REVIEW OF POPULATION-HEALTH-ENVIRONMENT PROGRAMS SUPPORTED BY THE PACKARD FOUNDATION AND USAID

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EXECUTIVE SUMMARY

The Packard Foundation's Population-Environment Initiative, approved in June 2000, placed primary emphasis on supporting projects that integrated conservation and family planning at community levels within selected areas of high biodiversity. In addition, the Initiative supported leadership development and increased advocacy for and awareness of population-environment (PE) linkages.

The PE strategy encompassed three objectives, each of which constituted a sub-program of the Initiative:

1. Improve the quality of life in focal areas by improving reproductive health, natural resource management and options for alternative economic livelihoods (Field Projects sub-program):

2. Increase collaboration and leadership on interdisciplinary topics (Leadership and Capacity Building sub-program):

3. Use mass media and targeted campaigns to increase the public and policymakers' awareness of the links and solutions (Advocacy and Consumption sub-program)

In 2002 USAID initiated its Population-Health-Environment (PHE) Program in response to legislative language originally included in the FY02 Foreign Operations Appropriations bill – and repeated in the FY03, FY04 and FY05 bills – stating that under the Child Survival and Health Programs Fund, "...$368.5 million [be allocated] for family planning/reproductive health, ***including in areas where population growth threatens biodiversity or endangered species***." In addition, successive editions of the accompanying Manager's Report include language that "***urges USAID to develop performance goals and indicators which promote cross-sectoral collaboration***" on PHE programming.

To that end, the USAID PHE program has worked to develop collaborations with USAID's bureaus and Missions as well as with private donors including the Packard Foundation, Summit Foundation and the Critical Ecosystem Protection Fund. USAID's PHE program focuses on biodiversity *hotspots* – often in national parks and protected areas – focusing on the communities that live in and around them.

The review team finalized a report to the Packard Foundation in June, 2005 that covers the three objectives of the Packard Foundation Population-Initiative. This report to USAID provides a more limited assessment of the success of the Packard and USAID-funded field projects with a particular focus on six USAID-funded projects in the Philippines and Madagascar, three of which are co-funded with Packard. The review concentrates on three major questions:

1. What are the likely long-term impacts of this Initiative on funding and the field of Population-Environment?
2. What results have been achieved by projects implemented under the Initiative: and
3. What lessons have been learned that may be of broader use to the Foundation, other donors, and the field as a result of implementing this Initiative?

Following a review of competitive proposals, CEDPA was selected to undertake this review. The review was conducted by the two-person review team working on a part-time basis between January and June 2005, utilizing a methodology suggested by Packard, slightly modified by the review team, and approved by Packard. USAID funds were added primarily to allow for additional field work and a more in-depth review of certain PHE questions in the Philippines and Madagascar. The USAID-funded work was conducted by the team leader, who is the author of this report to USAID.

Impact and Role of Packard and USAID PE funds:

With few exceptions, grantees indicated that they would not have been able to carry out this set of field projects without Packard and USAID PE/PHE funds. At this early stage of experimentation with PE field projects, the flexibility of Packard funds allowed (and encouraged) testing new approaches and program models in different sites, facilitated cross-fertilization between programs and, importantly, encouraged co-financing by other donors. PATH, for example, reported that with Packard's flexible funding it could experiment with 15 different partners. The MGHC project provided "fast track" funds to jumpstart project activities in remote corridors of Madagascar, demonstrating quickly to hesitant communities that the new project could provide tangible positive results. In several cases, USAID or other donors provided complementary funding for Packard grantees to expand or extend Packard-funded activities. For example, USAID funds added a valuable micro-credit component to the IPOPCORM project in the Philippines.

Even after the official termination of the PE program, the availability of "phase out" grants, using Packard Population funds, sometimes supplemented by USAID monies, has been absolutely essential to fully reap the benefits of initial investments in five of the largest and most complex field projects.

Results of Field Projects

Approximately 60 percent of Packard Initiative resources were used for field projects, including four significant field projects in the Philippines, two in southern Mexico and one each in Tanzania and in Madagascar. Three of these projects funded multiple project sites bringing the total number of project sites to 30. USAID funded projects have added approximately 3-6 additional sites worldwide. This represents a major increase in the number of PE field sites that could provide information of how best to plan and implement PE programs. In addition, three of the Packard and USAID grants included operations research (OR) components that would explicitly try to gather evidence to "prove or disprove" the hypothesis that PE programs provided better results than single-sector projects.

The validity of the PE hypothesis, defined in the Packard strategy as "interdisciplinary interventions can at times be more efficient and effective than non-integrated approaches," had not yet been "proven" to skeptics in the population and conservation communities, who preferred to fund single-sector projects. Although not structured explicitly as a "learning portfolio," Packard and USAID planners hoped that their PE/PHE programs could help provide the evidence to satisfy the skeptics and provide a variety of examples of how/where PE projects could be effective.

Several programmatic results are evident from a review of the Field project sub-portfolio:

1. Value added: Almost all of these projects met most or all of their anticipated objectives. A great deal has been learned about the value-added of PE projects, how they are best planned and best managed, and where they are most appropriate. The results of OR, almost without exception, support the views of practitioners regarding the important value-added that integrated projects bring to reproductive health and environment activities. Although OR results have not always been statistically significant, the "on the ground" results have been significant enough to convince most PE and PHE practitioners that integrated programs have better results than single-sector programs and are more programmatically efficient. Some of the lessons learned about value-added are:

    - PE projects bring three major advantages to family planning efforts: greater access to men, greater access to adolescent boys, and positive changes in the community perception of women and in women's self-perception when they have access to and control of money and credit.
    - Family planning also benefits when it is packaged with the quickly perceived effects of health interventions such as immunization and improved water quality.
    - PE projects provide value added to environment/conservation efforts via: greater female involvement in CRM and NRM activities and organizations, increased participation of adolescents of both sexes, and providing an "entry point" function whereby integrated projects can quickly and visibly respond to the priority demands of the community (often health needs) and gradually gain the trust of the community.
    - The results of typical environment/conservation interventions are evident more quickly in CRM settings (where fish inventories can show positive results within two years) than in upland forests where NRM activities take longer to show results.
    - The inclusion of a micro-credit (livelihood) component as part of PE program appears to encourage even stronger community involvement in CRM and NRM activities and may bring greater impact.
    - In programmatic terms, PE projects are often both cost-efficient and effective. A large number of NGOs have demonstrated that they can successfully implement integrated programs with the positive effects of

expanding target audiences, reducing operating expenses, and fostering community goodwill and trust.

2. Successful program models have been demonstrated that can be replicated elsewhere.

- Inexpensive community mobilization techniques can mobilize rural, communities and provide significant program results within 1-2 years;
- Health and environment-based NGOs can adapt themselves to successfully implement two-sector (PE) or three-sector (PE plus health) community initiatives.
- The model used for program integration (one NGO does both P&E with the same staff or with different staff members, two NGOs work in coordinated fashion, etc.) is less important to project success than a series of other factors (experience, leadership, acceptance of the PE concept, acceptability within the community).
- The Champion Community approach used in Madagascar is an excellent model that has proven ability to mobilize strong community participation to achieve clearly defined, multi-sectoral targets within a one-year period.
- The PE projects have not paid sufficient attention to recurrent cost issues and have not yet demonstrated that they can be either a) sustained by local governments without outside donor funding; or b) replicated without outside donor funding

3. The "capital stage" for PE programs has been completed in the Philippines and Madagascar and the most of the factors needed for broader program replication are in place: excellent integrated training materials have been developed, training methods have been tested and proven, local trainers have been trained, a variety of PE and PHE project models have been tried and evaluated; and a significant number of NGOs have gained valuable PE experience and are now capable of taking major roles in scaling up PE programs.

4. Scale-up options for PE have not yet been demonstrated: While PE and PHE are concepts easily accepted at the community, local government and NGO levels, the Packard and USAID portfolios did not provide examples of how programs can be designed and implemented for a much larger target audience (district or corridor-wide programs). The Philippines provides the best opportunity for this to occur, in part due to the success of PRB advocacy activities.

Future Directions

Status of PE Funding:

- The Packard and USAID initiatives provided additional resources for PE initiatives, significantly increased the number of grantees testing PE field projects, funded operations research, established new leadership programs in key U.S. institutions, and increased funding for programs to alert the American public to the global impact of U.S. consumption patterns

- The stock market decline led several foundations, including Packard, to reduce or eliminate funding for PE activities due to: a) a preference to focus remaining resources on more traditional, core program themes; b) the general donor/foundation trend towards a "results" orientation with funding for programs that could provide clear benchmarks for monitoring and evaluation, and c) a tendency to focus foundation resources on a few specific geographic regions (place-based strategies)
- Following a Congressional directive initiated in 2002, USAID now uses $2-3 million of its family planning funds annually for "areas where population growth threatens biodiversity or endangered species". A few foundations have recently included PE within their funding strategies
- Despite these new additions, with the termination of the Packard PE Initiative, the overall level of PE funding in 2005 will be substantially lower than in 2000 unless new donors or foundations are convinced that PE programs can be more successful than their traditional programs.

Program Opportunities

The Packard and USAID PE programs have provided funding for a variety of new successful projects. They have given PE a timely push forward that could be continued with a combination of donor funding and sustainable funding from host government entities and communities. PE practitioners, other PE supporters and the review team have identified a variety of "next steps" which can build on this experience.

Philippines: The PATH and SAVE projects are among the most successful in the Packard and USAID portfolios and the preparatory actions to facilitate scale-up have been completed. A very well-planned advocacy program (PRB) has provided valuable complementary support and has helped to catalyze a strong Philippine-based PE advocacy movement (the SIGUE Network). Key next steps would include:

- Maximum dissemination of PE project results to a variety of audiences: donors, national political figures, mayors, and NGOs. A second national PE conference may be appropriate as one element of this effort.
- Continued support of SIGUE and other Filipino advocacy efforts to influence legislation, government regulations and the news media.
- Scale-up of PATH or SAVE efforts (perhaps a combination of both) to the provincial level as part of a combined CRM and RH program.
- Encourage Filipino universities to include PE or elements of PE in their curricula for environment and health professionals.

Madagascar: As in the Philippines, the "capital" phase of the PE program has been largely successful. To build on this success, program opportunities include:

- Encourage dissemination of PE project results to the donor community, but also to district chiefs, and mayors and NGOS. A 1st national symposium on PE would be timely.

- Scale up MGHC and V.S. pilot efforts to the district level or within a full environmental corridor, perhaps within a Champion Commune framework. Funding might be provided to districts or communes by the European Union, the World Bank or the Millennium Challenge Corporation as part of their local government and poverty alleviation programs.
- Adapt successful Filipino CRM program models for Malagasy communities within coastal/marine protected areas and buffer zones.
- Encourage Malagasy universities and training centers to include PE or elements of PE in their curricula for environment and health professionals.

Other Opportunities

- Government decentralization that is occurring in many LDCs may provide the opportunity to "break through" donor and central government reticence to support integrated programs. Block grants are increasingly being provided by national governments and donors to de-centralized government units. These "program" funds typically support the unit's development plan, which could be designed on an integrated rather than a sectoral basis via support from community advocates and local NGOs.
- Consider PE in new contexts: "Hotspots" and protected area buffer zones are not the only areas where PE may be appropriate. Filipino PE proponents are experimenting with PE as a framework for disaster mitigation projects and urban slum health and sanitation efforts.
- Retain a flexible definition of PE: Packard and USAID have funded a wide variety of PE-type projects that were each appropriate to their particular setting. The concept of integrated programs, including the key elements of family planning and natural resource management, should be viewed as a concept that will evolve into different forms in differing settings.
- PE projects will need to consider migration (both internal migration to and external migration from buffer zones, for example) as a confounding factor in achieving project objectives. A few projects, such as the USAID-supported CI Sierra Madre project in northern Philippines, are gaining valuable experience with migration factors.

I. BACKGROUND

The Packard Population-Environment Initiative, started in June 2000, placed primary emphasis on supporting projects that integrated conservation and family planning at community levels within selected areas of high biodiversity. In addition, the Initiative supported leadership development and increased advocacy for and awareness of PE linkages. With the decline in Foundation assets that started in 2001, the Board subsequently decided in 2002 to discontinue the PE Initiative. Recognizing that considerable investments and progress had been made, phase-out grants to some existing projects were made over the next two years, with final grants under the Initiative awarded in 2004. Most grants have been completed but a few will be active until 2006. Between 1999 and 2004 the Foundation's Population and Conservation and Science Programs awarded $16.2 million to 28 organizations in support of the PE Initiative including a few grants made in advance of formal approval of the PE Initiative. The total amount awarded fell short of the $25-$30 million over five years originally estimated in 2000.

The Packard PE strategy encompassed three objectives, each of which constituted a sub-program of the Initiative:

1. Improve the quality of life in focal areas by improving reproductive health, natural resource management and options for alternative economic livelihoods (Field Projects Sub-program);
2. Increase collaboration and leadership on interdisciplinary topics (Leadership and Capacity Building Sub-program); and
3. Use mass media and targeted campaigns to increase the public and policymakers' awareness of the links and solutions (Information, Education and Communication Sub-program)

In 2002 USAID initiated its Population-Health-Environment (PHE) Program in response to legislative language originally included in the FY02 Foreign Operations Appropriations bill – and repeated in the FY03, FY04 and FY05 bills – stating that under the Child Survival and Health Programs Fund, "...$368.5 million [be allocated] for family planning/reproductive health, ***including in areas where population growth threatens biodiversity or endangered species.*** " In addition, successive editions of the accompanying Manager's Report include language that "***urges USAID to develop performance goals and indicators which promote cross-sectoral collaboration"*** on PHE programming.

To that end, the PHE program has worked to develop collaborations with USAID's bureaus and Missions as well as with private donors including the Packard Foundation, Summit Foundation and the Critical Ecosystem Protection Fund. USAID's PHE program focuses on biodiversity *hotspots* – often in national parks and protected areas – focusing on the communities that live in and around them.

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funded field projects with a particular focus on six USAID-funded projects in the Philippines and Madagascar, three of which are co-funded with Packard. The review concentrates on three major questions:

1. What are the likely long-term impacts of this Initiative on funding and the field of Population-Environment?
2. What results have been achieved by projects implemented under the Initiative and:
3. What lessons have been learned that may be of broader use to the Foundation, other donors, and the field as a result of implementing this Initiative?

Following a review of competitive proposals, CEDPA was selected to undertake this review. The review was conducted by the two-person review team working on a part-time basis between January and June 2005, utilizing a methodology suggested by Packard, slightly modified by the review team, and approved by Packard. USAID added six projects in the Philippines and Madagascar to the portfolio to be assessed and added funds, primarily to enable additional field work in those two countries. The USAID-funded work was conducted by the team leader, who is the author of this report to USAID.

II. REVIEW METHODOLOGY

This review was conducted as a "program review." Its conclusions are largely programmatic in scope. As the CEDPA proposal to conduct this review was being finalized, USAID agreed to provide supplemental funding. The USAID scope-of-work added a number of project-related questions to the more programmatic issues found in the Packard TOR. However the USAID funding and SOW did not change for overall focus of the Packard review.

In order for learning to occur, the CEDPA team took a participatory approach to this review. Packard, USAID and grantee staff members were given opportunities to reflect on and provide suggestions on the performance of individual grants, the overall program performance and to provide recommendations for improvements in PE activity design, implementation and evaluation. The participation was structured in ways that did not compromise the objectivity of the final report. The CEDPA team used the following methodology:

- Meetings and interviews in January with key Packard and USAID staff to gather data and opinions. These inputs were supplemented by phone interviews and interviews with program consultants and former Packard employees.
- Review and analysis of program and project documentation.
- Preparation of standard questionnaires to be used for each of the three major program sub-components.
- Field trips by the review team leader to Madagascar and Philippines to meet with relevant grantee, donor, NGO, university and government officials, visit project headquarters and visit selected project field sites. Local consultants were engaged to prepare in-country schedules, gather essential background information and participate in field visits.

- Interviews in person, by phone or via e-mail with grantees not visited by the team.
- Interviews in person, by phone or via email with key donor, PVO, foundation and government personnel who are not grant recipients but are knowledgeable of PE and PHE activities.
- A draft report was submitted to Packard on June 5, 2005 and a separate report was submitted to USAID on June 30.
- A final report was submitted to USAID ten days after receipt of comments on the draft report.

III. RESULTS ACHIEVED

A. OVERVIEW AND SUMMARY TABLES OF GRANTS

Packard planners anticipated that about 60 percent of PE Initiative funds would be spent on field projects in priority countries/regions. The validity of the PE hypothesis, cautiously worded in the Packard strategy as "interdisciplinary interventions can at times be more efficient and effective than non-integrated approaches", had not yet been "proven" to many skeptics in both the Population and Conservation communities who preferred to fund single-sector projects. Packard planners hoped that their PE program could help provide the evidence to satisfy the skeptics and provide a variety of examples of how/where PE projects could be effective.

The USAID PHE program also focuses the plurality of its funding on field projects. The PHE program focuses on biodiversity *hotspots* – often in national parks and protected areas – focusing on the communities that live in and around them. "The central hypothesis, as described by USAID for integrating family-planning and natural-resource-conservation activities into community-based projects is that the synergies produced from integration will make these interventions more effective and sustainable than if they had been pursued in a vertical, sector-specific fashion. The other underlying assumption is that, in certain contexts, providing family planning services and information is an effective means of achieving conservation outcomes, both directly by reducing demographic pressure and indirectly through improving community health and responding to community needs".[1]

Measures of success for this component of the Packard field project program were:

[1] USAID/PRB introduction to this review's terms of reference (see Annex IV). The text continues: "The synergies generated through integration result from a better understanding of how interactions among population growth, human health, and the environment affect communities located in areas heavily dependent on natural resource use and extraction and where biodiversity is threatened. In fact, environmental factors and health consequences overlap directly: poor environmental quality and high fertility adversely affect people's ability to lead productive lives and to use natural resources in a more sustainable way. Existing community population and health programs also provide an entry point for protecting both the environment and health—often resulting in programmatic synergies that can provide economies of scale and scope."

1) Increased capacity and support for population and conservation near strategic sites. Key indicators might include the level of local leadership in resource management and population issues, number of partnerships established between environmental and population organizations, number or strength of networks.
2) Improved natural resource management in three or four strategic sites in Mexico and the Western Pacific, resulting in improved ecosystem health. Indicators might include reduction of specified site threats and the implementation of management plans.
3) Expansion of family planning and reproductive health choices and an increase in family planning acceptance and knowledge in five or six strategic sites. Indicators include increased knowledge of family planning, increased contraceptive prevalence rate, and decline in total fertility rate.
4) Creation of two or three model or template projects that create learning environments about different approaches to linking the issues or approaches of scaling up community projects.

