After that date, the activity will require an additional $100,000 beyond the funding commitments already made.

If the additional funding is not secured, EHP will have to make major cutbacks in the activity and jeopardize prospects for success. The activity is constructed in a very cost-effective manner. To date, in addition to modest home office support, EHP has carried out one project monitoring trip per year and provided one U.S. consultant to design the baseline survey. Other than the two monitoring trips, that is the only U.S.

consultancy that EHP has provided since the overall activity was designed. All other staff and consultancies have been local. EHP has made every effort to be cost-effective in carrying out this activity by limiting U.S. costs.

5.2. Next Steps

The following is a list of the priorities for the second half of the ECHO/IP activity in Madagascar:

- Establish Voahary Salama as a Malagasy association to support local NGOs
- Investigate and, if appropriate, establish the local EHP office as an association or NGO
- Selectively bring new partners into Voahary Salama--local NGOs as well as support organizations--as needed to meet its mandate
- Develop the full range of social marketing, communications, and training materials to cover the eight core themes
- Build capacity in all NGOs and at all intervention sites; expand where feasible with available resources
- Develop an operations research plan and implement activities that address the most salient programmatic issues of H-P-E integration
- Systematically monitor progress and assess the synergies of successful H-P-E integration
- Evaluate program effectiveness by conducting a follow-up household survey in the last year of the activity
- Allow communities formerly in the control group to become intervention sites
- Recruit new control communities to participate in a long-term evaluation strategy
- Document best practices of H-P-E integration and disseminate lessons learned
- Organize or participate in events that promote H-P-E integration nationally and internationally

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Appendix 1 : Liste Des Villages Enquetes (Marp, Enquete Menage)

1. Selon type 2 : Un ONG (MICET) avec 02 équipes séparées

FIVONDRONANA	COMMUNE	No	VILLAGE	ONG	ENQUETE MARP	ENQUETE MENAGE	SITUATION DES ACTIVITES SANTE ET ENVIRONNEMENT
			VILLAGE D'INTEGRATION				
IKONGO	Tolongoina	1	Tolongoina	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
IKONGO	Tolongoina	2	Mandriandry	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
IKONGO	Tolongoina	3	Ambatoharanana	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
IKONGO	Ikongo	4	Antsatrana	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
IKONGO	Ikongo	5	Ambalagoavy	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
IKONGO	Ikongo	6	Ambodiara dihy	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
AMBALAVAO	Ambohimahamasina	7	Iarinomby	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
AMBALAVAO	Ambohimahamasina	8	Iharondahy	MICET	OUI	OUI	En cours avec ECHO 1 et 2 – AAPS/JSI – SUMMIT(depuis août 2001) – Packard (Février 2002)
			VILLAGE CONTROLE				
IKONGO	Tolongoina	9	Tsarahonenana	RIEN	OUI	OUI	
IKONGO	Tolongoina	10	Tsiambahambo	LDI	OUI	OUI	En cours avec LDI
IKONGO	Tolongoina	11	Kianjamiakatra	MICET	OUI	OUI	En cours avec MICET (ECHO 1 et 2- AAPS/JSI)
IKONGO	Ikongo	12	Ambodilazabe*	RIEN	NON	OUI	
IKONGO	Ikongo	13	Antekoho	RIEN	OUI	OUI	
IKONGO	Ikongo	14	Sahavondronana	MICET	OUI	OUI	En cours avec MICET (AAPS/JSI)
IKONGO	Ikongo	15	Ankarinomby Sud	LDI	OUI	NON	En cours avec LDI
AMBALAVAO	Ambohimahamasina	16	Itaolana	LDI	OUI	OUI	Mise en œuvre par ONG CCD Namana
AMBALAVAO	Ambohimahamasina	17	Tiakohosoa *	RIEN	NON	OUI	
AMBALAVAO	Ambohimahamasina	18	Andalandranovao	LDI	OUI	OUI	Mise en œuvre par ONG CCD Namana
AMBALAVAO	Ambohimahamasina	19	Sahabe	LDI	OUI	OUI	Mise en œuvre par ONG CCD Namana
AMBALAVAO	Ambohimahamasina	20	Sahafy	LDI	OUI	OUI	Mise en œuvre par ONG CCD Namana
AMBALAVAO	Ambohimahamasina	21	Antanamarina	LDI	OUI	OUI	Mise en œuvre par ONG CCD Namana
AMBALAVAO	Ambohimahamasina	22	Faliarivo	MICET	OUI	NON	En cours avec MICET (AAPS/JSI)

