



Population, Health, Environment and Livelihoods

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Population, Health, and Environment (PHE) approaches address integrated problems that influence people's quality of life. Early PHE projects tended to focus on population and environment, stressing the need to increase access to family planning and reproductive health services and develop integrated messages—delivered through conservation and health extension—that help people understand how population dynamics influence biodiversity conservation. Lately, there has been an acknowledgement that the concept of PHE must be widened to include other issues that significantly impact quality of life, such as livelihoods, climate change, water and sanitation, and other health issues, including malaria and HIV. Figure 1 (page two) illustrates a basic schematic that covers the dynamic forces that shape the lives of people living in rural communities. It shows the interconnectedness between the key components of PHE—biodiversity conservation, family planning, health, women's empowerment, and food security.

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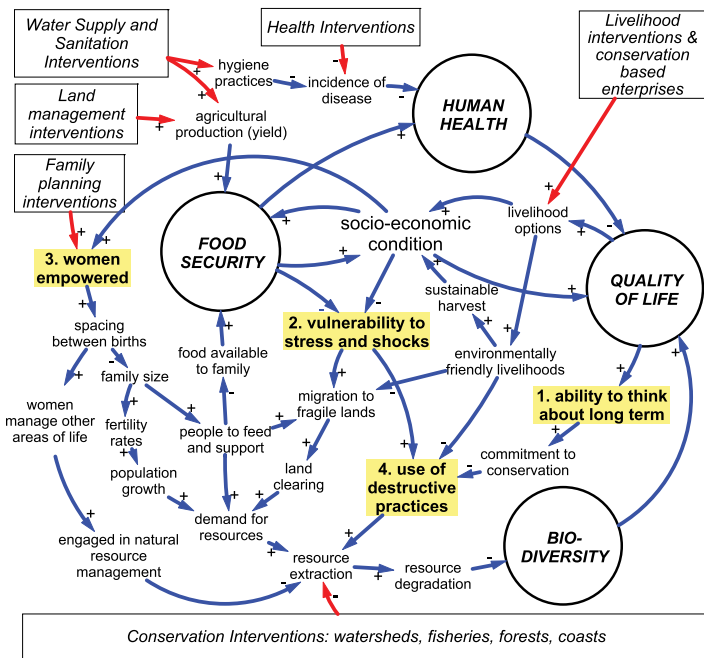


Figure 1: PHE model, highlighting how livelihood activities reinforce positive dynamic forces

In recognition of this trend toward the need and/or the natural “fit” for PHE projects to address a wider array of real life topics, this issue of the BALANCED Newsletter includes four articles that focus on the topic of PHE and livelihoods. The articles describe how livelihoods have been integrated into environmental conservation in Zambia, Ethiopia, and Madagascar. In the article “Livelihoods and PHE in the Velondriake locally managed marine area,” Westerman describes an initiative to support a combination of community-based conservation, aquaculture development, and provision of family planning and other community health services in Madagascar. The article “Adding Family Planning to an Ongoing Conservation and Livelihood Program in Zambia,” by Lewis and Bruce, explains how it made sense for Wildlife Conservation Society (WCS) to incorporate family planning into its ongoing conservation and livelihoods program in Zambia. A commonality between the Malagasy and Zambian cases is that they both describe initiatives that originally focused solely on conservation and livelihoods, but which over time have added family planning because it “makes sense” in the context within which the projects are being implemented.

An article by Wallace describes how livelihoods are integral to most PHE projects in Ethiopia, but argues that more rigorous monitoring and research is needed to substantiate the value of incorporating livelihood activities as an integral component

of integrated community development work. Giving a more in-depth perspective from Ethiopia, Techane describes Lem Ethiopia’s livelihoods-based integrated approach, which has resulted in a dramatic increase in family planning use as well as improvements in food security.

As Figure 1 clearly shows, livelihoods and food security are central parameters for quality of life. Intrinsically it makes sense to integrate livelihoods into PHE programs—and as Wallace points out, although there is little “hard evidence” that livelihoods activities add value to PHE, we can assume that the benefits are similar to the benefits that result from integrating livelihoods into natural resources management efforts such as coastal management or forestry. For example, in the field of coastal management there is a growing body of empirical evidence that demonstrates that successful livelihood strategies increase the probability of success within community-based coastal management programs (Pollnac, Crawford et al. 2001). Research has also demonstrated the link between tangible benefits that a coastal management program brings and the sustainability of those efforts and its benefits (Christie, Lowry et al. 2005; Pomeroy, Oracion et al. 2005). The numbers in Figure 1 illustrate four of the positive dynamics that livelihood initiatives can help reinforce.