The Packard program was successful in locating and funding four significant field projects in the Philippines, two in southern Mexico and one each in Tanzania and in Madagascar (not a priority country)[2]. Three of these projects funded multiple project sites (twelve PATH sites and four SAVE sites in the Philippines, as well as 10 MGHC sites in Madagascar), bringing the total number of project sites to thirty. This represents a major increase in the number of PE field sites that can provide information of how best to plan and implement PE programs. In addition, two of the Packard grants (PATH, and World Neighbors) included Operations Research components that would explicitly try to gather evidence to "prove or disprove" the hypothesis that PE programs provided better results than single-sector projects. A third Packard field project, Madagascar Green and Healthy Communities (MGHC), was a member of Voahary Salama, a USAID-funded umbrella/advocacy organization that carried out a major operations research study that included MGHC sub-project sites.

Table 1. Packard Field Project Grants

Grantee	Country	Date(s) of Grant(s)	Total Grant Amount
SAVE the Children/PESCODEV	Philippines	1999, 2003	$800,000
PATH Foundation/Philippines-IPOPCORM	Philippines	2000, 2004	$3,950,000
World Neighbors	Philippines	1999	$352,000
J.K. Ledesma	Philippines	2001	$250,000
Jane Goodall Institute/TACARE	Tanzania	1999	$180,000
JSI Training and Research Institute/MGHC	Madagascar	2001	$2,000,000
Conservation Intl Foundation/Selva Lacondona	Mexico	2000, 2003	$900,000
ProNatura Chiapas	Mexico	2000, 2002	$490,000
ProNatura Yucatan	Mexico	2001	$30,000

[2] Other field projects include a planning grant for ProNatura/Yucatan that did not lead to a field project; a largely population project in Kenya (Intl Centre) that was inherited by the program, and a phase-out grant to a program previously funded by the Population Program (Mexican Conservation Corps).

Consejo Nacional de Cuerpos de Conservacion Mexicanos/Mexican Conservation Corps	Mexico	2002	$240.000
Intl Centre of Insect Physiology and Ecology	Kenya	1999, 2000	$100.000

The USAID-funded PHE field projects included in this review include three projects co-funded with Packard. Two of the projects that were not co-funded with Packard, Sierra Madre (CI) and Spiny Forest (WWF) are relatively new projects. The 6th project, Assistance to Voahary Salama was initiated prior to Packard funding of its Madagascar Green Healthy Communities (MGHC) project in 2001, but MGHC has been a member of the Voahary Salama network since its creation.

Table 2: USAID projects included in this review:

Country	Project/NGO	Funding Source	Additive to Packard Project List?
Philippines	IPOPCORM/PFPI	USAID and Packard	No
Philippines	PESCO-DEV/SAVE	USAID and Packard	No
Philippines	Sierra Madre Biological Corridor/Conservation International	USAID	Yes
Madagascar	Environmental Health Project/Voahary Salama	USAID	Yes
Madagascar	Spiny Forest Ecoregion Project/WWF & ASOS	USAID	Yes
Madagascar	MGHC/JSI	Packard	No

These field projects were focused in two primary geographic settings, all within the definitions of conservation "hot spots": 1) coastal and marine communities in the heavily populated central and southern islands of the Philippines and on Madagascar's west coast; and 2) upland forest communities in buffer zones, corridors or "landscape" areas near protected areas in eastern Madagascar, southern Mexico, and northern Philippines[3]

Other common characteristics of these PE field projects are: a) the regions typically chosen have population, health and conservation indicators worse than the national (or even provincial) average – e.g. higher than average birth rates, infant mortality rates, rates of deforestation or fish depletion; b) the regions are isolated – sometimes requiring as much as a full day to reach by boat, 4WD or on foot.

[3] A third project location, arid land communities living near "spiny forest" protected areas in southern Madagascar, is the focus of the WWF Spiny Forest Ecoregion Project.

Most field activities at each community site were of short duration (varying between 9 and 36 months), were focused on relatively small populations (4,000-50,000), and were relatively inexpensive. Typically, local counterpart funds were provided by the project beneficiaries and by local governments, especially in the Philippines. In several cases, project funds from other donors or from government programs were available to complement the Packard and USAID funds.

While there were many commonalities among the PE field projects, the field projects in each location were designed by the grantees with somewhat different approaches to PE. Three common designs are projects implemented by a) multidisciplinary teams that are integrated within one organization; b) different sector-specific teams within the same organization; and c) field agents from different sector-specific organizations that collaborate in the same community.[4] The PE concept was closely followed in the Philippine projects, while PHE (population, health and environment) was the approach used in most Madagascar projects. In Mexico, Packard-funded "PE" projects provided reproductive health services along with some other primary health services.

B. Impact and Role of Packard and USAID PE/PHE funds:

With few exceptions, grantees indicated that they would not have been able to carry out this set of field projects without Packard and USAID PE/PHE funds. At this early stage of experimentation with PE field projects, the flexibility of Packard funds allowed (and encouraged) testing new approaches and program models in different sites, facilitated cross-fertilization between programs and, importantly, encouraged co-financing by other donors. PATH, for example, reported that with Packard's flexible funding it could experiment with 15 different partners. The MGHC project provided "fast track" funds to jumpstart project activities in remote corridors of Madagascar, demonstrating quickly to hesitant communities that the new project could provide tangible positive results. In several cases, USAID or other donors provided complementary funding for Packard grantees to expand or extend Packard-funded activities. For example, USAID funds added a valuable micro-credit component to the IPOPCORM project in the Philippines.

Even after the official termination of the PE program, the availability of "phase out" grants, using Packard Population funds, sometimes supplemented by USAID monies, has been absolutely essential to fully reap the benefits of initial investments in five of the largest and most complex field projects.

C. Field Project Results:

Assessing the results of these field projects has been a challenge for each grantee. Challenges include the remoteness of the sites, the modest M&E experience of the local implementing NGOs and the short duration of many interventions. Most projects, but not all, developed a reasonable set of baseline data and have successfully gathered "output" data for their project site(s). But they often have had more difficulty assessing higher

[4] These three "types" were differentiated in the operations research carried out in Madagascar by Voahary Salama that included several MGHC projects.

level "outcomes" (changes in behavior) and have not been given time to gather longer-term trend data. The results of the larger field projects are summarized, as presently available, in Annex I. More sophisticated efforts to perform operations research under the leadership of U.S. PVOs has also proven to be daunting, especially due to contamination of data from multiple project interventions. Aggregating the results has also been a difficult challenge for multi-site grantees and for this review team.

One over-riding result that appears clear from the experience of all of the field projects is that a variety of community-focused social mobilization techniques have worked very well and can successfully stimulate desired levels of community involvement within a short period of time. Community participation was high and continuing in almost all project sites. The major exception was the CI/Chiapas site (Lacondona) where civil strife and community reluctance to work with "government" severely limited the project's attempts to work with men on NRM and alternative livelihoods.

The community mobilization approaches/techniques used successfully as part of the PE Initiative included:

Madagascar:

a) Community Champion and Commune Champion approach-MGHC
b) School to Community approach-MGHC

Philippines:

a) Appreciative Community Mobilization (ACM)- SAVE
b) Community Health Outreach Workers (CHOW) - PATH

D. EVIDENCE OF THE VALUE ADDED OF THE PE APPROACH

A major challenge facing PE advocates is to clearly demonstrate that an integrated approach brings better results than a single-sector approach (family planning only, natural resource management only). The results of the Packard PE Initiative field project portfolio and the USAID PHE program should provide evidence (or not) that an integrated approach provides significant value-added when compared to a single-sector approach. The value-added is typically categorized as: a) value-added for family planning and health; b) value-added for CMR or NRM efforts and c) Programmatic value-added (cost savings, program efficiencies).

The evidence gathered during this review flows from two main sources:

1) the perceptions of value-added as described by several categories of practitioners and beneficiaries directly involved in PE/PHE projects (community members: local political leaders, the NGOs or local governments providing the PE/PHE services at the site level, central or provincial political leaders, and donors) and

2) Operations research conducted by PACT in the Philippines, Voahary Salaama/EHP in Madagascar, and on a smaller scale, World Neighbors in the Philippines. The findings from these two sources show a close correlation between the perceptions of practitioners and the evidence provided by operations research.

1. Perceptions of practitioners

Value-added for family planning efforts

All Packard field project sites report three major advantages that integrated programs bring to family planning efforts. The first is greater access to men who are drawn in initially by NRM and livelihood issues. Well designed, integrated learning tools such as family budgeting exercises (see section IV B) have been so successful that men's perceptions of family planning often change and, in some cases, men have taken on roles as peer educators.

The second "value added" is greater access to adolescent boys as part of youth initiatives. Once again, adolescent boys are attracted to "youth" sessions that discuss CRM or livelihood issues as well as health issues. Project staffers encourage them to become "stewards" of their environment and of their personal lives, with a focus on family life planning rather than family planning.

The third consistently observed FP value-added relates women's access to money, especially micro-credit, to a change in how they are perceived within the community and their self-perceptions. Women who earn and manage money are more likely to take greater (but not sole) responsibility for decisions related to child spacing or limiting their family.

In the Philippines where Catholic Church opposition to family planning is public and strident, some Filipino "population" leaders state starkly that single sector family planning programs have failed. They believe that family planning will only be legalized and receive government support if the need for demographic change is placed within the broader context of food security or poverty reduction. Local Filipino mayors have been supporters of integrated PE projects which can be publicly described as community development initiatives. Thus the PE approach provides the value-added of FP "access" to densely populated coastal areas where FP programs might not otherwise be available.

Finally, in Madagascar family planning has benefited from the "entry point" effect of health interventions.[5] In the eastern upland corridor where family planning is not among the highest community priorities, clean water and child health care, which are high community priorities, have been the initial focus on an integrated PHE program that

[5] Richard Margoluis, et al identified four major strategies by which project managers might functionally link health/family planning and conservation: 1) the Barter strategy (provide medicines in exchange for community agreement not to cut primary forest); 2) the Entry Point strategy (use health servies to build a relationship that will later result in future collaboration on conservation activities); 3) the Bridge Strategy (undertake a health intervention with the intention to link it conceptually to conservation activities; and 4) a Symbiotic strategy (develop project interventions based on known common ground between the health needs of a population and its conservation goals. Biodiversity Support Program, "An Ounce of Prevention", p. 24 . 2001. The PRB Bulletin uses the term, "Staggered Approach" rather than "Entry Point" in their excellent 2002 summary of PE programs.

includes family planning. Initial acceptors of family planning tend to be among the women who are most involved with other community initiatives. In Madagascar's arid south, immunization and child health interventions are also expected to gradually open the door to family planning among the conservative cattle raising communities.

Value added for environment/conservation efforts:

Several examples of value added for environment/conservation efforts were identified by Packard and USAID-funded program practitioners.

First, WWF/Madagascar and others identify the Entry Point function of integrated programs. In southern Madagascar, for example. WWF has formed a firm link with a well-respected health NGO and works jointly with that Malagasy NGO to initiate coordinated activities in buffer zone communities. WWF acknowledges that NRM impacts "come more slowly" and that communities are unlikely to develop a positive relationship with an outside group that ignores their most urgent needs (typically defined in this region as health needs).

Both PATH and SAVE CRM programs in the Philippines are clearly benefiting from greater female involvement in CRM activities that has resulted from integrated PE meetings and peer education. Women in all project sites now actively participate in mangrove or fishing community based organizations (CBOs) and some have been elected to key CBO positions –especially treasurer. In most project sites, women actively participate in mangrove replanting efforts, in CRM assessments, in periodic fish assessments, and as wardens of marine protected areas. Some of these activities quickly become family affairs, with younger children participating. [6] Women's participation appears to be even stronger when they also benefit from micro-credit programs that provide them with opportunities to make and sell products, utilizing mangrove grasses or fishing-related products.

Integrated PE/PHE programs have also resulted in increased participation of adolescents of both sexes in CRM and NRM activities. PATH youth peer educators have been especially successful in encouraging adolescents to adopt the concept of "stewardship" of both their natural environment and their own bodies. CRM weekend outings such as mangrove replanting, fish assessments and marine park activities provide adolescents with opportunities to be together and to demonstrate their stewardship of the environment. Youth camps, officially sanctioned and chaperoned, have also been effective in encouraging the stewardship concept.

Programmatic Value-added:

Community members: For villagers, an integrated approach is described as "this is how we live; we don't think of our lives as separated into conservation or health". Rural community members, who must trade off field work in order to attend daytime "project"

[6] At one SAVE site, a youthful first grade "warden" identified and reported a fishing boat illegally trespassing into a marine park. The boat belonged to the vice-mayor.

meetings with visiting technicians, see limited value in attending one meeting on health and then another on natural resource management if the topics can all be covered at the same meeting. In many localities, most of the more progressive community leaders are members of all the major community committee –community health, natural resource management, etc., so multi-purpose meetings are desirable.

NGOs implementing projects: Local NGOs have been "where the rubber (literally) meets the road" in providing project benefits to villagers. Integrated projects allow major cost-savings for NGOs in terms of the reduced number of trips to villages (some JGI and MGHC sites are 6 hours by 4WD vehicle or boat), the reduced number of training sessions to organize, and reduction of staff costs when one staffer can address two or more topics. Community meetings with multiple topics also attract larger and more diversified audiences. As described by SAVE, integrated projects "make sense and cents". Also when NGOs address multiple community needs through an integrated approach, including ones identified by the community as higher priority, they gain credibility and trust which makes their later work more effective and efficient.

Local mayors for the local government units (LGUs – Philippines) and communes (Madagascar) note the advantages of negotiating one agreement rather than two, meeting fewer delegations of visiting technicians, and working with larger groups of community members. In the Philippines, integrated PE or PHE projects give these elected leaders some "cover" from the Catholic Church that has not been available to "family planning" projects. Filipino mayors now manage newly decentralized local government budgets, help prepare local development plans and therefore are becoming a main point of contact for donors. Several Filipino mayors have become very vocal advocates for PE and PHE project replication in their province or on their island. In Madagascar, decentralization is a much newer phenomenon, but commune mayors now will have responsibility for commune development plans.

Central and provincial governments and donors: At the country program level, most national governments and donors are typically structured into sector-specific ministries and receive funds via sector-specific budgets. At this level, programmatic value-added from integrated programs has rarely been acknowledged. The inability of central governments and donors to "integrate" multi-sectoral activities with few exceptions has forced communities and local governments to accept single-sector projects that, to them, are relatively inefficient and ineffective.

However, some new opportunities for central government support of integrated programs are becoming apparent via the trend towards government decentralization. In Madagascar, new regional chiefs, appointed by the presidency, and responsible for the seven regions of the country, are required to show measurable results in a short time period in order to maintain their positions. A social mobilization approach like champion communes (PHE) with clear indicators and targets provides a means of demonstrating measurable progress in a region or a set of communes within a period as short as a year. More donor funding is being provided directly to district and communal governments to finance priority elements of their development plans In the Philippines, where

decentralization has been quite effective. more and more donors are providing funds directly to local government units (LGUs) or to provincial governments.

2. Results of Operations Research

Two projects funded by Packard (PATH and World Neighbors) included operations research (OR) components. In addition, USAID's EHP has provided technical and financial support for operational research conducted by Voahary Salama.

The results to date from this research. summarized below, clearly appear to sustain the PE hypothesis although they have not yet provided conclusive evidence that PE or PHE projects are always more effective than single-sectoral projects. While reviewing the findings of this research. the reader should keep in mind that carrying out sophisticated operations research in these project sites has been challenging. In all three circumstances, there have been methodological difficulties in carrying out the research – due to funding constraints. timing constraints (short periods between baseline and final data collection). data contamination (e.g. the presence of other donor health/family planning projects in the region). and the difficulties in doing research in "control sites" where no benefits were provided to the community.

PATH/IPOPCORM: PATH's OR hopes to "prove the hypothesis that integrated CRM and RH/FP approaches will leverage the aims of both and generate added value that will equal more than the sum of their parts". This operations research used a quasi-experimental design in 6 study sites comparing results from "integrated" PE sites with RH-only and CRM-only "non-integrated" sites. Baseline data was collected in 2001. The research has been hampered by the remoteness of the study sites (ocean travel to the sites is sometimes impossible during seven months of the year). Although this research will only be completed in early 2006, preliminary 2004 results have been analyzed by PATH. The most statistically significant results are that the IPOPCORM approach produced more positive outcomes with youth (age 15-24), than those yielded by the stand-alone programs." Outcomes from adult samples are "non equivalent" and require further analysis. In addition. PATH reports that more RH progress was observed in integrated sites than in RH-only sites: unmet FP demand decreased by 15% vs. 10-11% in RH-only sites and 2% in CRM-only sites; less abortion was reported in integrated sites; and there was greater male participation in FP. For CRM outcomes the data is not yet adequate to draw conclusions, although "community feedback suggests that integrated projects generate benefits for the entire community in terms of enhanced food security, whereas RH-only projects offer health benefits primarily to women and children and CRM-only projects benefit fishers and gleaners"[7]. This research also indicates that community involvement is greater in sites where a holistic package of services is offered compared to areas where single sector approaches are implemented.

Voahary Salama (VS/EHP) evaluation results: This program evaluation used a research design that was very similar to the PATH research. Using a quasi-experimental design. a group of 56 "integration communities" where PHE activities were carried out were

[7] Page 2. PATH biannual report dated February 25. 2004.

compared to 29 "non-integration communities" that either had no project support or had single sector interventions. A baseline survey was conducted in March/April 2001 and a follow-up survey in March/April 2004. Two major questions were addressed: 1) is an integrated approach synergistic and more effective than single-sector approach (health or environment alone or no program other than government services): and 2) What is the most effective model to integrate multisector programs that include population, health and the environment. To address the second question, three NGO program structures ("types") were compared: Type1: multidisciplinary teams that are integrated within one organization; Type 2: different sector-specific teams within the same organization; and Type 3) field agents from different sector-specific organizations that collaborate in the same community. Type 3 was later divided into Type3a and 3b due to significant regional differences.