2. Selon type 3 : 02 ONGs (SAF / LDI)

FIVONDRONANA	COMMUNE	No	VILLAGE D'INTEGRATION	ONGs	ENQUETE MARP	ENQUETE MENAGE	SITUATION DES ACTIVITES
MORAMANGA	Beforona	1	Beforona*	LDI /SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	2	Antandrokomby II	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	3	Vohitromby	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	4	Fierenana	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	5	Vakampotsy	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	6	Ambatomasina	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	7	Marolafa	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	8	Maromitety	LDI /SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	9	Antsakarivo	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
MORAMANGA	Beforona	10	Ambodiaviavy	LDI/SAF	OUI	OUI	En cours avec ECHO / SUMMIT (depuis juillet 2001) et LDI (depuis 1999)
			VILLAGE CONTROLE				
MORAMANGA	Beforona	11	Aharana	LDI	OUI	OUI	En cours avec LDI (depuis 1999)
MORAMANGA	Beforona	12	Ankeniheny	SAF	OUI	OUI	Santé seulement - Prévues Février avec Packard
MORAMANGA	Beforona	13	Ambinanisahavolo	SAF	OUI	OUI	Santé seulement - Prévues Février avec Packard Parascolaire en cours (depuis juillet 2001)
MORAMANGA	Beforona	14	Antanambao	RIEN	OUI	OUI	
MORAMANGA	Beforona	15	Marozevo	LDI	OUI	OUI	En cours avec LDI (depuis 1999)
MORAMANGA	Beforona	16	Ambodilazana	RIEN	OUI	OUI	
MORAMANGA	Beforona	17	Ambalavero	LDI	OUI	OUI	En cours avec LDI (depuis 1999)
MORAMANGA	Beforona	18	Ambatoharanana	LDI	OUI	OUI	En cours avec LDI (depuis 1999) Parascolaire prévues janvier 2002