Research results using this 2-question approach yield complex results when 35 indicators are measured across three program "types". (see summary chart in Annex VI). However, many of the results are quite positive. Integrated programs outperformed non-integrated programs for 22 of these 35 indicators considering the results for all three NGO program structures combined (Types 1.2.3a and 3b). EHP/V.S. and USAID-funded research specialists are conducting a final detailed review of the data and may be able to provide more additional evidence in the near future. In the meantime, EHP/V.S. believes that the following conclusions are significant[8]:

- The integration of health, population and natural resource management programs can achieve good results in each sector compared to programs implemented separately because of complementarities of interventions and programmatic synergies;
- Local NGOs offer a good return on investment. At a cost of only $100-200.000/year, they achieved results for some key indicators such as CPR or reforestation that compare favorably to larger donor investments in relative terms.
- Different mechanisms can successfully implement Integrated PHE.
- Organizational management (Type 1, 2 or 3 organization structures) is not as important as capacity and commitment.
- Community-centered PHE fosters participation, especially by women.
- Better government services make a difference and NGOs depend on it. Examples are government provision of contraceptives and immunization services.

World Neighbors: This much smaller and shorter (20 month) O.R. effort was focused on three sites in a single watershed in central Bohol, Philippines. The W.N. research was designed to answer the following research hypotheses and community questions:

Research hypotheses:

1. The impacts and outcomes of RH and NRM in the integrated RH/NRM program are greater than those in the stand-alone programs.

[8] Page 76. Final Report. May, 2005. Environmental Health Project. "Impact of an Integrated Population, health and Environment Program.

2. The community involvement (in terms of number participating, distribution within the community and sex of participants) in NRM activities is greater in the barangay with the integrated NRM-RH program than in the barangay with the stand-alone program.
3. Involvement in the people's organizations (PO) is greater in the barangay with the integrated RH/NRM program than in the village with the stand-alone RH program that integrated livelihood activities.

Community questions:

1. Who participates and does not participate in the RH and NRM activities and why?
2. What is the level of the stakeholders' capacity to sustain the program[9]?"

The results of this research did not show statistically significant differences in reproductive health and natural resource management indicators in the three program sites (one integrated RH/NRM, the second RH only, and the third NRM only) after the 20-month implementation period. However, W. N. believes that they suggest that the integrated approach used in the project positively impacts community organization and empowerment, and generates active involvement of a broader segment of the community.

World Neighbors did not summarize the results of their research in their final report, but did provide some useful individual findings:

- The integrated site had greater positive RH impacts in family planning use, rate of teenage pregnancy, utilization of prenatal care, maternity and postnatal care.
- Focus groups indicated that in the integrated site (only), new knowledge in health resulted in improved marital relations and increased community respect for women;
- The integrated site had greater positive NRM impacts in adoption of appropriate farming technologies, the number of crops and trees planted and their understanding of health and environment value of their watershed.
- Larger numbers of both men and women participated in RH and NRM activities in the integrated site;

Conclusion: The results of operations research to date[10], almost without exception, support rather than refute the less scientific views of practitioners regarding the important value-added that integrated projects bring to population and environment programs. Although O.R. results may not always be "statistically significant[11]", the "on the ground" results have been significant enough to convince most PE and PHE practitioners that

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[9] World Neighbors Final Report, May, 2005, p.

[10] The final results of the PATH O.R. survey and analysis in 2006 should provide the most comprehensive OR results from those discussed in this report.

[11] Aside from problems of data contamination, discussed above, OR problems may arise because a) not enough input/intervention is being provided to affect the amount of change required to measure statistically and programmatically significant difference, b) regardless of the amount of input, the amount of time passed isn't adequate for change to become evident, and/or c) the indicators used are not sufficiently sensitive to measure the change that is occurring. See Section IV(A), Monitoring and Evaluation of Field Projects, for more discussion of these issues.

integrated programs have better RH and NRM/CRM results than single-sector programs and that integrated program provide valuable programmatic efficiencies.

E. SUSTAINABILITY ISSUES

This section will discuss: a) the sustainability of specific Packard and USAID funded field projects; and b) the sustainability requirements of PE/PHE projects, in general, and the opportunities for various stakeholders to meet these requirements.

Sustainability of field projects: It appears unlikely that most Packard field projects will obtain donor or host government funds to continue "project" work at the same field sites. Many projects have ended with NGO staff already reassigned to other activities. Only the JGI/Tanzania project has sufficient funding to continue its work in the Kigoma area (an effort they believe will take 10-20 years). A few other projects are awaiting donor approval of their proposals. World Neighbors/Bohol anticipates some funding from an Australian donor. PACAP: ProNatura/Chiapas hopes to receive a small grant from the Prospect Hill Foundation to continue part of its work; J.K. Ledesma hopes to receive some funding from the Turner Foundation. and, finally, several MGHC sub-grantees hope to receive new sector-specific USAID funds via USAID/Madagascar's relatively new NRM and Health/Pop projects. PACT has not received funding for its Packard field sites, but has received funding from UNICEF and USAID for work in a few new sites.

Broader Sustainability Issues: One can ask why donor funding should still be needed for PE project sites that have already received between 9-36 months of support. Haven't these projects been designed in a manner that might allow their principal activities to be sustained without further outside support.?

Unfortunately, almost none of the Packard grantees discussed sustainability issues in their original project proposals. Many grantees that received an additional "phase out" grant addressed the sustainability issue by simply anticipating that future donor funds might become available (and they would take the lead in soliciting these donor funds). *{check USAID}*

None of the proposals submitted to Packard addressed the question of how much money and staff time would be needed to sustain the principal PE activities as part of an ongoing program, such as a community development plan or a regional development program. During this review, both PATH and SAVE prepared (for the first time) preliminary calculations to determine the annual recurrent costs ("running costs") of their PE projects assuming that a LGU or a donor were to provide funding[12]. If these recurrent costs are

[12] PATH estimated that roughly $1/person/year or approximately $10,000 per site would be needed for each of their project sites. A no-frills "Volkswagen" PACT model without funding for capital inputs and without subsidies for FP commodities would cost approximately $5,000 per site.

SAVE estimated their running costs at $24,000 per LGU site or approximately $6 per beneficiary. If FP commodities were financed from other sources, the costs would be halved – about $12,000 per LGU site. The local mayors estimated

typical for PE projects, they are at the margin of acceptability to the mayors, who must decide to finance them annually. These minimum recurrent budget estimates also assume that FP commodities and other capital costs (micro-credit) will be financed from other sources.

Designing a PE/PHE program that can be sustained at low cost appears to be possible, especially if commodity and micro-credit costs are funded from non-local sources. However, if PE/PHE hopes to become an acceptable model for replication, advocates must do more analysis to determine the true "running costs" of long-term programs.[13]

If donor funds are not available, how can PE/PHE projects or their principal activities be sustained? The experience of the Packard field project portfolio provides some clear examples of how support to sustain PE projects needs to come from a variety of sources:

Community level: Peer educators, CBD workers and Sari-sari personnel are typically unpaid volunteers. If motivated, they might continue their work, but will need to be provided with certain inputs to be effective –e.g. FP commodities via an effective revolving fund, IEC materials, nursery stock for forest or mangrove reforestation, tadpoles to stock new fishponds,[14] etc. They also need some supervision, ideally from motivated government health personnel.

Local Government: Local government funding is the most likely and sensible option to provide long-term sustainability for PE programs. Among the sites included in Packard and USAID field projects, the Philippines has the most experienced and effective local government. Philippine LGU's manage and control significant budget resources and have decentralized authority to plan and manage health activities. Environment program responsibilities, however, still reside at the national and provincial levels. Mayors and their LGUs can help sustain PE projects via: (a) allocation of health officer staff time for supervision of peer educators and other volunteers; (b) using the health budget to finance their per diem and travel; (c) allocating a portion of their development budget funds to support the PE activities. Funding for continued PHE activities has been adopted by all seven SAVE-Philippines project municipalities.

In Madagascar, government decentralization is relatively new with communes (LGU equivalent government units) now writing their first communal development plans.

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that these costs would absorb about one-eighth (12%) of their annual LGU development budget –a budget that must cover all non-recurrent cost expenditures for all sectors (education, road construction, etc.) throughout the municipality.

[13] What are the recurrent costs that need to be financed to sustain PE activities? For the SAVE project the recurrent costs for continuing essential FP activities are: travel costs for volunteers (peer educators) to conduct 60 FP Action sessions/year, paper, pencils and other materials needed for training sessions, IEC materials to give to participants, supervision travel/perdiem for a LGU health officer. Recurrent costs for sustaining CRM activities include: petrol for patrol boats, replacement buoys and buoys for newly established marine parks, meals and transport costs for fish wardens on daily patrol, mangrove seedlings for replanting, travel/per diem costs for volunteer peer educators to conduct training sessions; supervision travel/per diem for a LGU CRM officer.

[14] In Madagascar, "paysans vulgarisateurs" are encouraged to use farmer-to-farmer techniques to voluntarily spread improved agricultural and conservation practices. In some cases they sell their own stock (rice seed, fingerlings) while providing free advice to new acceptors.

Eventually, communes are likely to receive both central government block grants and donor funds to finance activities that are high priorities in their development plan. Including PE activities in a communal development plan appears to be the best hope for sustainable program funding. Similar to the Philippines, communal governments are responsible for health activities, but not environmental activities that remain national and provincial in scope which, obviously, complicates the PE funding picture.

NGOs: NGOs have been the catalysts for PE and PHE social mobilization in most Packard field programs. Many NGOs have now gained enough experience and confidence that they can continue PE activities without outside technical support. Some NGOs vow to continue their PE activities, albeit at a less intense level, even without specific donor financial support. ProNatura/Chiapas, for example, plans to utilize general budget funds from other sources to continue some PE work. Nevertheless, despite the best of intentions, NGOs are typically so dependent on donor or government "project" funds that they are unlikely to be a continuous source of PE funding.

Central/National program support: Certain national programs, run by government or the private sector, are essential components of sustained PE programs: a) social marketing networks and government health systems can provide FP commodities to CBDs, sari-sari shops or farm-input centers on a revolving fund basis; b) National forestry programs or seed banks can provide seedlings for reforestation; c) national agricultural programs can provide improved seed varieties, basic agricultural implements, and can arrange to provide mosquito nets and other saleable health items through networks of farm-input centers; and d) national micro-finance and credit programs can be the source of livelihood credit that is clearly valuable in achieving both P and E objectives.

In sum, PE projects can be sustained without further "project" funding if community and local government support are forthcoming and if input support, especially commodities and credit, is provided from national institutions or donor programs.

F. ACCEPTANCE OF THE PE CONCEPT AND LIKELIHOOD OF SCALE-UP

Packard planners hoped that the set of field projects funded by the PE Initiative would demonstrate the value of integrated PE programming and would encourage "scale up" of PE more broadly within their priority countries. What results can one see from this initiative?

1. Philippines:

The Philippines received the largest concentration of Packard PE resources: 4 field project grants covering 18 initial sites; plus support from an advocacy grant to PRB. The PATH and SAVE projects are among the most successful in the Packard portfolio. USAID provided complementary funds for both the PATH and SAVE projects (both CRM) and also funded the Sierra Madre CI project that is located in a highland forest region under environmental threat. The preparatory actions to facilitate scale-up have been completed with high quality work: excellent integrated training materials have been

developed: training methods have been tested and proven, local trainers have been trained, a variety of PE and PHE project models have been tried and evaluated: and a significant number of Filipino NGOs have gained valuable PE experience and are capable of taking on major roles in scaling up PE programs. In addition, a very well-planned advocacy program (PRB) has provided valuable complementary support and has helped to catalyze a strong Philippine-based PE advocacy movement (the Sigue Network).

Acceptance of the PE concept is evident where the program has been tested. In coastal/marine communities where the human populations have increased while the fish catch has decreased, the linkage between P&E is clear. For LGUs and Mayors, the 2-3 sector approach is a time-saver and helps allow FP to be carried out as part of a broader program that does not directly confront the Catholic Church. Several mayors from project areas are now very vocal and effective advocates of PE and PHE. LGU funds are being allocated to support and sustain PE programs in these municipalities. Several of these sites have become so popular as demonstration sites that they are successfully charging fees for their staff time provided to show the project to various Filipino and international visitors. The integration of population/demographic variables into provincial natural resource plans is gradually taking place, with support from some senior DENR staff and from USAID's FISH project. At the national level some family planning advocates recognize that the direct demographic argument to legalize and get overt government support for FP has not been successful. The Apolito Declaration and Sigue network are now elements of a broad movement to change national legislation to accept family planning within the context of the country's need to increase food security, alleviate poverty and increase its international market competitiveness.

Despite all of these positive developments, there is no clear evidence that PE "scale up" activities will be funded. Only modest funding is available from UNFPA, USAID, the Philippines-Canada Fund and PACAP (Australia). With the completion of the Packard funding, total donor funding for PE field projects is likely to decrease significantly over the next 5 years. Some scale-up and dissemination may occur without donor funding (but with LGU funding) as successful project models are shared by mayors through the League of Municipalities or professional associations; through visits to PATH and SAVE project sites, or through the efforts of the Filipino NGOs that have become program advocates.

2. Madagascar:

Packard funding for the MGHC project has been a valuable catalyst for giving PE a true test in a country with the characteristics appropriate for a PE approach: (major threats to the environment, high population growth rates, and devastating poverty). The Packard grant provided flexible funds essential to test PE at 10 different sites, building upon much smaller pilot programs funded by USAID and the Summit and MacArthur Foundations.

USAID's PHE activities in Madagascar began with USAID mission support for Integrated Conservation and Development (ICDP) Projects, initiated in the early 1990s as part of the first phase of a three-phase 15 year multi-donor environmental initiative. ICDP

projects provided support to communities in PA buffer zones, often including population and health services. In the mid-1990s, USAID/Madagascar and the donor community shifted to a broader "landscape" approach to protecting the country's forests. Mission environmental funding was concentrated in two large geographic landscapes and mission population/health funding was concentrated in the same areas. A Michigan Population-Environment Fellow helped pave the way for a series of PHE field projects and the establishment of an umbrella PHE support/advocacy organization, Voahary Salama – all funded via USAID/W's worldwide Environmental Health Project (EHP). A second Michigan Population-Environment Fellow subsequently spent much of her time supporting the institutional development of Voahary Salama. The Packard-funded MGHC program was not funded through Voahary Salama, however, but was managed by a US-based cooperating agency (the John Snow Institute-JSI).

Despite these efforts, as the Packard-funded MGHC project and the EHP project assistance to Voahary Salama are being completed, the concept of a PE project has less cache than in the Philippines. Several of the MGHC subprojects were designed as PHE, rather than PE, projects and two were designed to be complementary to very broad USAID-funded "landscape" projects with the proportion of funds used for P or E less than for most other Packard PE Initiative grants. In addition, USAID funded "integrated" activities in Madagascar have been explicitly PHE in scope and a USAID-supported advocacy organization, Voahary Salama, is viewed as advocating for PHE projects.

Most of the MCHC and Voahary Salama subprojects have met their planned outputs, however, the general knowledge about the value and value-added of "PE" or "PHE" projects is quite limited among donors and within the central government. The value-added argument is fully accepted at the community/NGO/local leader levels where projects have been implemented, but the results of USAID-funded OR have not yet been broadly disseminated within Madagascar. Knowledge among donors is limited due to the absence to date of effective advocacy. Many donors ranging from CARE to the World Bank were unaware of the PE and PHE programs before our interviews with them. On a more positive note, UNESCO has agreed to finance new FP activities in 3 coastal sites; and WWF has integrated P&H into its E programs in southern Madagascar as an entry strategy to communities. The USAID mission continues to support the concept of integrated programming but does so on a broader scale reflecting their four program foci (Environment, Health/Population, Agriculture and Governance). The mission is still considering how it can effectively mutate its four streams of sectoral funding into a regionally-based integrated program.

There are opportunities for PE/PHE scale-up to occur in Madagascar, utilizing the valuable experience of the Packard and USAID programs. As in the Philippines, the "capital" phase of the program has been largely successful: integrated PE and PHE packages have been designed and field tested, IEC materials have been designed and tested (although they are not as integrated as in the Philippines), and monitoring and evaluation systems for PHE have been designed and disseminated. Importantly, a significant cadre of Malagasy NGOs has gained good practical experience implementing PE and PHE activities at the community level.

A clear decision by the new Malagasy government to decentralize government responsibilities provides a major opportunity for PE/PHE scale-up in the absence of a major donor focus on PE. Communal development plans are being developed for the first time and communes appear to be the target audience for flows of World Bank and European Union poverty alleviation funding. PE/PHE program objectives, such as those incorporated in the champion commune model, might be funded by these donors if they were incorporated into and received priority within the communal development plans. Advocacy for inclusion in the communal plans would most likely come from the communities that have benefited from the Packard and USAID field projects or from the new district chiefs who have seen examples of the model. An advocacy organization, such as Voahary Salama, would normally take a leadership role in disseminating the positive results of PE/PHE programs.

This is a critical point for PE/PHE in Madagascar. The concept could easily be lost in competition with broader sectoral approaches (USAID's eco-regional approach), growing attention to HIV/AIDS (HIV-E projects?) and government and donor inertia towards moving away from their well-rehearsed sectoral programs.

IV. LESSONS LEARNED:

A. SUCCESSFUL TOOLS FOR INTEGRATED LEARNING

Several Packard and USAID-funded projects have developed tools for integrated learning that are particularly successful. Some of these tools include:

- Family income budgeting (PATH and SAGE/Madagascar) with couple participation: Women normally manage the family budget in Philippine coastal communities. This exercise for couples begins with a review of the family's minimal nutritional requirements; and moves progressively through determining food consumption needs, the costs of providing/purchasing food, and the additional costs (in terms of time spent on the sea) of feeding (and educating) a new family member. The result is increased male awareness of the link between family size and his workload.
- Trend analysis (-20, -10, 0, +10 years): This community wide activity, often using simple drawings, encourages the community to describe (and recognize) temporal changes in demographic and natural resource/fish patterns that affect their community.
- "Problem trees" show linkages between livelihoods, family size and access to land as well as the effects of migration and teen-age pregnancy.
- 3-dimensional mapping (SAVE) includes the full community in preparing a plaster-of-paris map that helps delineate CRM pressure points, potential areas for marine parks and sanctuaries, and priority zones for citizen patrolling.

- Family Planning "action sessions": SAVE brings 10-12 couples together to discuss family planning and uses "action cards" to codify FP decisions (with follow-up by the municipal health officer or peer educators).
- Adolescent theatre: used successfully by many projects to encourage youth to understand NRM/CRM and RH issues.
- Roots and Shoots (JGI): a program that includes P&E designed to give refugee children a sense of empowerment and self-esteem through participatory group activities that the youth identify and develop.
- "Couples communication games" used on RH day or NRM day: a form of "how much do you really know about your spouse" that SAVE uses successfully to encourage family communication.
- "Garden of Eden" or "Adam and Eve": Demonstrates and discusses the effects of generational demographic and NRM changes on an island. Floor space becomes more limited as the game progresses.

B. KEY FACTORS THAT SUPPORTED OR HAMPERED FIELD PROJECT SUCCESS

As part of this review's field project questionnaire, each grantee and sub-grantee was asked to summarize a) 2-3 key factors that were critical to project success; and b) factors that made it difficult to achieve project success. A review of these responses (in aggregated form) provides some insight on how PE/PHE projects can be planned and managed in the future.

Key Factors that Supported Project Success	Key Factors that Hampered Success
Participation -Broad Community involvement in participatory RH and CRM needs assessments or action research; -Involvement of political leaders (mayor, councilpersons) at project initiation; -Develop local govt. support at the onset and sustain beyond the project period; -Create a team approach at the very beginning.	Participation -Limited government involvement -Government corruption
Partnership -Transparent partnership(s) -Experienced NGOs with previous positive experience in the community/region; -Convergence of partner views about project objectives; -Presence of political will and potential political champions; -Close contact with government provided credibility (Tanzania); -Ensure absolute clarity between medical team and clients regarding sexual and reproductive health objectives (very sensitive issues).	Partnership -Weakness and small number of NGOs available to work in a region; -NGO dependence on one key individual; -Hard to find NGO with people-oriented approach to RH; -Health partner had no community base (urban focused); -Hard for program managers to measure the capacity of potential partners – maybe need to partner first for a while; -Partners did not share the same mission, vision and objectives; -Lack of experience in integrated approach – few models, dubious staff.
Project Design -Provide tangible benefits quickly; -Respond to priority needs of community to built trust and confidence; -Build on community strengths; -Set clear attainable targets (e.g. Champion community goals); -Ensure commodity/input availability and quality; -Keep a flexible budget; -Include youth as a target audience to affect behavior change within the larger community; -Include strong livelihood component, if possible, that can bring wealth and encourage changes in aspirations.	Project Design -Absence of key inputs (FP stock outs) or poor quality (seeds that don't germinate); -Lack of sufficient time to observe changes in behavior;
Role of Women -Women's access to money generates self-respect and self-direction; -Micro-credit and cash income improves women's status in the family and the community; -Involving women in CRM/NRM encourages broader family participation.	Role of Women - Weak participation of women in some locations; - High gender divide.

Other Factors -Accessibility to project site: -Availability of radio signals that reach isolated communities: -Literacy. -National PHE coalition to push policy agenda of integrating PHE (Philippines)	Other Factors - Church opposition to family planning: - Significant migration (in-migration and out-migration): - Indigenous areas sensitive to RH and gender issues; - Conservative nature of isolated areas.

C. WHEN AND WHERE IS PE MOST APPROPRIATE?

Packard and USAID grantees were asked: If financial and human resources were limited, when, where and under what conditions would you choose to initiate a new PE project? Most answers had common themes. Some others provide insights into innovative opportunities to initiate PE or PHE projects.

Setting:

- In or near threatened environmental or biodiversity "hotspots" and protected areas; and
- Where there is heavy pressure on the PA or the natural resource base by the local communities due, in part, to high population density per arable land available
- Where demographic, health or poverty indicators are worse than the norm

Key supporting factors:

- Both P and E problems and pressures are evident to the communities
- The communities demonstrate a reasonable degree of social capital and leadership
- Availability of NGOs that have worked in the area and who have gained the respect of the community
- Mayoral or other local political support is available for the program
- A significant number of donor projects or government programs are active in the area that can build on each other's energy and programs
- Where P and E program services (e.g. government) are not adequate

Specific target areas:

- Buffer zones of PAs
- Landscape and corridor areas
- Fishing villages in/near threatened marine/coastal areas AND where the fishing waters can be locally controlled (e.g. absence of commercial fishing)
- Chimpanzee habitats (JGI)
- Watersheds where water scarcity is a recognized problem
- Urban slums (Philippines)
- As part of disaster relief programs (rain-induced landslides in the Philippines)

Where NOT to do PE

- Indigenous communities
- Conflict areas (e.g. parts of Chiapas)

- Where successful FP or E programs are operating

D. MONITORING AND EVALUATION OF FIELD PROJECTS[15]

Monitoring involves the collection, manipulation, as needed, and reporting of data on a routine basis. It provides the basis for periodically assessing how one's activities are progressing compared to expectations. Traditionally, indicators are used to represent key aspects of the program or project and expectations are expressed in terms of anticipated indicator values over time and space.

Evaluation, on the other hand, complements monitoring and involves a more in-depth assessment of targeted aspects of one's program. Data acquired through the monitoring process may indicate that one's program is not performing to expectations in one or more areas. An evaluation may then be conducted to investigate why this is the case and to suggest ways to address identified problems. Evaluations usually require more human and financial resources to conduct but provide critical value (e-valu-ation) judgments and insights into why things are happening or not happening according to expectations. Evaluations are geared towards improving the design and/or implementation of the project or program being evaluated.

Research, including operations research, is carried out to answer specific questions applicable to project or program implementation in a more general sense. Results can be generalized beyond the limits of the specific project or program involved in the research, although there are also limits to external generalizability. Operations research focuses on operational issues and often seeks to identify which of various alternative approaches or methods works best under which conditions.

Ideally, program inputs, processes and activity outputs are monitored using easily available data sources; evaluations at this level are often conducted only if specific issues have been identified. For example, if demand for contraception exists in an area but contraceptive supplies are not readily available, a process evaluation is warranted to identify why the supply system is not working and how the problems may be remedied. Similarly, if farmers are receiving information about alternative agricultural methods but uptake of these new methods is not happening, an evaluation can focus on identifying key barriers to method uptake.

Given the time and financial requirements to conduct meaningful evaluations, often they are limited to providing insights into factors positively or negatively affecting the achievement of overall program objectives or outcome level effects. To make a stronger case that the program activities resulted in observed effects, data can be collected before and after the program is initiated. And, an even stronger case for associating program interventions with observed effects can be made if data are also collected the same time periods in non-intervention/control areas. This kind of evaluation design helps to control

[15] Much of the information in this annex was provided by Lynne Gaffikin, an experienced M&E specialist presently working in Madagascar with USAID/Madagascar and Voahary Salama. Lynne also served as a local consultant for the review team visit to Madagascar.

for factors affecting outcomes that have nothing to do with the program interventions, which helps in the interpretation of how well the program achieved its objectives.

PE/PHE projects by definition focus on interventions that are conceptually linked and can be operationally coordinated at the field level. Four different models of such linked interventions described in the published literature[16], i.e., projects involving 1) environment interventions to achieve family planning/health outcomes, 2) family planning/health interventions to achieve environment outcomes; 3) family planning/health or environment interventions to achieve both types of outcomes and 4) projects linked to improve operations. Packard-funded projects were mostly designed as model 3 types where health and environment interventions were supported with the aim of achieving improvements in both the health and environment domains, ideally greater improvements than would have occurred if a one-sectoral program had been implemented. An additional rationale for integration is that programmatic efficiencies will be achieved (model 4)

As such, indicators to monitor progress in both domains were included in many of the field project M&E plans and evaluations associated with all projects investigated factors affecting achievement of both health and environment objectives[17]. Input and activity monitoring was primarily conducted by implementing agencies in the field. Monitoring of key activity outputs such as number of community agents trained was undertaken by the grantee. These data were obtained through, among other means, activity reports, routine reporting systems and field supervisory visits.

Key issues in the selection of indicators include:

- Understanding of how indicators represent just a piece of a more complex picture
- Selecting indicators for which data are readily available for the geographic/administrative area of focus
- Selecting P, H or E indicators likely to measurably change within the project period (it is typically more difficult to identify E indicators that will change within the timeframe of a relatively short -1 to 3 year- sub-project).
- Determining the amount of change likely to occur as a result of budgeted inputs and activities
- Establishing indicator value thresholds to alert project staff that activities are really off course and project modifications are likely to be necessary (and which ones)
- Indicators of programmatic efficiency or programmatic value-added have typically been given little priority in many of the PE operations research and/or evaluation efforts. This is an important question and may be better addressed with given resources and competencies through qualitative assessments incorporating time and cost dimensions

[16] Conventional Wisdom on Causal Linkages among Population, Health and Environment Interventions and Targets. Caroline Stern and Richard Margolius. Dec. 2004.

[17] PE program management did not require grantees to use a particular model for PE project M&E and seemed to have a "laisse faire" attitude by approving some projects with very inadequate M&E plans. The PE program management did, however, focus seriously on the quality of operations research proposals, submitted as elements of field projects.

- A final challenge is the lack of indicators that measure "integration" (These have at times been referred to as "integrated indicators" but this is a misleading term and should preferably be replaced by the term "integration indicators" or "indicators of integration"). It is unclear whether these indicators are needed to represent the means by which integration may be promoted in the field setting, e.g. cross training of community based workers, or alternatively to measure the point in a causal chain where different health and environment efforts, for example, nutrition education and alternative crop planting, conceptually converge to measure the same higher level outcome such as food security, before diverging again to result in long term sector specific objectives (e.g. reduced malnutrition and reduced conversion of primary forest to agriculture land, respectively)[18].

Paying the price to obtain usable operations research results

A key advantage of controlled research studies is that, in principle, they yield results that can be generalized beyond the setting in which the study was conducted. The operations research results were compromised in some Packard and USAID-funded programs, however, due to weaknesses in the detailed design, difficulties implementing the studies as designed or both. This is unfortunate as funding opportunities for such rigorous studies are limited and future funding relies on the strength of available evidence. Given the importance of O.R. findings, it is recommended that sufficient resources (human and financial) be allocated to fully analyzing the various datasets, complementing them as needed with qualitative data sources.

VI. FUTURE DIRECTIONS

A. STATUS OF FUNDING CURRENTLY AVAILABLE FOR PE ACTIVITIES

With the Packard Foundation's approval of its PE Initiative in 2000, the Foundation joined a cluster of foundations (Summit, MacArthur, Hewlett, Turner) that had funded such programs at smaller levels during the mid- to late 1990s. The Packard PE Initiative, with anticipated funding of $5 million per year, not only provided additional resources for PE initiatives, it significantly increased the number of grantees testing PE field

[18] Just as indicators of health or other sectors can be divided into levels e.g. input, process, output, outcome, efforts to address this challenge for integration indicators may be moved forward by identifying options at these same levels. As with sector-specific indicators, some may be very project specific, others may be more generalizable to all projects. Examples for consideration are:

- Distributing trees with fruit high in Vitamin A to be planted in a way that improves soil fertility.
- Training of community based workers in both e.g. FP and crop rotation and the linkages between limiting family size and improved household agricultural productivity is an activity level indicator reflecting the integrated nature of the project.
- Farmers selling seeds as well as contraceptives at a local distribution center may be the output of various integrated project activities
- Increased access to an improved water source may be an outcome that will both improve health by reducing cases of diarrheal disease as well as improve agricultural yield by ensuring a constant water supply.

projects and increased the number of overall field sites[19]. The Initiative also funded operations research, provided the opportunity for M&E data to be collected at other sites, established new leadership programs in key U.S. institutions, and increased funding for programs that alerted the American public to global PE issues and the impact of U.S. consumption patterns.

The stock market decline in 2001 led several foundations to reduce or eliminate funding for PE activities. Factors that influenced these decisions were: a) a preference to focus remaining resources on more traditional, core program themes, rather than cross-program funding; b) the general donor/foundation trend towards a "results" orientation with funding for programs that could provide clear benchmarks for monitoring and evaluation, and; c) a tendency to focus all foundation resources on a few specific geographic regions (place-based strategies)[20]. Summit, MacArthur, Hewlett and Turner[21] all terminated any explicit PE strategies at about the same time as Packard decided to reduce its program to "close out" grants. Several of these foundations continue to fund "Population" and "Environment" strategies and programs. They typically do not explicitly encourage "cross-sectoral" programs but are willing to "let linkages occur naturally" in a target geographic area if implementing organizations wish to make a PE linkage. Some foundations also continue to provide broad program-wide funding to family planning and environment organizations; this funding could be used for cross-sectoral purposes.

About the same time, a new major funder of PE activities entered the field. In part due to the success of foundation-funded advocacy efforts, the U.S. Foreign Assistance Act of FY2002 directed USAID to utilize some of its family planning funds in "areas where population growth threatens biodiversity or endangered species." In addition, successive editions of the accompanying Manager's Report include language that ***"urges USAID to develop performance goals and indicators which promote cross-sectoral collaboration"*** on PHE programming. This "directive[22]" has been included in all subsequent foreign aid legislation and USAID's Population-Environment Program is providing approximately $2-3 million annually in funding, often targeting their resources to projects initiated by Packard or by other foundations.

A few foundations have recently begun to fund PE activities, albeit with small programs: The Prospect Hill Foundation's new strategy will encourage PE in their target areas of Guatemala and Mexico; and the Goldman Fund and the Charles Evans Hughes Foundation are providing some PE funds to PAI.

Despite these new additions, with the termination of the Packard PE Initiative, the overall level of PE funding in 2005 will be substantially lower than in 2000 unless new donors or

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[19] The review team benefited from the insights of Susan Gibbs and Bob Engelman for much of the information in this chapter. The conclusions of Gibbs' 2002 report for Packard, "Population and Environment Funding Themes and Trends," remain largely valid.

[20] Gibbs, p.1.

[21] Other foundations may have funded some PE grants (e.g. Compton, Moriah, Wallace).

[22] A Congressional "directive," unlike an "earmark," does not require USAID to follow the advice outlined in the directive, but encourages such action. USAID has learned that ignoring directives often leads the Congress to include earmark language in future year legislation.

foundations are convinced that PE programs can be successful (indeed, more successful than their traditional programs).

Prospects for funding PE activities:

USAID: Presently USAID is the only donor with an explicit PE/PHE program that finances (often co-finances) field projects. Most USAID funds are provided through a program managed by the Bureau for Global Health (BGH). Funding has been provided for field projects in all four of the countries where Packard's PE program has been operating: Philippines, Madagascar, Tanzania, and Mexico. In addition, funds have been provided to Kenya, Cambodia, and will be provided soon in Nepal. USAID monies for field projects have been transferred via grants to implementing PVO/NGOs such as WWF, CI, JGI and Pro-Peten, Path/Philippines, and SAVE or transferred via the centrally-funded Environmental Health Program (EHP). USAID/Washington program managers encourage USAID missions to add their own funds to those provided by the BGH, and four USAID missions have done so. USAID PE funds also help finance the Michigan Population-Environment Fellows program and a series of "Environmental Security" workshops and presentations organized by the Woodrow Wilson Center in Washington, DC.

In the absence of the Congressional directive, it is likely that USAID central bureau funding for PE would disappear unless a stronger case is made of PE's value-added and relative effectiveness. Funding for USAID's environment and population programs has declined or remained constant in recent years. USAID's population and health offices are looking for project models with the proven capacity for "scale up," while the USAID environment office is not yet convinced that PE projects would meet their program objectives better than more traditional environment and biodiversity protection programs.

The World Bank: Several IBRD publications have included recognition of the impact of population growth and distribution on environmental hotspots and on poverty alleviation efforts.[23] A few country strategies have also reportedly recognized this linkage, but most country-level IBRD funding is not structured in a way that it can easily be used for community-based programs. A growing portion of Bank "health" funds (which include reproductive health activities) are transferred via "program assistance" rather than via "project assistance." Health SWAPs (Sector-Wide Assistance Programs) provide funds to meet broad health sector objectives. The allocation of these funds is determined largely by host governments. Bank environmental projects are gradually moving towards the same sectoral approach. Bank poverty alleviation funds (Poverty Reduction Credits) are typically directed towards rural poverty and therefore rural communities, but are normally managed by Ministries of Finance. These funds could conceivably be used for PE-type programs, but they would have to be: (a) packaged in large "chunks" - perhaps for province or district-wide programs; and (b) solicited by the host-government as part of its funding proposal to the Bank. The proposal would need to make a strong

[23] See the *World Development Report 2002* (Environment theme) and the upcoming 2007 WDR, which will have a demographic theme.

"evidence-based" case to Bank economists that PE programs would be more effective than alternative approaches.

The World Bank Training Institute runs a prestigious three-week health policy course for host country technical leaders 3-4 times each year. The course reportedly focuses almost no attention on the need to consider natural resource degradation or biodiversity issues in targeting RH country programs. The course directs the attention of the participants to "the burden of disease" and the possible targeting of health resources to "where poor people live."

The United Nations family (UNDP, UNFPA, UNESCO, UNICEF, UNEP): UN Headquarters interest in PE is reportedly minimal, limited to a few individuals. However, several country-level UN offices have recently agreed to fund new PE field projects, after seeing the results of Packard or other first-phase PE projects. UNESCO will finance PE in three CRM sites in Western Madagascar, and UNFPA will finance ten PE sites in the Philippines.

Other bilateral or multilateral donors: This review did not have the time and resources to inventory the large number of bilateral and multilateral donors to determine their knowledge of and interest in PE. A few cases of small donor agency funding have come to the attention of the review team: the Philippines-Canada fund financed PE expansion to seven LGUs in northern Iloilo, and an Australian donor organization (PACAP) is funding a continuation of the World Neighbor PE project in Bohol, Philippines.

NGOs: Two major U.S. based environmental NGOs – Conservation International (CI) and World Wildlife Fund (WWF) -- continue to experiment with PE programs in their international programs, normally using funds provided by USAID or foundations such as Packard. Both organizations appear to recognize that in order to achieve NRM or CRM objectives at the community level, their organizations must, to some degree, recognize and respond to the community needs that have higher and more immediate priority. CI has recently restructured their headquarters organization and has placed its PE and former Healthy Communities programs in its new Conservation Stewards Program This office has a mandate to provide guidance to headquarters programs and field offices on the best ways to address these community needs and, at the same time, to generate community support for longer-term conservation/environmental objectives. The location of WWF's PE program could change as part of restructuring by WWF's new leadership. TheWWF/ headquarters PE program is largely funded by USAID. In at least one country (Madagascar) the WWF country leadership has accepted the value of a PHE approach and is using some of its own resources (and soliciting donor funds) to support program expansion around protected areas and national parks with an explicit PHE component. Despite their interest in PE, however, it appears that neither WWF nor CI senior leadership has decided to use their "own" funds for PE activities nor have they adopted PE as an element of their global strategies or their recommended country strategies.

A number of U.S.-focused conservation/environment NGOs (e.g. National Wildlife Federation, Sierra Club, National Audubon Society, Isaac Walton League) have participated in advocacy efforts to encourage Congressional funding for global family

planning programs. Initially these efforts were stimulated by foundation grants, but they may now be sustained with the NGO's own funds.