Appendix 2:
Achievements reported by the Voahary Salama Monitoring System

Résultats Globaux: SAF/LDI dans la commune de Beforona

INDICATEURS D'ACTIVITES		Indicateurs	Localisation	P°	R°	Rapport P/R	Échéance	D R°	Retard	MOV
OBJ 1	**Améliorer la santé de la Reproduction et du Couple Mère/Enfant**									
	A 1.1 : Renforcement de la capacité des partenaires au niveau communautaire									
	Ss.A 1.1.1 : Mise en place de structure Communautaire									
	Mise en place des ADC	Nb invités	9 villages	135	100	74.1%	30/4/01	6/5/01	-6	Rapport Liste des invités
	Mise en place des CDF	Nb invités	6 fokontany	42	42	100.0%				Rapport Liste des invités
	Mise en place de Gérant CDC (1par village)	Nb invités	6 villages	6	6	100.0%	31/7/01	29/8/01	-29	Rapport Liste des invités
	Mise en place des animateurs de PF (2 animateurs par village)	Nb invités	10 villages	20	20	100.0%	31/7/01	29/8/01	-29	Rapport Liste des invités
	Mise en place des animateurs de nutrition (4 animateurs par village)	Nb invités	3 villages	12	12	100.0%	31/7/01	29/8/01	-29	Rapport Liste des invités
	Ss.A 1.1.2 : Formation des Instituteurs, ASBC, Gérants , CDC, Animateurs en Nutrition									
	Formation des comités de développement de Fokontany	Nb CDF formés 06 séances	6 fokontany 02 séances	42	35	83.3%	31/8/01	18/8/01	13	Rapport de formation Liste de présence
	Formation des Animateurs DC sur le message général de santé	Nb ADC formés 6 séances	9 villages 06 séances	135	73	54.1%	30/5/01	19/6/01	-20	Rapport de formation Liste de présence
	Formation des Animateurs PF	Nb APF formés	10 villages	20	17	85.0%	31/8/01	11/9/01	-11	Rapport de formation Liste de présence
	Formation des animateurs en nutrition	Nb A N formés	3 villages	12	14	116.7%	31/7/01	3/9/01	-34	Rapport de formation Liste de présence
	Formation des ASBC	Nb ASBC formés	6 villages	12	9	75.0%	31/8/01	25/9/01	-25	Rapport de formation Liste de présence
	Formation des gérants des CDC	Nb G CDC formés	6 villages	6	6	100.0%	31/7/01	6/9/01	-37	Rapport de formation Liste de présence
	MOYENNE					***89.8%***			***-21***	
OBJ 2	**Améliorer sur les conditions d'hygiène et d'assainissement**									
	SssA 2.1.2.1 : Étude de faisabilité de l'Acquisition d'eau potable	TDR contrat	5 villages	5	5	100.0%	31/8/01	7/8/01	24	Rapport de mission
	Trouaison des fosses à ordures	Nb fosse à ordure	10 villages	10	2	20.0%	30/9/01	28/9/01	2	Vérification in visu Cahier de suivi CDF
	MOYENNE					***60.0%***			***13***	
OBJ 3	**Promouvoir l'Éducation Sanitaire et Environnementale scolaire**									
	A 3.1: Jardin potager scolaire	nb j p	4 EPP	5	4	80.0%	31/10/01			Rapport de mission Vérification sur terrain
	A 3.3: Latrines scolaire	nb latrines	2 EPP	5	2	40.0%	30/9/01	15/10/01	-15	Rapport Vérification sur terrain
	MOYENNE					***60.0%***			***-15***	
OBJ 4	**Suivre la réalisation des activités intégrées**									
	A 4.1: Élaboration du manuel de suivi des activités	1 manuel				100.0%	30/9/01	31/8/01	30	Manuel
	A 4.2: Mise en place des dispositifs (outils) et suivi des réalisations	Nb outils				65.0%	31/8/01	------		Vérification sur terrain
	A 4.3: Documentation des résultats de suivi	Document					30/9/01	10/9/01	-9	Documentation
	A 4.4: Présentation et distribution des résultats de suivi	Document					30/9/01	9/10/01	-9	Séance de présentation
	MOYENNE					***82.5%***			***4***	
	MOYUENNE GENERAL					**80.1%**			**-5**	

P° = Prévision
R° = Réalisation
MOV = Moyen de vérification

OBJ = objectif
A = Activités
ssA = Sous Activité

D R° = Date de réalisation
Nb total des sous activités = 27
Nb activités réalisées = 19