Finally, as noted in other sections of this report, several NGOs have accepted the value of PE programs and have internalized the PE approach in their strategic approach to field projects whether they use their own funding or are soliciting funding from other sources. World Neighbors, for example, now includes family planning activities in "the way it works" and addresses broader rural poverty issues worldwide. The Jane Goodall Institute is expanding its programs to the DRC using a PE framework. ProNatura/Chiapas and some other host-country NGOs with PE experience also state that they plan to include PE in their standard operating practice and in their solicitations for funding.

Other funding entities: The International Union for Scientific Study of Population (IUSSP) provides a valuable service by continuing to provide much of the funding for the Population-Environment Research Network (PERN) – a network of PE researchers based at Columbia University. Other PERN donors include the International Social Science Council, the MacArthur Foundation and UNFPA.

B. PROGRAM OPPORTUNITIES

The Packard PE Initiative and the initial years of the USAID PHE program have provided funding for a variety of new initiatives, many of which have proven to be quite successful. The Initiative has given PE a timely push forward that could be continued with a combination of donor funding and sustainable funding from host government entities and communities. PE practitioners, other PE supporters and the review team has identified a variety of "next steps" that seem to be appropriate.

Philippines: The PATH and SAVE projects are among the most successful in the Packard portfolio, and the preparatory actions to facilitate scale-up have been completed with high-quality work. In addition, a very well-planned advocacy program (PRB) has provided valuable complementary support and has helped to catalyze a strong Philippine-based PE advocacy movement (the SIGUE Network).

Next steps would appear to include:

- Maximum dissemination of PE project results to a variety of audiences: donors, national political figures, mayors, and NGOs. A 2nd national PE conference may be appropriate as one element of this effort.
- Continued support of SIGUE and other Filipino advocacy efforts to influence legislation, government regulations and the news media.
- Scale up of PATH or SAVE efforts (perhaps a combination of both) to the provincial level as part of a combined CRM and RH program.
- Encourage Filipino universities to include PE or elements of PE in their curricula for environment and health professionals.
- Encourage Filipino environmental trust funds and small grant programs (e.g. GEF) to include PE in their funding priorities. This could stimulate a second

generation of small projects that might focus more on forest communities, natural disaster sites and urban settings with "brown" environmental issues.

Madagascar: As in the Philippines, the "capital" phase of the PE program has been largely successful. Importantly, a significant cadre of Malagasy NGOs has gained good practical experience implementing PE and PHE activities at the community level.

Program opportunities would appear to include:

Encourage dissemination of PE project results especially to the donor community, but also to district chiefs, and mayors and NGOS. A 1st national symposium on PE would appear to be timely.

- Scale up MGHC and V.S. pilot efforts to the district level or within a full environmental corridor, perhaps within a Champion Commune framework. Funding might be provided to districts or communes by the European Union, the World Bank or the Millennium Challenge Corporation as part of their local government and poverty alleviation programs.
- Adapt successful Filipino CRM program models for Malagasy communities within coastal/marine protected areas and buffer zones.
- Encourage Malagasy universities and training centers to include PE or elements of PE in their curricula for environment and health professionals.
- Provide funds to the environmental trust fund, Tany Meva, to finance small grants in regions where PE has not yet been initiated.

Other opportunities:

- The government decentralization that is occurring in many LDCs may provide the opportunity to "break through" donor and central government reticence to support integrated programs. Block grants are increasingly being provided by national governments and donors to de-centralized government units such as provinces, districts, communes and local government units (LGUs). These "program" funds typically support the unit's development plan, which could be designed on an integrated rather than a sectoral basis.
- Consider PE in new contexts: "Hotspots" and protected area buffer zones are not the only areas where PE may be appropriate. Filipino PE proponents are experimenting with PE as a framework for disaster mitigation projects and urban slum health and sanitation efforts, among others.
- Retain a flexible definition of PE: The Packard Foundation funded a wide variety of PE-type projects that were each appropriate to their particular setting. The concept of integrated programs, including the key elements of family planning and natural resource management, should be viewed as a concept that will evolve into different forms in differing settings. On the other hand, integrated rural development projects (IRDPs) and integrated conservation and development projects (ICDPs) are no longer valued project models because they were too complex and incorporated too many sectors for host governments and donors to effectively manage them. Projects with this magnitude of complexity should not be encouraged.

- PE projects will need to consider migration (both internal migration to and external migration from buffer zones, for example) as a confounding factor in achieving project objectives. A few projects, such as the USAID-supported CI Sierra Madre project in northern Philippines, are gaining valuable experience with migration factors.

ANNEXES

ANNEX I. SUMMARY OF FIELD PROJECT RESULTS

This annex will attempt to summarize key project results for the USAID larger grants. Most of the information in this annex was provided in the final or most recent project reports. The evaluation team, focused on program-level issues, did not have the time or include all the technical skills needed to evaluate these individual projects or their stated results.

Philippines:

1. PATH - IPOPCORM (Integrated Population and Coastal Resources Management)[24]

The IPOPCORM program focused uniquely on P and E in 12 scattered sites on four islands. The initial program encompassed 25 Local Government Units (LGUs, the equivalent of U.S. counties). PATH typically contracted with one single NGO to carry out all aspects of the program in a site. PATH/Philippines staff with expertise in both family planning/health and coastal resource management (CRM) did initial planning, negotiated agreements with NGOs, prepared integrated PE training materials, trained NGOs staff and outreach personnel, provided M&E support, and provided overall program supervision.

Project "inputs" were typically a) funding for NGO staff, including Community Health Outreach Workers (CHOWs) who trained and supervised couple peer educators, youth peer educators and CBD workers running sari-sari outlets; b) training, c) IEC materials, d) some capital funds to finance small scale conservation requirements (e.g. buoys to delimit marine sanctuaries, mangrove seedlings, petrol for community boat patrols); e) family planning commodities initially at subsidized costs; and f) micro-credit funds for alternative livelihood activities. The CHOWs, often recent university graduates in biology or nursing, were required to provide training and supervision in three technical areas – family planning/health, coastal resource conservation and micro-credit. The PATH program was "run" primarily by the contracted NGO, although both PATH and the NGO always tried to work closely with LGUs and draw upon their personnel and financial resources.

The PATH IPOPCORM (Integrated Population and Coastal Resource Management) project focused on reproductive health (P) activities and outcomes with only modest attention to broader health problems. IPOPCORM used family and youth peer educators and established sari-sari outlets to provide FP services to poor, coastal communities.

[24] Much of this information was drawn from PATH annual reports to the Packard Foundation, PATH presentations to the review team, and the PATH Project Renewal Proposal of April, 2004.

Expected results were a) Better access to contraceptives: b) KAP for pregnancy prevention improved: c) Unmet FP need reduced: d) Youth reached with ASRH (adolescent sexual and reproductive health) information: and e) AIDS risk reduced. Program indicators were: a) Number of new RH service points; b)% WRA using FP; c) % Females giving birth in past year; d) % youth (15-24) reporting unintended pregnancy: and e) Risk reduction practice.

Although final survey results are not yet available (due September, 2005). PATH reports the following results – divided into Reproductive health, coastal resource management, food security/quality of life, and policy reforms - to date:

Reproductive Health:

- A 10-fold increase in access to FP information and products in rural coastal areas
- approximately 900 sari-sari owners and project officers delivering basic RP services at fair prices
- 8300 couples using reliable FP methods.

March, 2004 survey results indicate the following:

- % Women of Reproductive Age (WRA) reporting unmet FP need (51.6% to 48.2%)
- ↑ CPR for all methods (27.5% to 33.3%)
- ↑ % males who support FP (88.5% to 92.2%)
- ↓ % WRA who had birth in past year (16.3% to 15.8%)
- ↓ TFR among WRA (from 3.42 to 3.07)
- Less abortion in sites with Community Based Family Planning (CBRF) interventions (17%-24%) compared to those with no CBFP (26-39%)

Coastal Resource Management:

- 38 protected areas under improved management (20 Marine Protected Areas and Community-based management for Protected Areas (MPA and CBMFPA)
- 103 FARMC formed or reactivated (15 municipal, 88 barangay)
- 129 communities implementing IPOPCORM's cross-sectoral approach
- 1,720 community members involved in PA management and enforcement
- 31,697 hours patrol boat operations logged: 426 apprehensions

March, 2004 Survey indicators:

- ↓ % HH with fulltime fishers (32.9% to 20.7%)
- ↓ % HH members > 10 yrs into full-time fishing (18.4% to 10.0%)
- ↑% family members raising small livestock (from 54% to 73%)
- ↑% family members that "always help to guard fish/mangrove sanctuary"
- ↑% family members that "always participate in barangay council meetings"

Program Monitoring results:

- Mean % for hard corals showed an increasing trend
- Mean values for Mortality Index decreased and the Condition Index increased for corals
- Number, density and biomass of coral reef fish (target and commercially important fish) did not change significantly over time
- Gill net CPUE increased but line fishing CPUE decreased
- Increase in value for nearly every parameter measured for sea grasses
- Decrease in value for most parameters measured for mangroves
- Illegal fishing ceased to be reported as a prevalent practice within the surveyed populations
- Fish catch nearly doubled in integrated site but declined or remained same in non-integrated sites

O.R. results – 2004

Food Security/QOL Indicators

- ↓ % HH with underweight preschoolers (35.3% to 32.1%)
- ↓ % HH reporting "sometimes not enough food" (29.8% to 15.2%)
- ↑ % HH with average monthly income ≥P5000 (35.3% to 41.2%)
- ↑ % HH perceive themselves as "better off now compared to 5 yrs ago
- 16 LGUs and 12 NGOs jointly planned and implemented linked CRM-RH programs
- 95 POs capacitated to protect & monitor critical habitats, facilitate EED and promote RH/FP
- Options for alternative livelihood expanded for 3,566 fishers
- 6 LGUs incorporated RH into municipal CRM/NRM plans
- 1,532 loans extended for EED and 2/3 repaid

Program Monitoring Results:

- Fewer respondents said their "family sometimes lacks for food" in the integrated site
- Average per capita income increased by 21% in integrated sites but declined/stagnated in non-integrated sites
- Average per capital income for women increased by 60% in integrated sites but stagnated/declined in other sites

Policies reformed:

- 49 new regulations enacted to protect coastal ecosystems
- 18 regulations passed requiring permits to fish in municipal waters
- 18 regulations passed restricting use of unsustainable gear
- 927 bantay dagat deputized
- Cross sectoral approach instituted in 77 barangay development agendas

- Local communities and partners co-financing IPOPCORM activities (P21.5 million=$430.000)
- CBD mechanism - recovering 100% of FP product costs

Lessons Learned:

- A cross-sectoral and eco-system based approach to CRM and Biodiversity D Conservation allows decision makers to consider how human activities affect coastal resources on a broad level, not just on a species-by-species level.
- Effective stewardship of coastal resources and human health mostly occurs through local institutions and community plans and actions
- Given appropriate training and support, environmental NGOs can manage and implement CBFP.
- IPOPCORM's synergistic approach lends sustainability to CRM interventions, while CRM provides a comprehensible context for coastal residents to recognize the necessity of limiting family size to achieve food security and improve family welfare.
- Encouraging youth to become "stewards of their sexuality and the environment " is an alternative approach to abstinence promotion that appeals to youth in coastal communities, especially boys.

Final operations research results should compare final 2005 results with trends in non-project control sites.

2.. SAVE PESCODEV[25]

The SAVE **PESCODEV** program was carried out in 11 municipalities within the West Visayas region, primarily on the islands of Panay and Guimaras. The project area included 95 villages (barangays) with a total population of 375.203. The project, which ended in late 2004, focused broadly on population and health needs (P and H) within these sites, many of which had received some previous support for improved coastal resource management (CRM) activities. PESCODEV, unlike IPOPCORM, was implemented primarily in concert with local government health officials rather than via NGOs. Among other techniques, the project trained and supported peer educators, using "family planning action sessions" as an approach to encourage groups of 10-12 couples to make firm decisions about beginning to use FP. The project also focused attention on adolescent reproductive health needs for both sexes. The project provided capital funding for the renovation or construction of government health "stations" and counseling rooms in those facilities. Local Government Units (LGUs) were responsible for providing family planning commodities via local government facilities and well as providing local government health personnel to support the project.

[25] Much of this information is drawn from the PESCODEV Year 5 Terminal Report (October 2003-September, 2004), as well as presentations made to the review team during site visits.

LGU and community support in most of these eleven sites was and still is very strong. Several of the LGU mayors are very vocal supporters of an integrated PHE approach and have successfully attracted other donor funds to expand the program concept to contiguous LGUs in Northern Iloilo. These SAVE project sites have become "model" sites and are often visited by representatives from other LGUs and from other countries.

The PESCODEV program strategies were defined as capacity building, IEC, Enterprise Development and Improvement of reproductive health services. Appreciative Community Mobilization (ACM) was used very successfully for community mobilization in the eleven sites.

The overall goal was to achieve a sustainable balance between population and environment (Coastal Resource Development) for these communities.

The three program objectives were defined as:

- Policies enacted and programs implemented that facilitates access to RH information and services for youth
- Increased knowledge and awareness of RH/FP, pop/environment linkages , and natural resource management among community members , particularly persons of reproductive age
- Enhanced natural resource management skills

Intermediate results were:

- Improved knowledge, attitudes and skills related to modern family planning
- Increased quality, accessibility & availability of FP/RH services
- Improved Knowledge , attitudes and skills on community-led coastal resource management
- Improved knowledge and skills on environmentally sustainable micro-enterprise activities
- Improved community support systems

Three types of activities were integrated into the program in each municipality:

1. Coastal resource management initiatives
2. Family planning/ Reproductive health &adolescent reproductive sexual health
3. Enhancing existing enterprise

Results:

SAVE reports the following general results for their program as of March, 2004: 2.8% increase in CPR, enhanced role of adolescents in decision making, greater male involvement in CPR, construction of 5 and upgrading of 75 health stations including construction of 29 youth-friendly counseling rooms. Results vary across the 4 original and 7 expansion municipalities included in PESCODEV.

Improved Environmental Practices:

Practices	Project %	Control %
Explosives for fishing	**19.0**	**62.6**
Toxic substances for fishing	**15.2**	**27.1**
Household participation, environment	**63.7**	**16.6**

Mangrove Reforestation:
As of 2003 : 32.75 hectares
December 2004 : 14 hectares
Total : 46.75 hectares

Marine Protected Areas (MPAs) As of September 2004 18 MPA (903 hectares) were established

Improved Reproductive Health:

Increased Access to Family Planning Methods:

Source of FP Method	Project %	Control %
Barangay Health Stations	**47.4**	**16.2**
Municipal Health Centers	**2.8**	**14.9**
Pharmacy	**6.6**	**25.7**

LGU support for the construction of youth friendly health facilities

- Construction of 29 counseling rooms
- Construction of 5 new BHS
- Upgrading of 75 health stations

- 87 PHE resolutions passed in support of RH and environment programs generating at least Php 3.5 Million support
- LGU partners raised a total of Php 1,870,000 for the construction of counseling rooms and Php 700,000 for upgrading health facilities (Year 2004)

A final objective of PESCODEV was to foster "experienced-based advocacy". As noted above, several LGU mayors have become vocal and effective advocates of PHE programs in meetings with their peers (annual mayor association meetings) and in other fora. In addition SAVE has been one of several organizations to foster the development of a nationwide "virtual" PHE advocacy which has had several notable successes:

- Formation of the National PHE "Sigue" Coalition that advocates for legislative and procedural reforms that support integrated PHE objectives
- Agreement on the Antipolo Declaration, approved at the first national PE congress in 2004. The declaration, which strongly supports the expansion of RH as part of integrated programs, now has received several thousand individual and organizational signatures
- Production of a video, "Waking the Extra Mile", that describes the PESCODEV Program and its successes.
- Adoption of PHE programming in 7 adjacent municipalities in Northern Iloilo with funding from another donor.

3. **Sierra Madre Corridor Project- Conservation International** "Addressing Population Growth in the Hotspots: Combing Reproductive Health with Biodiversity Protection for Effective Programming"[26]

This CI project was funded by USAID's Population-Health-Environment Program in 2002 and is close to scheduled completion in June, 2005. However, CI has submitted a proposal to USAID to extend the activity for an additional year. This $200,000/year project is situated in and around Baggao, a municipality that provides services to some of the most remote populations of the Philippines, many of them indigenous peoples. CI's major partners are the municipality of Baggao, led by an energetic mayor who has served the region as a doctor, and Process-Luzon, a Filipino NGO with extensive experience in the region.

This project is only one element of a broader CI-sponsored Biodiversity Corridor program in northeastern Luzon province, that has helped to establish three new Protected Areas, connected to existing ones, that cover almost a million hectares, creating the largest contiguous block of forest with permanent protected areas status and has helped establish partnership and collaborative mechanisms for their conservation and development.. However, population continues to grow in these very sensitive areas with

[26] Much of this information was drawn from the most recent project semi-annual results report for the period July-December, 2004, dated March 3, 2005 as well as from interviews with project personnel and CI officials.

attendant problems of encroachment of settlements, slash-and-burn agriculture, unsustainable hunting and fishing, and timber poaching for survival.

Both *in-migration and high fertility* have led to the expansion of existing settlements and the creation of new ones in the upland regions where primary forest remained. These settlements are comprised of poor farmers and recent migrants whose only source of livelihood comes from subsistence slash and burn agriculture and the products they can extract from the forest. The *lack of basic health services* and facilities, specifically, *access to reproductive health and family-planning (RH/FP) services*, contributes in a major way to the large family sizes in the uplands.

The goal of the PHE project is to engage communities living in and around this biodiversity hotspot in activities that integrate biodiversity conservation with improved access to reproductive health (RH) and family planning (FP). The project seeks to help local communities and policy-makers understand the relationship between having smaller and healthier families with an improved stewardship of natural resources.

1. Specific objectives are to encourage and enable target community residents of reproductive age (15-49) to adopt safe and appropriate RH/FP practices:
2. Build the capacity of target communities to effectively manage the identified CBFM and CADC projects for sustained resource yields and biodiversity protection: and,
3. Refine and make more effective the project monitoring and evaluation system and build strong advocacy groups that will involve men, women and the youth sector.

CI and PROCESS-Luzon, its partner NGO, hope to increase access to and quality of RH/FP information and services to the underserved communities in 6 selected barangays of the municipality of Baggao. This initiative to improve the delivery of these services and to help reduce population pressures on natural resources in Baggao also includes developing activities that link reproductive health and family planning services functionally with natural resource management in general, and biodiversity conservation in particular. To achieve sustainability of these efforts, CI is working together with LGUs, DENR (the national Environment Office), and NGOs to reinforce and build partner capacity.