Résultats Globaux: SAF/LDI dans la commune de Beforona par Village

VILLAGES		*INTEGRATION*										*CONTROLES SANTE*		
Activités	**Indicateurs**	*Antandrokomby*	*Maromitety*	*Fierenana*	*Ambodiaviavy*	*Ambatomasina*	*Antsakarivo*	*Vohitromby*	*Marolafa*	*Beforona*	*Vakampotsy*	*Ambinasahavolo*	*Ankeniheny*	**TOTAL REALISE**
Formation des ADC (animateurs)	Nb ADC formés	13	4	10	9	9	8	2	5	25	8	X	X	**93**
Formation des gérant CDC	Nb gérant CDC formés	1	1	1	1	1	1							**6**
Formation des animateurs nutrition	Nb A nutrition formés	4	4	4	4	4								**20**
Formation des animateurs PF	Nb Animateur en PF formé	2	2	2	2	2	2	2	2	2	2	X	X	**20**
Formation des ASBC	Nb ASBC formés	2	2	2	2	2	2							**12**
Mobilisation communautaire :														
Dotation de Centre d'information et communication villageoise	Nb de CICV	1			1	1								
Animations	Nb animations	X	X	X	X	X	X	X	X	X	X	X	X	
Elaboration des plans d'animation	Nb de plans d'animation	1	1	1	1	1	1	1	1	1	1	X	X	**10**
Dotation : CSCE	CSCE fonctionnel	4	4	4	4	4								**20**
Pesée	Nb pesée	12	12	12	12	12								**60**
Démonstration culinaire	Nb démonstration culinaire	60	60	60	60	60								**300**
Education nutritionnelle	Nb éducation nutritionnelle	60	60	60	60	60								**300**
Dotation : CDC	CDC fonctionnel	1	1	1	1	1	1							**6**
Promotion des moustiquaires imprégnés	Nb moustiq vendu au niv CDC	X	X	X	X	X	X					X	X	**100**
Promtion des sur'eau	Nb sur'eau vendu au niv CDC	X	X	X	X	X	X							
Dotation : produits contracéptifs	ASBC dotés de produits contracéptifs	1	1	1	1	1	1							**6**
Hygiènes et assainissement	Nb de débroussaillage	X	X	1	1	1	X	X	X	X	1	X	X	**4**
	Nb fosses à ordure	X	2	2	2		X	X	X	2	2	X	X	**10**
Adduction d'eau potable	Etude de faisabilité AEP	1		1	1	1	1					X	X	**5**
	Nb syst gravitaire fonctionnel			1	X	X	1					X	X	**2**
	Nb puits fonctionnels	X			X	X	1	X				X	X	**1**
Protection des sources	Nb aménagements	X	X	X	X	X	X	X	X	X	X	X	X	
Latrines villageoises	Nb latrines (11)	X	X	X	X	X	X	X	X	X	X	X	X	
Jardins potagers villageois	Nb jardins potagers productifs	X	X	X	X	X	X	X	X	X	X	X	X	

Beforona Nb ADC = 25 formés par JSI remise à niveau le 29 juin 2001

Ambatomasina	*9*
Ambodiaviavy	*9*
Antandrokomby	*14*
Antsakarivo	*8*
Beforona	*25*
Fierenana	*10*
Marolafa	*5*
Maromitety	*4*
Vakampotsy	*8*
Vohitromby	*2*

Activités Scolaires: SAF/LDI dans la commune de Beforona par Village

Activtés/Ecoles	Antandrokomby	Beforona	Fierenana	Ambinanisahavolo	Ambatoharanana
Plate bande JP	54		35	14	
Nb des récoltes J P	1	1		1	
Nb plate bande Pépinière	2	2	1	1	
Superficie	4m²	4m²	4m²	4m²	
Nb pôt			150	269	
Latrines	**En cours**	**OK**	**OK**	**En cours**	**En cours**