The geographic focus of the project's conservation component centers on the sustainable protection and maintenance of biodiversity in three Community Based Forest Management (CBDF) areas and one indigenous people's Certificate of Ancestral Domain Claim (CADC) in the Municipality. Currently, these forestland concessions are managed only for timber harvesting or not at all (i.e., harvesting of plants or animals is done arbitrarily). By assisting the claimants to revise their plans, the project will help improve management plans in order to balance the needs for resource extraction with protection of critical habitat and threatened species.

Progress to date: Village health stations have been established and midwives, Barangay Health Workers (BHWs) and Hilots have been trained in delivering RH/FP services, and

evidence to date suggests that community members value and utilize these services where available. Importantly, the municipal government, which had previously made minimal investments in providing RH/FP services, has now allocated significant amount for staff time, supplies, and materials, trainings and Information, Education and Communication (IEC) activities in support of this project. CPR in the project barangays has increased from 55% to 65 over the past two years.

As a result of the continuing community awareness campaign, a decrease in the opening of new areas (slash and burn farming) within the natural forest has been reported. This can be attributed to the intensive awareness campaign participated in by the local leaders, women groups and the youth sector. Local community participation in forest conservation is visible as community members are now actively reporting illegal activities in their respective areas. Their active participation have thus far resulted in the confiscation of 4,853.72 board feet of illegally cut lumber of premium and common hardwood species. . The DENR filed cases against the perpetrators. The provincial government has already demonstrated their support for our approach at the site level by allocating funds to support the natural resource management component of the project.

Madagascar

Madagascar is endowed with abundant natural resources and is rich in ecological diversity. The biodiversity of Madagascar is threatened by high rates of deforestation, unsustainable resource extraction, and other factors such as a high population growth rate. The population of Madagascar is amongst the poorest in the world and its ecosystem, despite its unique diversity, is at risk of destruction. A high birth rate (2.8%), combined with a low household income, contribute to environmental destruction and poor health conditions (high infant and maternal morbidity and mortality rate, malnutrition, and infectious disease).

1. Voahary Salama/Environmental Health Project (EHP)[27]

USAID/Washington's global Environmental Health Project (EHP) provided a great deal of support for Voahary Salama during its first five years. The purpose was to determine if

[27] Much of this information is drawn from the EHP final report for Madagascar: "Healthy People in a Healthy Environment: Impact of an Integrated Population, Health, Environment Program – Madagascar", revised final report, May 2005.

integrated activities achieved better results than if they were implemented separately. Integrated PHE activities target 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 is 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 concept, the environment is broadly defined to encompass the use of natural resources and natural processes, which include agriculture, forestry, and biodiversity conservation. Unsustainable population growth is one important treat to ecosystems; and offering reproductive choices as a critical program element not only reduces this threat but also improves women's and children's health.

The very nature of the integration of health, population, and environment programs requires a partnership among a range of organizations. In order to better coordinate activities among a range of organizations, EHP together with other projects supported by USAID and the Packard Foundation successfully established the Malagasy Voahary Salama Association, a partnership of organizations working on health, population, and environment in Madagascar. Voahary Salama assists its nine member NGOs to develop their capacity to better implement integrated activities. One of the components of this activity has also been the provision of funds to VS member NGOs to implement field activities.

The programmatic integration of PHE through a Household Food Security and Livelihood Concept was pursued for three reasons:

1. With high levels of poverty, food shortages and limited knowledge among the population bordering Madagascar's forest corridors people lack the incentives and skills to conserve natural resources.
2. Meeting people's needs and conserving the environment can only be attained by simultaneously implementing interventions in all PHE sectors. Focusing on one sector does not ensure benefits in another, especially in those communities located near endangered ecosystems.
3. The programmatic integration of PHE results in program outcomes in multiple areas because of synergies that increase program efficiency and effectiveness, something that single-sector approaches cannot achieve.

PHE interventions with Voahary Salama in Madagascar focused on 10 themes and within each on a few key interventions that lead to improved health, agricultural production, nutrition, and household income:

1. Smaller families: Contraceptive Prevalence Rate (CPR)
2. Child health: vaccination and vitamin A coverage
3. Disease prevalence (two-week): diarrhea, fever and ARI
4. Disease prevention through hygiene improvement and use of bed nets
5. Women's health: STD, HIV/AIDS, antenatal care, assisted deliveries
6. Children's nutritional status (stunted, underweight, wasted)

7. Year-round food security (agricultural production)
8. Improved natural resources management: Reported use of fire in agricultural activities (slash and burn). Reforestation
9. Community participation. Gender
10. Household livelihoods

Three social marketing and social mobilization approaches, which are based on an early adopter or innovator model, played a central role in achieving PHE results:

- Champion community (community target setting. monitoring and celebration)
- Child-to-community (increasing life-skills, school enrolment and attendance through PHE themes)
- Farmer-to-farmer (model farmers teaching others improved agricultural techniques)

Key Findings and Lessons Learned

Many of the key findings and lessons learned from the EHP support to Voahary Salama are drawn from the results of operational research largely financed and supported technically by USAID/EHP. The summary results of this research are found in Annex II.

1. The integration of health. population and natural resource management programs can achieve good results in each sector compared to programs implemented separately because of complementarities of interventions and programmatic synergies that occur when local NGOs work in partnership.

   This EHP final report for Madagascar compares the results from the baseline and post-interventions surveys to answer the question whether integrated activities are more effective. The community-centered and integrated PHE program achieved significant impact over a three-year period. Twenty-nine out of 44 key PHE indicators resulted in clearly higher outcomes in integration (24 statistically significant at the 0.05 level and five at the 0.1 level. all at a power of 0.8) than in non-integration communities as shown in the summary table below. Non-integration communities showed better results for only two indicators. For the remaining 13 indicators the evaluation methodology was a limiting factor and was not able to tell whether any differences between integration and non-integration groups existed. The non-integration sites saw improvements as well, but these lagged behind the integration sites for most indicators.

   Three results illustrate the impact of integrated PHE comparing integration to non-integration communities and baseline to follow-up surveys:

   - The contraceptive prevalence rate reached 17 percent in integrated communities in 2004 compared to 8 percent in communities without integration or about a 5 percent increase compared to 2001;

- The prevalence of moderate & severe chronic malnutrition (stunting) dropped by almost 6 percent from 2001 and was 5 percent lower in integrated communities (47 percent compared to 52 percent); and

- Tree planting increased by 12 percent from 2001 and was practiced by 70 percent of households in integrated communities compared to 58 percent in non-integrated villages.

The achievements of communities where activities were integrated compare favorably to those achieved by vertical sector programs. This is noteworthy for three reasons. First, results were achieved in multiple sectors, not just in a narrow subset of technical interventions. Second, without the integrated PHE program the underserved populations living around forest corridors would not have benefited form essential health and agricultural services. Third, these results were achieved at relatively low costs, rapidly, over a three-year period, and at scale reaching about 125,000 people. All this indicates that important synergies exist in an integrated approach that covers multiple sectors.

2. At the community level, people's choices related to PHE must be seen in the context of their livelihood and food security. Basic economic needs have to be met to maximize the impact of the interventions in PHE. Factors other than program interventions seem to play a major role in health outcomes. Based on the asset index included in the household surveys and field observations, the majority of households in the program area live well below the poverty line. Three in four households do not produce enough food to last an entire year, and cash income to supplement harvests is not readily available. Voahary Salama NGOs and other partners (for example, the USAID funded eco-regional conservation and development project) have promoted cottage industry and income generation. Data from two surveys, however, indicated that these activities are still at small scale level, and few families benefited from credits or were provided equipment to improve productivity.

3. The most cost-effective way to reach target populations at scale in ecologically sensitive areas is through local NGOs that have the interest in and capacity to reach these communities. Most ecologically sensitive areas are in remote locations and often NGOs are the only actors willing and interested in working in these areas, as is the case in Madagascar. Few governments have the capacity and resources to work in remote communities. The total population living along three major environmental corridors is estimated to be 500,000 people, living mostly in about 650 small communities under 1,000 inhabitants each. To date, approximately 25% of this population has been reached through integrated PHE activities that are implemented by nine NGOs.

4. Local NGOs offer a good return on investment. Except for one NGO all were small local organizations that implemented integrated PHE activities. These NGOs had an annual budget that varied between US $100,000 and $200,000 counting all sources compared to $1-2 million or more available to large donor funded programs. A larger beneficiary population in the same proportion does not necessarily accompany the

higher funding. With this modest funding small local NGOs achieved results for some key indicators such as contraceptive prevalence rates that compare favorably to larger donor investments in relative terms. For example, a 2 to 3 percent increase in CPR compared to 10 percent at funding levels that were lower by a factor of 10 to 20.

5. PHE integration is effective when actors stay focused on small doable actions. Although the aim was to limit community-centered and integrated PHE integrations to a few small doable actions, the NGOs addressed a relatively broad range of issues. Where efforts were focused on a few key integrations, often driven by available funding, the NGOs showed consistently better results. For example, family planning resulted in a greater number of women using contraceptives in all areas, but vaccination coverage did not improve as clearly or the indicator did not change as in the case of sanitation.

6. Different mechanisms can successfully implement integrated PHE. From the outset, the evaluation of the integrated PHE program in Madagascar had been designed as a natural experiment by comparing three different implementation modes: multidisciplinary teams within one organization (the gold standard); different health and environment teams within the same organization; and field agents from different sector specific organizations—health, agriculture, environment working together. While the two surveys showed clear differences between the three intervention modes, they all produced positive outcomes in some areas although not necessarily the same across all types. Available resources and organizational capacity can explain the differences in achievements.

7. Community-centered PHE fosters participation, especially by women. In integration communities women seemed to be more engaged in community groups and mobilization efforts, including in groups that are traditionally dominated by men such as farmers' associations. Women's participation increased by 4 percent in integration communities to 33 percent, while it decreased by 5 percent in the non-integration group to 26 percent.

8. Better government services make a difference and NGOs depend on it. Although higher levels were achieved for most indicators in integration communities, the non-integration group experienced at times substantial increases as well. This was especially true for services provided by government institutions such as health centers, which were often supported by donor projects. Better supplies of contraceptives through public providers, for example, benefited NGOs directly, because they procure contraceptives from government facilities. In other cases such as immunization NGOs may help public providers to increase outreach services. However, integration communities achieved substantially higher levels for two thirds of the key PHE indicators than the non-integration group.

9. The Evaluation Methodology has its weaknesses, but measures "real-life" synergies and is one of a few attempts to use a social science approach to measure the impact of PHE integration. Despite the methodological limitations, important differences between integration and non-integration communities were identified. Because the

comparison group included sector specific interventions in health or environment. the greater achievements by integration sites are likely due to synergies attributable to the integration of PHE activities. Due to these methodological limitations the true effectiveness of PHE integration was probably underestimated.

10. The Anosy region in southern Madagascar (Type 3.b) was identified as high-need and underserved area. Communities in the Anosy region performed lower for may key indicators than all other sites, often for both integration and non-integration sites. They also posted the lowest scores for indicators related to poverty such as the wealth index and the availability of soap. Knowledge about basic public health issues such as STDs and access to services seems lowest here as well. In part this may be explained by the absence of major donor funded projects in this area such as USAID that focus on such issues. However, where donors invest heavily, such as the World Bank nutrition project (SECALINE), which aims at reducing malnutrition, they seem to be effective, because it could explain why malnutrition rates seem to be lowest in this region. Given the poor socioeconomic situation in Anosy such a finding would otherwise be unexpected.

11. Successful integration at scale is dependent on the establishment of effective mechanisms for a range of partners to collaborate. The experience from the integrated PHE program in Madagascar has shown that NGOs can play a significant role in improving family planning and maternal and child health services and making improvements in agriculture and natural resource management for populations that are inaccessible and underserved. NGO support by donors and their projects in the form of direct funding and technical capacity building has been critical to the success of integrated PHE. As a result of being part of VS, these NGOs have increased their capacity to implement integrated activities and now see themselves as part of a larger effort. Future programs in the health and environment sector should consider expanding the roles of NGOs as a cost-effective way to rapidly cover difficult to reach populations in vast geographic areas with interventions that promise to have a health impact and protect natural resources and remaining ecosystems in the longer run. Bringing together all these partners in a collaborative effort is the only way that an impact at scale is possible.

2. Madagascar Green Health Communities (MGHC) project- John Snow Institute[28]

In June 2000, the Population-Environment Consortium (*Voahary Salama*) was created in response to the need for a concerted effort to address these problems. The MGHC Project, built upon *Voahary Salama* partners' strengths, was initiated in 2001 with a $2 million grant from the Packard Foundation to the John Snow Institute. The project is

[28] Much of this information is taken from the MGHC annual report for the period September 2003-August 2004 and from a presentation made to the review team in April 2005 by project director, Dr. Yvette Ribaira.

scheduled to end in September. 2005. MGHC used an integrated approach with social marketing techniques to increase community capacity to improve health status and food security using practices that also protect the environment along two endangered forest corridors. around Andohahela Park. and the dry forest.

MGHC project planners anticipated that the MGHC project would eventually be folded into Voahary Salama when it became a legal body in Madagascar and had developed the technical and managerial capacity to manage such a large program. Two of MGHC's eleven sub-grants were made to Voahary Salama. specifically to assist in organizational strengthening. The remaining nine sub-grants were all made to NGOs implementing 1-2 year field projects.

The purpose of the Packard grant was the promotion of integrated PHE programs that would complement and extend Voahary Salama initiatives. The target areas/population was primarily the 20% of population living in and around sensitive forest corridors.

The ultimate goal of the MGHC project is for the population to have improved health and nutritional status. live in a clean environment. and be able to effectively manage local natural resources in the zones peripheral to the rainforest. This goal reflects an overall aim to achieve equilibrium between population growth. economic growth and use of natural resources. The project and its partners focus their efforts on improving the management of natural resources and the economic conditions in targeted rural communities.

To achieve this goal. the project involves several different integrated approaches including social mobilisation. reinforcement of community partners. and social marketing- in particular the Champion Community approach which is reinforced by a radio programme. These integrated approaches increase the capacity of local communities and encourage them to take responsibility for their own health and food security, while adopting practices that also protect the environment. The results expected in the project proposal were "measurable improvements of the living conditions of the communities. reduction of population pressures and preservation of biodiversity.

The major strategic challenge was stated as: "to design and implement P-E activities in rural communities near areas of threatened and high biodiversity that are programmatically integrated from inception through implementation. The second challenge is to integrate these activities at the village level in a more cost-effective and less labor-intensive fashion than currently operating programs.

The intermediate results are:

1. Increased use of modern contraception:
2. Improved natural resources management;
3. Increased farmers' incomes and food security:
   Improved health status of local populations

The indicators chosen to measure success for this complex program are summarized in the chart below.

Health	Agriculture/ Incomes	Environment
1. CPR 2. Immunization coverage 3. Exclusive Breastfeeding rate 4. Vitamin A coverage rate	1. New agricultural techniques adoption rates 2. # conservation enterprises activities developed	1. # Resource management agreements implemented 2. % Species and ecosystems loss and converted

Specific targets were :

- By 2005, to increase Contraceptive Coverage Rate from 12% to 25%.
- By 2015, to develop 100 community management contracts protecting 60.000 hectares of forests and to reforest 6.000 hectares.
- To decrease the poverty index in project areas from 69,6% to 60% by 2005 and to 34.2% by 2015.

Implementation Strategies

Project activities involve an integration of social mobilisation and social marketing activities, in particular the Champion Community approach and the rural radio programme.

Social Mobilization: The central axis of social mobilisation activities is based on community responsibility and the process of peer education. Once community volunteers are identified and trained their role is to raise village awareness on integrated themes relating to health, population and the environment. These volunteers range from community health workers to nutrition educators, agricultural educators and general community mobilizers. Supplementary educational material has been designed to provide information and motivation for behaviour change and thus assist with the transmission of these health messages.

a. An Integrated Champion Community Approach is the main social marketing approach used by the MGHC program. It provides the opportunity for a community to take responsibility for its own development through participation. To ensure sustainability, the approach depends upon the transfer of knowledge and skills across the members of the commune. After a trial period in seventeen pilot villages (ten in Moramanga, seven in

Fianarantsoa), a follow-up evaluation led to a revision of the project aims and objectives. Then the project was extended to include five new villages in which ADRA is currently working in the region of Moramanga. The project has been effectively implemented at the level of the commune in twenty-four of thirty (24/30) concerned communes, eighty-six of ninety-five (86/95) fokotany (neighbourhoods) and one hundred twenty of one hundred and fifty-three (120/153) villages. The Champion Community Approach has therefore now evolved to become the Champion *Commune* Approach, reaching more of the population and receiving more attention.

b. *Children in the Community*: In response to feedback on the social marketing approach, in which inclusion of other techniques was requested, the "child in the community" strategy was launched and developed in the primary schools of the Community Approach regions. Teachers are trained and then include health and environment themes in their school programme, with the aim that the child will adopt the messages and pass them on to their parents. The messages are kept simple and cover hygiene, use and maintenance of latrines, wastewater management and garbage disposal, school vegetable gardens, and safe drinking water. When objectives are met and targets achieved there is a celebratory festival in the school.

c. *Villager-to-Villager Approach:* Based on previous research by Voahary Salama and the centre FAFIALA on the existing "paysan-paysan" (villager-to-villager) approach and the motivation of rural community residents, partner organization SAF/FJKM has implemented a system of peer education in the zones of intervention. Farmers test new methods and encourage other members of the community to use these methods to improve their agricultural production and ultimately increase family revenue. Experience has shown that peer education amongst the farmers and cattle raisers is effective and sustainable. They are trained and supported by technicians from the local partner NGO.

d. *Rural Radio*: In collaboration with The Dodwell Trust – Mitondrasoa, and the various partners in the project, the rural radio approach has been implemented in the targeted villages. Well regarded for its power to reinforce and consolidate community mobilization and social mobilization activities, the rural radio programme includes:

- Radio stations in the intervention zones;
- Radio programs on health and the environment;
- Creation of a training curriculum for the radio producers, radio broadcasters and group facilitators from the community listner groups;
- Training of radio producers and broadcasters in the stations in the intervention zones;
- Community listener groups in the villages of intervention identified in collaboration with local leaders and trained;
- Distribution of solar powered and wind-up radios in the villages;
- Broadcast of the health, environment, population "radio magazine" on national and local stations; the magazine has been broadcast on national channels since May 2004 and consists of roughly 50 programs per week;

- A validation committee comprising specialists in radio broadcasting, technicians from the relevant Ministries, members of the general public and communication experts from the partner NGOs verify each broadcast.