ACTIVITES SAF / LDI ZONE BEFORONA

	VILLAGES		INTEGRATION										CONTROLE S		CONTROLES ENVIR				RIEN		
ONGs	Activités	Indicateurs	Antandrokomby	Maromitety	Fierenana	Ambodiaviavy	Ambatomasina	Antsakarivo	Vohitromby	Marolafa	Beforona	Vakampotsy	Ambinasahavolo	Ankenitheny	Ambalavero	Ambatoharanana	Aharana	Manzevo	Ambodilazana	Antanambao	TOTAL REALISE
	FORMATION :																				
	Formation des ADC (animateurs)	Nb ADC formés	13	4	10	9	9	8	2	5	25	8	X	X							93
	Formation des gérant CDC	Nb gérant CDC formés	1	1	1	1	1	1													6
	Formation des animateurs nutrition	Nb A nutrition formés	4	4	4	4	4														20
S	Formation des animateurs PF	Nb Animateur en PF formé	2	2	2	2	2	2	2	2	2	2	X	X							20
A	Formation des ASBC	Nb ASBC formés	2	2	2	2	2	2													12
F	MOBILISATION COMMUNAUTAIRE																				
	Dotation de Centre d'Information et Communication Villageoise	Nb de CICV	1			1	1														
F	Animations	Nb animations	X	X	X	X	X	X	X	X	X	X	X	X							
J	Elaboration des plans d'animation	Nb de plans d'animation	1	1	1	1	1	1	1	1	1	1	X	X							10
	SANTE DES ENFANTS																				
K	Dotation : CSCE	CSCE fonctionnel	4	4	4	4	4														20
M	Pesée	Nb pesée	12	12	12	12	12														60
	Démonstration culinaire	Nb démonstration culinaire	60	60	60	60	60														300
	Education nutritionnelle	Nb éducation nutritionnelle	60	60	60	60	60														300
	Jardins potagers villageois	Nb jardins potagers productifs	X	X	X	X	X	X	X	X	X	X	X	X							
	LUTTE CONTRE LE PALUDISME :																				
	Dotation : CDC	CDC fonctionnel	1	1	1	1	1	1													6
	Promotion des moustiquaires imprégnés	Nb moustiq vendu au niv CDC	X	X	X	X	X	X					X	X							100
	Promtion des sur'eau	Nb sur'eau vendu au niv CDC	X	X	X	X	X	X													
	PLANIFICATION FAMILIALE:																				
	Dotation : produits contraceptifs	ASBC dotés de produits contraceptifs	1	1	1	1	1	1													6
	HYGIENE ET ASSAINISSEMENT :																				
	Hygiènes et assainissement village	Nb de débroussaillage	X	X	1	1	1	X	X	X	X	1	X	X							4
		Nb fosses à ordure	X	2	2	2		X	X	X	2	2	X	X							10
	Adduction d'eau potable	Etude de faisabilité AEP	1		1	1	1	1					X	X							5
		Nb syst gravitaire fonctionnel			1	X	X	1					X	X							2
		Nb puits fonctionnels	X			X	X	1	X				X	X							1
	Protection des sources	Nb aménagements	X	X	X	X	X	X	X	X	X	X	X	X							
	Latrines villageoises	Nb latrines (11)	X	X	X	X	X	X	X	X	X	X	X	X							
	COMMUNITY -ASSOCIATION	Nb / Membre Kolo Harena*	3 / 125	1 / 29	1 / 4		2 /63		1/7		2/43	1/12			1/13	2/69	X	X			
	AGRICULTURAL INTENSIFICATION :																				
	Diffusion SRA/SRI	Surface (25 ha)	X	X	X		X		X	X	X	X			X	X	X	X			
	Exchange and collaboration network	16 groupements	X	X	X		X		X	X	X	X			X	X	X	X			
	RAA Management support	Nb support	X	X	X		X		X	X	X	X			X	X	X	X			
I	Ecological ginger	Surface (11 ha)	X	X	X		X		X	X	X	X			X	X	X	X			
D	Fruit trees	Surface (7ha)	X	X	X		X		X	X	X	X			X	X	X	X			
I	Forest trees	Surface (18ha)	X	X	X		X		X	X	X	X			X	X	X	X			
	Cash crops (banana, coffee)	Surface (27ha)	X	X	X		X		X	X	X	X			X	X	X	X			
M	Market garden	Surface (7ha)	X	X	X		X		X	X	X	X			X	X	X	X			
O	Small animal husbandry	Nb animals (850)	X	X	X		X		X	X	X	X			X	X	X	X			
R	GCV rice store up	4 Units	X	X	X		X		X	X	X	X			X	X	X	X			
A	Improved access input through micro-credit	1 Unit	X	X	X		X		X	X	X	X			X	X	X	X			
M	Road maintenance manual	1 Unit	X	X	X		X		X	X	X	X			X	X	X	X			
A	Bridge rehabilitation	1 Unit	X	X	X		X		X	X	X	X			X	X	X	X			
N	COMMUNITY-BASED RENEWABLE GRN :																				
G	Participatory forest management	1 Unit (forest Vohidrazana)													X	X	X	X			
A	ENVIRONNEMENTAL EDUCATION :																				
	Creation of postharvest processing center of cash-crop	1 CCV	X	X	X		X		X	X	X	X			X	X	X	X			
	Transmission of radio spots	1 per week	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
	CONSERVATION ENTERPRISES :																				
	Collect credit	1 Unit	X	X	X		X		X	X	X	X			X	X	X	X			
	Ecotourism promotion	1 Unit													X	X	X	X			
	PARTER CAPACITY BUILDING :																				
	Socio-organization	1 SO	X	X	X		X		X	X	X	X			X	X	X	X			

ACTIVITES MICET (ECHO / SUMMIT / JSI) FIANARANTSOA

Partenaires	Activites	INTEGRATION										MICET SANTE			LDI ENVIRONNEMENT						RIEN			
		AMBOHIMAHAMASINA	Iharondahy	Iarinomby	TOLONGOINA	Mandriandry	IKONGO	Antsatrana	Ambalagoavy	Ambatoharanana	Ambodiara Dihy	Kianjamiaketra	Sahavondronana	Tsiambahambo	Ankarinomby Sud	Faliarivo	Antanamarina	Sahabe	Sahafy	Andalandranovao	Antekoho	Ambodiazabe	Tsarahonenana	Tiakohosoa
	NUTRITION :																							
	- Organisation communautaire		X	X	X	X		X	X	X	X													
	- Formation en nutrition integree		X	X	X	X		X	X	X	X													
	- Formation des ACN en technique de consérvation, transformation alimentaire		X	X	X	X		X	X	X	X													
	- Formation en jardin potager (en cascade)		X	X	X	X		X	X	X	X													
	- Dotation matériels		X	X	X	X		X	X															
E	- Réalisation jardin potager modele		X	X	X	X		X	X															
C	- Realisation jardin potager communautaire		X	X	X	X		X	X	X	X													
H	HYGIENE ET ASSAINISSEMENT :																							
O	- Organisation communautaire		X	X	X	X		X	X	X	X													
*	- Formation des agents de MICET et des membres du comité:		X	X	X	X		X	X	X	X													
	Hygiene et assainissement																							
	Education a la Vie Familiale																							
S	- Adduction d'eau potable :																							
U	Etude (Systeme gravitaire)		X			X		X	X			X												
M	Devis estimatifs systeme gravitaire		X			X		X	X			X												
M	Etude des alternatives			X	X			X		X	X													
I	Construction puit			X	X			X		X	X													
T	Promotion Eau potable (Sur'Eau et bidon)		X	X	X	X		X	X	X	X	X	X	X										
*	Construction du système gravitaire		X			X		X				X												
	- Construction de latrines :																							
	Amélioration des réalisations des villageois		X	X	X	X		X	X	X	X	X	X	X										
	latrines modèles		X	X	X	X		X	X	X	X													
	- Assainissement village :																							
	Débroussaillage et élimination des eaux stagnantes		X	X	X	X		X	X	X	X													
	Construction compostière modèle		X	X	X	X		X	X	X	X													
	GESTION DES RESSOURCES NATURELLES																							
	- Protection des sources d'eau communautaire		X	X	X	X		X	X	X	X													
	- Formation et recyclage des agents de MICET et les membres du comité sur																							
	Pepiniere / entretien		X	X	X	X		X	X	X	X													
	Plantation / entretien		X	X	X	X		X	X	X	X													
	amenagement des sources		X	X	X	X		X	X	X	X													