Major Objectives:

Increasing the Use of Modern Contraceptive Methods

The project and its partners have been working toward the national objectives to increase the contraceptive coverage rate from 12% in 2000 to 25%, stabilize the HIV/AIDS prevalence rate below 1%, and to reduce the prevalence of syphilis amongst pregnant women from 11% in 2002 to 5% by 2005 by:

- Reinforcing the capacity of community health workers (CHW) that specialize in family planning (FP) to improve the quality of their work and to improve morale and motivation. Currently, some 240 CHWs are operating in villages that are located far from a basic health care centre.
- These CHW are provided with contraceptives and condoms for the prevention of HIV/AIDS.
- A reliable system for provision of family planning products has been put in place.
- Technical advice and equipment is provided for the community health centre to ensure correct management of family planning products and the quality of services offered (monthly revenue, cold chain, product availability and essential medicines).
- Health record books for mothers in the target community, particularly for pregnant women, have been promoted.

Two hundred forty-four CHWs are currently operating in the project intervention zones. The health status conditions in the intervention zones do not differ from that of the national trends. Poverty is the norm, marked by an imbalanced diet, poor access to health care, no access to drinking water, lack of an adequate waste disposal system, and a lack of appropriate fertile land and appropriate tools. In order to contribute to the achievement national health goals, the project and its partners are focused on:

- Reinforcing the capacity of the CHWs by providing initial training and re-training, the surveillance of childhood illness, prevention of STD/HIV/AIDS, preventive treatment of malaria and diarrheal disease, hygiene education , management of household waste, de-littering and cleaning of villages, and promoting exclusive breast feeding
- Reinforcing the managerial capacities of the local committees in charge of providing drinking water and protecting the water sources.
- Making social marketing products available to the community, such as water treatment (Sur'eau), treated mosquito nets, condoms, seeds, weighing scales for following growth charts in targeted children, health record cards.
- Installation of water pumps and latrines in collaboration with specialist partners

- Involvement of public services at all levels in the adoption and implementation of integrated « Health-Population-Environment » approach within a rapid but durable development plan for the target communities.

During year 4 the transfer of knowledge, practice and management of the infrastructures will be prioritised in the communes and the communities concerned. This will involve reinforcing the capacity in the commune for management of resources and creating a development plan and equally the follow up and collection of data which will be carried out with collaboration with the Minister of Decentralisation and the research bureau Entr'aide.

Improving the Management of Natural Resources

In view of the lessons learned and the experiences gained from the previous years, the focus of project activities is centred on protection of the environment and conservation of natural resources. Where the activities that protect the environment are based on alternative agricultural production and alternative methods for generating income (SRI/SRA, cultivating kasava, corn or potatoes, ginger, fish farming, bee farming, traditional arts and crafts), conservation activities have been developed as part of the process of transferring the management to renewable resources. This is either in the form of the Forest Management Contract (CFM) for the forest resources or the Local Management Security (GELOSE) for both land and marine resources. The project involves:

- Participation in annual reforestation campaigns at the national level by partners from the commune and local communites
- Peer education with respect to improved home management where people from the countryside in Koloharena have been trained to construct these improved homes
- Assisting local organizations in the implementation of improvement strategies and simple management plans once the CFM and the GELOSE have been signed
- Reinforcing the capacity of the rural countryside associations in the management of their revenue generating activities and ensuring adequate infrastructure is put in place
- Follow up of activities by the partner NGOs.

Improving Household Revenue and Food Security

In general, the target populations are based in rural settings within protected zones. Poor access to fertile soil, problems linked to irrigation management, use of traditional and artisanal agricultural techniques, and the lack of mechanical tools in the community, all act as a strong destructive force on the forest environment. The main products are rice, cassava or corn and the production is for self consumption, covering roughly three to four months of the household nutritional requirements. To combat these problems, the populations have been organized into countryside collectives such as Koloharena.

Associations of water users (AUE). Associations of trail users (AUP) and women's groups. The project has facilitated:

- training in new production techniques: SRI/SRA, rice-fish farming, vegetable allotments, farming on slopes by using a tiered system, ecological farming using organic fertilizers, and the protection of the soil with anti-erosive plants
- access for new farmers to mechanical equipment and to micro-finance credit in the form of equipment and material (seeds, beehives, spades, watering cans, fishing nets)
- development of revenue generating activities
- Reinforcing the management capacity of local community based organizations so that they can adopt production techniques that respect quality standards
- Efficient management of economic activities and infrastructures
- Exploring potential viability for the activities developed.

Results to date:

The final results of the overall program, including its eleven sub-grants, will be provided in late 2005. Interim results provided in the fourth annual report and in the March 2005 presentation include the following:

- 46.7 % Use of bed nets (N = 2056)
- 10 % Use of Treated bed nets (n = 96/960
- 22.9% of mothers exclusively breastfeeding 0 - 6 months. (N = 938)
- 21,3% of households using Sur'eau (bottled water):
- 79,2% of households using boiled water: (N = 1467)
- 57 water pumps built
- 6 wells built (usually with Peace Corps assistance)
  30% household access: to clean water (N = 2518)
- 11,500 health cards distributed
- 9,500 health pamphlets distributed
- 8 new radio stations established
- 40 of a planned 52 special PE radio programs designed and broadcast
- 1715 Community volunteers trained
- 410 radio listening groups established
- 460 solar and crank radios provided
- Improved rice cultivation: accepted by 13% more farmers
- (N=1677)
- Fish cultivation newly carried out by 189 farmers
- 250 new bee hives for 332 farmers
- 300 Tons of ginger produced annually by 1620 households
- Leadership training provided to 20 participants and 16 institutions
- Resources management training provided to 20 participants representing 10 NGOs

Institutionalization of Voahary Salama

The approach of Voahary Salama has always focused on financial maintenance and administrative functions, by reinforcing the capacity of partner NGOs and their partners and in provision of financial aid for the various sub-projects. The project has provided training to the leaders of the NGOs and the partner ministries on communication and management. Also two NGOs attended training on communicating research results in a political environment and the links between health, population and environment, organized by the Population Reference Bureau and The Institute of Resources Assessment in Tanzania.

In collaboration with Voahary Salama, the Ministry of Population, of Health, of Family Planning, of the Environment, the Waters and Forests and of Decentralisation, and Emerson University, the project has begun to disseminate best practices and share experiences, by diffusing a film in three languages, English, French and Malagasy on the Community Champion Approach as a useful rural development tool.

It is not yet clear how Voahary Salama will survive financially without continued USAID and other donor funding. Member NGOs are quite small and financially weak and reasonable fees assessed to these NGOs would not cover the costs of the large Voahary Salama staff. Voahary Salama leadership and member organizations are now debating the future course of the organization. Should it become a grant seeking and project implementing organization, much like its member NGOs? Or if it would perform the functions of PE/PHE advocacy, NGO support and fundraising as an umbrella organization, could it survive financially? Few such umbrella organizations can be found in countries where P and E are both high priority issues. A final question now being discussed by Voahary Salama, its member NGOs and donors is whether the organization has the proper staff skill mix to carry out any or all of these organizational options.

3. Successful Communities from Ridge to Reef - World Wildlife Fund[29]

This three-year activity was approved for USAID funding in 2003 as part of a three-project proposal. Other WWF activities were to be carried out in Kenya and the Philippines. This three-year program is managed by WWF's Population, Health, Gender and Environment Program, located in the Ecoregion Support Unit in WWF headquarters in Washington, DC. The Madagascar site operates with about $100,000 in USAID funding available over a three-year period.

The Madagascar activity, known locally as Aly Maiky, is focused on the Spiny Forest region of southern Madagascar and is carried out in partnership with ASOS (Action Sante Organisation Secours), a very experienced and well known Malagasy NGO, previously

[29] Much of this information is drawn from WWF reports to USAID for the Successful Communities from Ridge to Reef cooperative agreement, specifically the Performance Monitoring Plan and Work Plan dated January 2005, as well as from site visits by the review team and interviews with WWF officials.

known for its strong health and relief programs in southern Madagascar. The USAID-funded activities have been identified in the government's ecoregional Conservation Plan for the spiny forests of Madagascar. Also, the WWF project work is done within the wider framework of the Voahary Salama PHE/PE program umbrella (also USAID supported). The program hopes to gradually expand to cover Moist Forest ecoregions of Madagascar, as well.

The provision of health service, including family planning services, meets some of the more immediate demands of local communities surrounding formally established Protected Areas (Pas) as well as other ecologically vulnerable areas. This "door opener" strategy, using health services as a "lead-in" to build trust and longer term relationships with local communities, has been adopted by WWF for all of its work in southern Madagascar. Also, WWF has added basic education and literacy activities to its portfolio in this area, because the very low level of literacy has hampered community capacity to absorb and then propagate both health and environmental messages.

The objectives of the activity are spelled out in a series of results chains that relate FP, RH and integrated PHE interventions to conservation outcomes. Key objectives are:

- Implement community-based population-environment programs in villages adjacent to biologically important forest areas in the Spiny and Moist Forest Ecoregions using a participative approach.
- Strengthen local capacities for implementing population and environment programs.
- Develop appropriate educational programs and tools that make the links between population issues, health, and the sustainable management of natural resources.
- Initiate population-environment work in the Moist Forest Ecoregion

Specific indicators of success will be:

- Number of sites where FP is integrated into WWF projects
- The CPR for each site
- Numbers of CBD's trained and operational
- Percentage of households adopting fuel saving stoves
- Number of trees planted
- Number of community-based FP services integrated into the government system
- Resources leveraged for FP/RH from the MOH for priority areas.

First year activities included completion of a baseline survey, participatory rural appraisal studies in all 22 target villages. After these initial steps, a detailed work plan was developed and community-based distributors of family planning commodities were identified and trained. Leaders of communication groups were also identified who will lead "listening groups" to discuss a series of PE/PHE radio messages, established with support of the Packard MGHC program. The WWF activity has also established links with PSI and the MOH to ensure a substantial flow of supplies and contraceptives to the target communities. In addition to family planning activities, the project works with

traditional birth attendants and the CBD agents to promote prenatal care and it has created new community pharmacies where needed.

The activity also addresses environment issues including the rational use of firewood (the introduction of fuel-saving stoves), tree planting and the planting of grasses and small trees for vegetative cover. In addition, the activity will support local community efforts to gain community control over forest resources, via the government's GELOSE program.

The project is being implemented in exceedingly difficult terrain. Most target villages are quite isolated, reachable only by 4WD vehicle after 3-6 hours of driving. These cattle-based communities also retain very traditional customs, including male domination of most decision-making groups. Although the WWF/ASOS partnership appears strong, the activity appears to be off to a slow start with only modest results during the first half of the three year program. A project extension will almost certainly be needed to achieve significant results in such expansive and difficult terrain.

WWF states that while this integrated program, working in partnership with a strong health NGO, began with a "door opener" philosophy, the program is now a truly integrated program, with integrated training and integrated service delivery provided by both ASOS and WWF technical staff. WWF and ASOS also report that they are quite pleased and surprised with the relatively high demand for family planning services and commodities in this isolated region. Finally, WWF and ASOS are learning that, even in these desolate, remote areas, in-migration is occurring and is putting additional pressure on the natural resource base of the region's protected areas.

ANNEX II. VOAHARY SALAMA/EHP RESEARCH RESULTS TABLE

Summary of 44 Key Population, Health and Environment Indicators

Comparison between 2001 baseline and 2004 follow-up surveys* and between integration and non-integration groups†

Indicator	Int. 2001	Int. 2004	☑	Non-int. 2001	Non-int. 2004	☑	Notes (increase from '01-'04, highest/lowest '04)
Smaller families: Contraceptive Prevalence Rate (CPR)							
Contraceptive prevalence rate: all modern methods (all women 15-49)	11.7	16.8	☑	2.4	7.6		Large increase in Type 1(I)
Contraceptive prevalence rate: injections (all women 15-49)	5.9	9.0	☑	2.4	3.6		Lowest in Type 3.b(I/NI)
Contraceptive prevalence rate: pills (all women 15-49)	4.8	6.4	✓	0.0	3.6		Lowest in Type 3.a(NI) and Type 3.b(NI)
Knowledge about family planning	76.9	78.9	☑	63.2	58.9		Lowest in Type 3.b(I/NI)
Child health: vaccination and vitamin A coverage							

Indicator	Int. 2001	Int. 2004	☑	Non-int. 2001	Non-int. 2004	☑	Notes (increase from '01-'04, highest/lowest '04)
Children 12-23 months fully immunized before 12 m (N=114,180)	51.2	58.7		37.4	56.2		Highest Type 2(NI), Lowest Type 3.b(NI), Sig. increase NI
Child has a health card	79.2	82.5		73.5	77.0		Highest in Type 1(I) Lowest in Type 3.b(I/NI)
Vitamin A received during past 6 months	41.2	59.8	☑	44.2	48.4		Highest in Type 3.b(I) Lowest in Type 3.b(NI)
Caretaker heard about child health and nutrition	68.0	69.7	☑	58.5	56.1		Highest in Type 3.a(I) Lowest in Type 3.b(NI)
Caretaker source about child health: village motivator, health agent, group	52.9	73.6	✓	23.5	64.1		Highest in Type 3.b(I) Lowest in Type 2(NI)
Disease prevalence (two-week): diarrhea, fever and ARI							
Diarrhea prevalence (2 week)	14.1	23.0		16.1	25.2		Very high in Type 3.b(I/NI)
Fever prevalence (2 week)	47.0	40.0		45.0	29.9	☑	Highest in Type 3.a(I/NI)
ARI prevalence (2 week)		12.8			15.3		Highest in Type 3.a(NI)
Disease prevention through hygiene improvement and use of bed nets							
Access to an improved drinking water source	19.1	24.6	☑	2.6	13.6		Large increase in Type 2(NI)
Use of Sur Eau	10.1	3.7		5.5	2.3		
Use of an unimproved toilet facility	52.1	50.2	☑	36.4	34.2		Large increase Type 1(I). Lowest Type 3.b(I/NI)
Soap available Soap used in last 24 hours		67.8 91.0			66.2 87.7		Lowest availability and use rates in Type 3.b (I/NI)
Slept under a Bed Net: Women Last night Children		48.0 41.0	☑		29.8 22.5		Highest in Type 3.a(I)
Women's health: STD, HIV/AIDS, antenatal care, assisted deliveries							
Women 15-49 who had heard about STD	63.2	77.5	☑	64.0	65.5		Lowest in Type 3.b(I/NI)
Source of STD knowledge Village Motivator of Village Health Agent		41.4	☑		28.9		Lowest in Type 3.c(NI), TV most common Types 1&3.a
Women 15-49 who know about HIV/AIDS	84.8	82.9	☑	83.4	76.4		Lowest in Type 3.b(I/NI)
Source of HIV knowledge Village Motivator of Village Health Agent		41.8	☑		30.1		Lowest in Type 3.c(NI), TV most common Types 1&3.a
Women 15-49 who know about condoms to prevent STD	31.6	56.4	✓	14.8	47.8		Lowest in Type 3.b(I/NI)
Women 15-49 who know about one sexual partner to prevent STD	46.9	66.1	☑	48.9	50.0		Lowest in Type 3.b(I/NI)

Indicator	Int. 2001	Int. 2004	☑	Non-int. 2001	Non-int. 2004	☑	Notes (increase from '01-'04, highest/lowest '04)
Women 15-49 who know about abstinence to prevent STD	3.2	7.4		3.7	7.8		Highest in Type 3.a(I) Lowest in Type 1(I)
Women 15-49 with a health card	76.4	83.7	☑	72.9	73.6		Lowest in Type 3.b(I/NI)
Women 15-49 with 1 birth having at least 4 or more ANC visits	30.9	48.3	☑	28.7	32.0		Lowest in Type 3.b(I/NI)
Women 15-49 received at least 2 TT vaccines during last pregnancy	45.0	46.5		37.1	42.5		Lowest in Type 3.b(I/NI)
Last delivery by trained personnel	51.7	61.0	☑	48.8	46.8		Lowest in Type 3.b(I/NI)

Indicator	Int. 2001	Int. 2004	☑	Non-int. 2001	Non-int. 2004	☑	Notes (increase from '01-'04, highest/lowest '04)
Children's nutritional status (stunted, underweight, wasted)							
Prevalence of moderate & severe stunting (z<2SD)	52.4	46.9	✓	46.3	51.9		Lowest in Type 3.b(I/NI)
Prevalence of moderate & severe underweight (z<2SD)	46.2	40.2		37.6	40.5		Lowest in Type 3.b(I/NI)
Prevalence of moderate & severe wasting (z<2SD)	10.4	10.4		6.0	10.4		
Year-round food security (agricultural production)							
Food security for an entire year	15.5	21.9		14.9	27.5		Increase 01-04 sig. for I&NI Highest 2(I/NI) Lowest 3b(I)
Improved natural resources management: use of fire in agriculture, reforestation							
Slash and burn agriculture admitted	51.8	22.5		65.1	24.2		Highest in Type 2(I/NI)
Household head knows soil degradation as effect of slash & burn	61.8	68.3	☑	46.4	57.6		Lowest in Type 3.b(I/NI)
Household head knows loss of biodiversity as effect of slash & burn	17.8	15.4	☑	18.2	9.5		Highest in Type 3.a(I) Lowest in Type 3.b(NI)
Household head knows fire block as preventive measure against fire	65.5	69.6	☑	67.8	47.0		Lowest in Type 3.b(NI)
Household head knows DINA as preventive measure against fire	9.8	17.1		6.5	29.8	☑	Highest in Type 3.b(NI) Lowest in Type 3.b(I)
Household head knows law about forest use	63.6	63.0	☑	57.0	51.0		Lowest in Type 3.b(I)
Eucalyptus tree planting practiced	58.4	70.2	☑	41.7	57.7		Highest in Type 1(I) Lowest in Type 2(I/NI)
Participation in agricultural training	26.7	37.0	☑	24.2	32.3		Significant increase in (I) between 2001 and 2004
Visit by agricultural extension agent	22.4	31.1	☑	21.2	24.2		Highest in Type 3.b(I) Lowest in Type 3.b(NI)
Community participation, Gender							
Women's membership in community groups	29.5	33.2	☑	31.0	25.8		Largest drop in Type 2 (I/NI)
Most frequent groups joined:							Highest Type 2 (I/NI), 3.b(I)
- Women's group		31.7			28.2		
- Village development association		29.4			25.4		Highest in Type 2 (I)
- Farmers' group (Kolo Harena)		21.6			26.8		Highest in Type 3.a(I/NI)
Frequency of group meetings weekly or monthly		56.2			53.5		Highest in Type 3.b(I) Lowest in Type 1(I)
Attended last: during past month		42.4			49.2		Past quarter includes past month attendance
Meeting during past quarter		59.9			64.7		