	- Reboisement																										
	- Approvisionnement des semences		X	X	X	X		X	X	X	X																
	- Confection Pépinière		X	X	X	X		X	X	X	X																
	- Mise en pot des jeunes plants		X	X	X	X		X	X	X	X																
	- Aménagement terrain à protéger		X	X	X	X		X	X	X	X																
	- Trouaison / installation pare-feu		X	X	X	X		X	X	X	X																
	- Plantation des jeunes plants		X	X	X	X		X	X	X	X																
	- Reganissage et entretien		X	X	X	X		X	X	X	X																
	- Culture "Herana" et/ou "Tsipikopiko" :																										
	- Aménagement de la source		X			X			X			X															
	- Collecte des souches		X			X			X			X															
	- Plantation des souches		X			X			X			X															
	- Regarnissage et entretien		X			X			X			X															
	- Préservation des forêts communautaires:																										
	-Organisation communautaire		X			X		X	X																		
	Diagnostic		X			X		X	X																		
	-Mise en œuvre de la gestion des forêts		X			X		X	X																		
	-Introduction des activites integrees		X	X	X	X		X	X	X	X																
	HALL D'ECHANGE:																										
	'-Prospection des lieux	X			X		X																				
	-Conception et étude de pré-faisabilité	X			X		X																				
	-Réalisation du hall d'échange	X			X		X																				
	ACTIVITES PARASCOLAIRE :																										
	Développement de l'approche enfant-enfant	X			X			X	X																		
	Mise en place salle de référence (Etat des lieux, identification des besoins, Identification des apports, Réalisation)	X			X			X	X																		
	Embelissement du domaine scolaire :	X			X			X	X																		
	- Construction latrine	X			X			X	X																		
	- Fosse à ordure	X			X			X	X																		
	- Construction puit	X			X			X	X																		
	- Confection Jardin potager	X			X			X	X																		
	- Haie vive	X			X			X	X																		
	- Arboretum	X			X			X	X																		
	MOBILISATION COMMUNAUTAIRE :																										
	Developpement des themes integres	X	X	X	X	X	X	X	X	X	X																
	- Mise en oeuvre de l'approche "Communaute Championne"	X	X	X	X	X	X	X	X	X	X																
	IEC INTEGRES :																										
	Identification des thèmes integrés	X	X	X	X	X	X	X	X	X	X																
	Conception outils	X	X	X	X	X	X	X	X	X	X																
L	AMELIORATION REVENU :																										
D	Augmentation des surfaces cultivables		X	X	X	X	X	X	X	X	X				X	X	X	X	X	X							
I	Régénération des plantations des caféiers		X	X	X	X	X	X	X	X	X				X	X	X	X	X	X							
	Augmentation du prix des produits agricoles		X	X	X	X	X	X	X	X	X				X	X	X	X	X	X							
	Vulgarisation des nouvelles technique agricoles		X	X	X	X	X	X	X	X	X				X	X	X	X	X	X							
	Promation d'activivté génératrice de revenu		X	X	X	X	X	X	X	X	X				X	X	X	X	X	X							

A	AMELIORATION DE LA SANTE DE LA MERE ET DE L'ENFANT																										
A	Formation :																										
P	Paludisme	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
S	Planification familiale	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	IST / SIDA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
J	Nutrition	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
S	SRA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
I	Hysgiene & Assainissement	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	MSR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	PCIME	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	PEV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				

* Pour ECHO et SUMMIT les activites sont realisees de facon integre (Voir cadre logique)

A.C.N Agent Communautaire de Nutrition
S.R.A Sante Reproductive de l'Adolescent
MSR Maternite Sans Risque
PCIM Prise en Charge Integre de la Maladie de l'Enfant
PEV Programme Elargie de Vaccination

Chef lieu de Commune
X Activite en cours
Pas d'activite