Indicator		Int. 2001	Int. 2004	☑	Non-int. 2001	Non-int. 2004	☑	Notes (increase from '01-'04, highest/lowest '04)
Women members of groups and participated in community mobilization			36.2	✓		25.4		Highest in Type 3.a(I) Lowest in Type 3.b(NI)
Most frequent type of mobilization:								
- Environmental campaign			32.8			22.2		Highest in Type 3.a(I)
- Health campaign			21.1			38.9		Highest in Type 3.a (I/NI)
- Festival			17.1			11.1		Highest in Type 2(I)
Household livelihoods								
Wealth Index:	Lowest tercile	30.0	30.0		39.0	39.0		Highest index and increase in assets in Type 1(I). Lowest in Type 3.b(I/NI)
	Middle tercile	31.0	31.0		37.0	39.0		
	Highest tercile	39.0	39.0		24.0	23.0		

* Surveys done by DDSS/INSTAT under contract with EHP and Association Voahary Salama
† Int. = PHE Integration Group (I) – Non-int. = Non-PHE integration Group (NI) – Sig. = statistically significant
☑ 2004 results favoring integration or non-integration communities at $p \leq 0.05$ level of significance and power=0.8
✓ 2004 results favoring integration or non-integration communities at $p \leq 0.10$ level of significance and power=0.8

Where not indicated statistical tests did not allow a distinction

ANNEX III. LIST OF KEY INFORMANTS

I. Packard Foundation

Sarah Clark, Director Population Program
Jim Leape, Director, Conservation and Science Program
Don Lauro, Program Officer, Population Program
Bernt Cordes, Program Officer, Conservation and Science
Sergio Knaebel, Program Officer, Conservation and Science
Kathy Toner, Population Office
Wendy Philleo, former Program Officer, PE Initiative
Mark Valentine, former Program Director

II. Packard or USAID Grantees:

Conservation International: Janet Edmond, Susan Stone, Jason Berry
Jane Goodall Institute: Lisa Pharoah, Alice Machara, George Funden
John Snow Institute: Nancy Harris, Elaine Rossi
J.K. Ledesma Foundation: Billy Tusalem
Path Foundation Philippines: (see Philippines list)
Population Action International: Robert Engelman
Population Reference Bureau, Roger-Mark De Souza
Pronatura Chiapas: Rosa Maria Vidal
World Neighbors: Cat McKaig, Renee Lucera, Stefan Wodicka
World Wildlife Fund: Judy Braus, Judy Ogelthorpe, Kara Honzak

III. Foundations

Summit: Suzanne Petroni
Turner: Cecile Richards (ex-Turner program officer)
Hewlett: Nicole Gray
MacArthur: Michael Wright
Weeden: Don Weeden
Prospect Hill: Megan Quitkin
Susan Gibbs, ex-Summit and consultant to foundations
Liza Grandia, Board chair, Pro-Peten

IV. Donors

David Hess, Director, Office of Environment, USAID
Margaret Neuse, Director, Office of Population, USAID
Tom Outlaw, Population-Environment Program, USAID
John Borazzo, CTO, Environmental Health Project, USAID
Tom Merrick, World Bank Institute and former Population Policy Advisor
Eckard Kleinau, JSI and ex-Environmental Health Project

V. Philippines trip

USAID/Philippines

Carina Stover, Health/Population Team Leader
Dan Moore, Natural Resources Team Leader
Rene Acosta, Natural Resources Officer

Grantees

Joanne Castro, Director, PATH-Philippines
Leona D'Agnes, Senior Technical Advisor, PATH-Philippines
Ricky Fernandez, Policy Advisor, PATH-Philippines
Rene Lucero, World Neighbors/Philippines
Stefan Wodicka, World Neighbors/East Asia
Billy Ledesma, JKLedesma
Naidz Pasion, Director, SAVE/Philippines
Norma Pongan, Director of PESCO/DEV, SAVE

Others:

Michael Tan, Packard Foundation Liaison
Romeo Trono, Director, Conservation International/Philippines
Florencio Barangan, DENR program director
Marco Carreon, COP FISH project
Allan White, Technical Director, FISH project
Ramon San Pascual, Executive Director, PLCPD
Glenn Paraso, PRRM/Chemonics
Ed Tongson, Director, WWF/Philippines
Luce Castina, WWF/Philippines
Maria Pulgar, UNFPA (phone)
Dr. Nene Nava, Mayor, Jordan, Guimaras
Dr. Raul Banias, Mayor, Concepcion, Iloilo
Dr. Jeff Rojas, Mayor, Ajuy, Iloilo
Sergio Amora, Mayor, Candijay, Bohol
Arleigh Sitoy, Mayor, Gilutongan Island
Romy Terrel, Chief of Staff of Governor of Bohol
Dr. Helen Minguez, Municipal Health Officer, Concepcion
Dr. Thomas Osias, Director, Population Commission

VI. Madagascar trip

USAID/Madagascar

Wendy Benzaraga, Health/Population team leader
Lisa Gaylord, Environment team leader
Lynne Gaffikin, Population-Environment Fellow
Jennifer Talbot, former Population-Environment Fellow
Mike Park, Health Officer

Dr. Noe Rakotondrajaona, Health Officer
Daniele Raik, Environment Officer
Zoelimalala Ramanase, Environment Officer
Benjamin Andriamitantsoa, Health Officer

Grantees

Dr. Yvette Ribeira, Director, MGHC/JSI
Dr. Jeannot Ranarivelo, MGHC technical advisor
Jose Ranaivosonina, MGHC contract officer
Raymonde Rakotomaniraka, MGHC administration officer
Dr. Rahelimalala Robertine, JSI RTI – Madagascar representative
Dr. Bezaka Bosco, Regional Coordinator, MGHC
Dr. Nivo Raderandraibe, MGHC, Rianarantsoa
Dr. Harinesy Rajeriharindranto, Regional Coordinator, ASOS
Dr. Odile Michele Randriamananjara, Exec. Dir. Voahary Salama
Clement Marie Randriatelomanana, Tech. Dir. Voahary Salama
Andriamandrato Razafimandimby, Board President, Voahary Salama
Louis Joseph Rajohnson, Voahary Salama
Denis Ramahefaharison, Voahary Salama

Partners:

Philippe Lemay, Sante Net Chief of Party
Mamy Randriamboavonjy, Sante Net
Claudine Ramiarison, SAGE Executive Director
Naritiana Rakotoniaina, SAGE Tana
Haingolalao Rasolonirinarimanana, SAGE Antsiranana
Jean Marcellin Randriatsitohaina, SAGE, Antsirnanana
Ranivoarinosy Rasoamiaranirina, SAGE Fianarantsoa
Rija Ranaivoarison, WWF Program Officer
Jean Paul Paddock, Director, WWF/Madagascar
Dr Sedy Ramiandrisoa (ASOS Tuléar)
Dr Mbasalala (ASOS - Dry Forest)
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Samantha Caremon, Ny Tanintsika
Nathalie Raharilaza, Ny Tanintsiks
Dr. Ravaka Ranivoarianja, Pact/ Madagascar
Liva Rajoharison, MICET
Eleonore Rahariniarivo, Dodwell Trust
Oliva Rakotobe, Tany Meva Foundation
Bodo Rakotomalala, PSI.
Josea RAtsirarson, MCDI
Mark Freudenberger, Eco Regional Interventions –COP
Diamondra Razaivaovololoniaina, AINGA

Others

Jean Angelin Randrianrison. Minister of Decentralization
Abdou Salama. Monitoring Director. Ministry of Decentralization
Pascal Razafimahatratra. Fiscal Dept. Ministry of Decentralization
Jean Claude Rabemanantsoa. Inspector General. Ministry of Environment
Joelina Rakotosalama. Provincial Dept. Ministry of Environment
Zafilaza. Minister of Population
Brigete Lalasoa Randrianasolo. General Director. Ministry of Population.
Dr. Eugenie Rasamihajamanana. Family Health Dept. Ministry of Health
Dr. Henri Ravelomanantsoa. Provincial Health Dept. MOH
Dr. Victor Ramantsoa. Provincial Health Dept. MOH/Tulear
Harifidy Ramilison. Chef de Region - Anonsy
Jean Michel Dufils. Director. PACT
Helen Crowley. Director. Wildlife Conservation Fund
Jean Pierre Marshande. Health officer. World Bank
Tom Friedeberg. CARE
Jennifer Loucks. Health Advisor. CARE
Jonahan Annis. Peace Corp Voluntere. Ikongo

Tolongoina Commune visit

Ratovonelina (Tolongoina Commune Mayor)
Gilbert (Deputy Mayor – Tolongoina Commune)
Evariste Zafimbara (Communal Committee President)
Jean Baptiste Rajaona (Communal Development Committee President)
Velotia Louis de Gonzague (Sous-prefet – Ikongo District)
Lala (Health animator – Tolongoina Commune)
Joseph Ignace Randriamaharavo (Agriculture Technician – ERI).

Manapatrana Commune Workshop

Ramarivelo André (Deputy Mayor – Manapatrana Commune)
Aimé Gilbert Ramamonjisoa (Mayor – Maromiandra)
Henri Rajaonarivelo (Deputy Mayor – Ikongo Commune)
Philibert Norovelo (Mayor – Ambatofotsy Commune)
André Randrianjaka (Ambolomadinika Commune)
Velotia Louis de Gonzague (Sous-prefet – Ikongo District)
Seven traditional authorities from Manapatrana Commune
Edmond Raveloson (Agriculture technician – AINGA).

Regional partners meeting

-Lydie Emma Ranorosoa (Development Regional Committee President)
-Rosalie Razafindranivo (District of Health – Fort-Dauphin)
-Frédérico Rakotomanga (Anosy UADEL – Chief of Party)
-Malala Tiana Razafimandimby (CARE – Senior Technical Advisor)

-Willy Rasamoelina (CARE – Senior Technical Advisor)
-Nivo Ranaivoarivelo (CARE – Senior Technical Advisor)
-Jean Philippe Jarry (CARE – Trainer – Programme Sud)
-Edmond Randrianirina (WWF – SR Coordinator – Tuléar)
-Flavien Regara (WWF – Androy Coordinator)
-José Andrianisa (WWF – Fort-Dauphin Coordinator)
-Rejela Razakanjoelina (ANGAP – Andohahela National Park Director)
-Jean Fidèle (Deputy Mayor – Fenoevo Commune)
-Jean Pierre Maka (Deputy Mayor – Ankariera Commune)
-Dr Sedy Ramiandrisoa (ASOS – Tuléar)
-Petula (ASOS – Isaka)
-Thérèse Olga (ASOS –Ranomafana)
-Venance Randrianambinina (ASOS – Tanandava)
-Jean S. Randriamanarivo (ASOS – Ifotaka)
-Dr Héron Rakotovelo (ASOS – Nutrition Team leader)
-Dr Holy Andriamitantsoa (ASOS – Supervisor)
-Jeanne Rasoanandrasana (ASOS – Development and Environment team leader)
-Dr Odette Razoarivelo (ASOS – Supervisor)
-Yves Rakotoarison (ASOS – Monitoring and Evaluation)
-Solondraibe Randrianarivo (ASOS – Administration and Finance Officer)
-Philippe Rakotomalala (ASOS)
-Dr Harinesy Rajeriharindranto (ASOS – South Regional Coordinator)
-Mamy Botralahy (FAFAFI – Technical supervisor)
-Clément Marie Randriatelomanana (Voahary Salama)

Site visit: Tsimelahy - Ankariera

Jean Pierre Maka (Deputy Mayor – Ankariera Commune)
Clarisse (CBD Agent)
Martine (matron)
Gervais Monja (Local teacher)
Mahavelo (Chief of village)
Phlomène (ASOS – Tsimelahy)

Site visit: Ankiririky – Behara

Pierre Rakotovao (Mayor – Behara Commune)
Vondraza (Chief of Fokontany Ankiririky)
Todiarivo (Comité Local de Développement Intégré – Tanambao)
Tsiafara (Président des parents d'élèves)
Claudia (ASOS – Ankiririky/Tranomaro)
Seven CBD Agents

ANNEX IV. TERMS OF REFERENCE

USAID's Office of Population and Reproductive Health's (PRH) Population-Health-Environment (PHE) program has expanded its field presence in response to legislative language originally included in the FY02 Foreign Operations Appropriations bill – and repeated in the FY03, FY04 and FY05 bills – stating that under the Child Survival and Health Programs Fund, "...$368.5 million [be allocated] for family planning/reproductive health, ***including in areas where population growth threatens biodiversity or endangered species.*** " In addition, successive editions of the accompanying Manager's Report include language that "***urges USAID to develop performance goals and indicators which promote cross-sectoral collaboration"*** on PHE programming.

To that end, PRH has worked to develop PHE collaborations with USAID's bureaus and Missions as well as with private donors including the Packard Foundation, Summit Foundation and the Critical Ecosystem Protection Fund. USAID's PHE program focuses on biodiversity *hotspots* – often in national parks and protected areas – focusing on the communities that live in and around them. The central hypothesis for integrating family-planning and natural-resource-conservation activities into community-based projects is that the synergies produced from integration will make these interventions more effective and sustainable than if they had been pursued in a vertical, sector-specific fashion. The other underlying assumption is that, in certain contexts, providing family planning services and information is an effective means of achieving conservation outcomes, both directly by reducing demographic pressure and indirectly through improving community health and responding to community needs.

The synergies generated through integration result from a better understanding of how interactions among population growth, human health, and the environment affect communities located in areas heavily dependent on natural resource use and extraction and where biodiversity is threatened. In fact, environmental factors and health consequences overlap directly: poor environmental quality and high fertility adversely affect people's ability to lead productive lives and to use natural resources in a more sustainable way. Existing community population and health programs also provide an entry point for protecting both the environment and health—often resulting in programmatic synergies that can provide economies of scale and scope.

Context for Joint Packard-USAID Program Review

Since 2002, USAID's Population-Health-Environment (PHE) program has provided co-funding for PHE projects also supported by the David and Lucille Packard Foundation's Population-Environment (PE) Initiative. USAID has also separately funded PHE projects in countries where Packard's PE Initiative has operated (e.g., the Philippines and Madagascar) as well as in other countries (e.g., Kenya, DRC). The Packard Foundation recently commissioned a five-year review of its PE Initiative (attached) that will focus on answering three key questions:

1) What are the likely long-term impacts of this Initiative on funding and the field of Population-Environment?
2) What results have been achieved by projects implemented under the Initiative? and:
3) What lessons have been learned that may be of broader use to the Foundation, other donors, and the field as a result of implementing this Initiative?

The purpose of this Scope of Work is to provide complementary funding to facilitate the Packard Foundation's review of projects jointly-supported by Packard and USAID and to add to the review additional USAID PHE projects not supported by Packard's PE Initiative and additional questions for the program review. Specifically, this Scope focuses on a review of the following PHE projects:

Country	Project/NGO	Funding Source	Additive to Packard Project List?
Philippines	IPOPCORM/PFPI	USAID and Packard	No
Philippines	PESCO-DEV/SAVE	USAID and Packard	No
Philippines	Sierra Madre Biological Corridor/Conservation International	USAID	Yes
Madagascar	Environmental Health Project/Voahary Salama	USAID	Yes
Madagascar	Spiny Forest Ecoregion Project/WWF & ASOS	USAID	Yes
Madagascar	MGHC/JSI	Packard	No

Framing Questions for the Review

In addition to the areas of inquiry identified by the Packard Foundation (see above and attachments), the review should address the following additional key questions for USAID:

Overall

- Under what conditions (incl., demographic, ecological, logistical, political, organizational/managerial, socioeconomic, cultural) are integrated PHE projects most warranted and most likely to succeed? Who (organizations/sectors) are the key drivers of PHE integration?

- To what extent have the PHE projects achieved the objective of improving access to family planning and reproductive health services in areas where population pressure threatens biodiversity or endangered species and at what scale? Assess the quality and quantity of data available to answer this question.

Best Practices for PHE Program Improvement

- What specific interventions, implementation approaches (including social marketing and community mobilization) and outcomes are addressed by various integrated PHE projects, and what are common elements and main differences among programs? Should some components within the strategy have received greater emphasis than others?
- What conclusions can be drawn regarding the ability of conservation-focused organizations to forge effective partnerships for family planning service delivery?
- Based on the PHE programs in the review, what ideas emerge for developing effective cross-sectoral collaborations across diverse issues areas (e.g., health, conservation, agriculture/NRM, governance, gender and education, income generation/poverty alleviation) within USAID, private, multi-lateral and other donor communities.
- What opportunities are there for fostering a more supportive environment for funding PHE programs through, for example, donor education, policy advocacy, public education, academia and policy/regulatory frameworks?

Monitoring and Evaluation

- To what extent have these projects been able to test the central hypothesis that interdisciplinary interventions are more efficient and effective than non-integrated, single-sector approaches? What have they concluded? Assess the quality and quantity of data available to answer this question.

- Are methods and processes in place that will show to what extent and in what ways the non-conservation services provided by PHE programs – especially family planning services and other health-related activities but also livelihood and other activities – will help achieve conservation outcomes? What is the scale and timeframe within which such an impact can be documented by various projects?

- What are the principal methods used by PHE projects to measure program effectiveness, sustainability and scale, and how can monitoring and evaluation of integrated PHE programs be improved? Are integrated indicators essential to measuring PHE program synergies or will single-sector indicators suffice?

Methodology

The review will be external and will be conducted through a subcontract awarded by the Population Reference Bureau, which had no involvement or input into the drafting of this scope of work. **The timeframe for the review is January-June 2005, with a final,**

separate report addressing the questions included in this scope of work due to PRB by July 1, 2005.

The methodology for this review will include both "desktop" reviews of key program documents and interviews with key donor and grantee staff, as well as site visits to the countries and projects identified on page 1. The purpose of the field visits is to conduct "ground truthing" interviews in-country, to collect program data and other information at the site level, and to gain a better understanding of the local context for PHE interventions. The review should identify common principles and elements of integrated PHE, and both the strengths and weaknesses of each PHE project, with the goal of making recommendations for future improvements to USAID's PHE program. Lessons learned from each PHE activity should be documented, with the goal of identifying program approaches and interventions that can be most easily scaled-up and replicated in other countries and within the countries included in this review. A list of suggested subjects to interview is attached.

The principal methodologies for this review should include:

- Review and analysis of key PHE program documents, including published PHE literature, concept papers, project proposals, strategic frameworks, monitoring reports and program evaluations (where available)
- Reviews of past and planned investments in PHE programs by other donors, as well as progress towards the development of population-health-environment as an interdisciplinary academic field
- Direct interviews with grantee organizations including USAID regarding their PHE program investments, experiences with co-funding projects with other donors, and strategic approaches to expanding the field of population-health-environment, including identifying and cultivating "targets of opportunity" among USAID Missions.
- Field visits to PHE project sites and interviews with key in-country informants.