1. **CREATE CONDITIONS THAT ALLOW INDIVIDUALS TO THINK LONG TERM.** Livelihoods, if profitable, will increase income. As incomes rise, individuals are better able and likely to think longer term, including thinking about the value of better health for themselves and a healthy environment and as such see themselves as having the “luxury” to commit to health and conservation. Hence, economically empowered individuals are more likely to seek health care and participate in environmental protection and natural resources conservation. The link between income and the environment has been empirically proven in many countries and contexts (Tobey 1993; McConnel 1997). Lewis and Bruce provide a good example from Zambia. When this project began, people were starving and saw no other way to feed themselves except to poach wild animals in a protected area. However, as WCS worked with the community to develop livelihood opportunities, and as the income levels of community members increased, they became able to think longer term and commit themselves to taking care of themselves and conserving their environment.
2. **REDUCE VULNERABILITY TO STRESS AND SHOCKS.** When there are more reliable income sources, people’s food insecurity and vulnerability to stress and shocks are reduced. For example, a study of two fishing communities in Cambodia conducted by Marschke and Berkes (2006)

found that building a portfolio of livelihood options is one of the most important ways that people learn to live with change and uncertainty. Since vulnerability is often the cause of short-term and unsustainable resource use perspectives, reduced vulnerability can contribute to better environmental conditions and more sustainable use of natural resources. We see evidence of this benefit in the Techane and Lewis/Bruce articles, which show how diversified livelihoods have made communities in Ethiopia and Zambia more resilient. Investments in family planning alongside the livelihoods interventions have augmented the positive impacts as reducing population growth ensures that food security will be sustained over time.

3. **EMPOWER WOMEN.** Engaging women in livelihood activities raises their self confidence and increases the status of women in the family and community (Cheston and Kuhn 2002). Research conducted by the Coastal Resources Center in Tanzania and Latin America has found that in many places, women whose incomes increase—or who are able to earn an income for the first time—often feel more empowered¹ to participate in household and community decision-making and are accorded more respect by their spouses and others in their community. For PHE, this could mean increasing women's confidence to negotiate the use of contraceptives with their partners as well as increasing women's involvement in biodiversity conservation. In the Ethiopia case study presented by Techane, we see that as women's income has increased so too has their ability to negotiate safe sex and avoid unplanned pregnancies. Wallace also refers to another Ethiopian case where women have become more involved in conservation and men more involved in family planning.

4. **DIMINISH THE USE OF DESTRUCTIVE PRACTICES.** Environmentally friendly livelihoods can help reduce use of practices that are destructive to that same environment. Conservation-based enterprises depend on healthy biodiversity, natural resources and environmental attributes, and therefore provide incentives to protect these resources from internal and external threats to their destruction (Salafsky and Wollenberg 2000; Salafsky, Cauley et al. 2001). The earnings from conservation enterprises motivate people to, in turn, consciously protect biodiversity in order to maintain and sustain that income stream. This is a finding that cuts across all four of the articles presented in this issue of the BALANCED newsletter, and which we believe supports the position that PHE and livelihoods have strong links and natural interdependencies.

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¹ Empowerment means "gaining the ability to generate choices and bargaining power" and "developing a sense of self-worth, a belief in one's ability to secure desired changes, and the right to control one's life (UNIFEM, 2000)

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LIVELIHOODS AND PHE IN THE VELONDRIAKE LOCALLY MANAGED MARINE AREA IN MADAGASCAR

Kame Westerman, Blue Ventures Velondriake MPA Project Coordinator

Along the southwest coast of Madagascar lies the world's fourth largest reef system with some of the most extensive and biodiverse marine and coastal ecosystems of the Western Indian Ocean. This coast is also home to many isolated communities of the semi-nomadic, sea-faring Vezo people. Blue Ventures, a London-based conservation nongovernmental organization (NGO) and award-winning social enterprise, has been working in this area since 2003 to conserve these important natural resources and to help ensure the continuation of the marine-based Vezo lifestyle. Blue Ventures' integrated population-health-environment (PHE) programs are addressing livelihood needs by encouraging long term sustainability of fish stocks, supporting alternative

income sources, and helping to increase overall family well-being including through the promotion of family planning—all crucial efforts in communities that are heavily dependent on natural resources and where population pressures on those resources are high. Blue Ventures' programs are funded by its own ecotourism programs, as well as through generous funding from the John D. and Catherine T. MacArthur Foundation, PROGECO, NorgesVel, and the United Nations Population Fund.



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Octopus harvest

Integrated Programming

With nearly all households relying almost entirely on the direct use of coastal and marine resources for their livelihoods, a sustainable harvest from reef fisheries and other key habitats such as mangroves is crucial to safeguarding these communities' future (Epps 2007). Yet, a combination of destructive fishing practices, local and commercial over-exploitation, hyper-sedimentation, and climate change has negatively affected the health of the local marine and coastal ecosystems. In response to these locally observed changes, Blue Ventures helped 24 communities join forces to develop a locally managed marine area (LMMA) called Velondriake ('to live with the sea' in the local Vezo dialect). Encompassing all 24 villages, this LMMA restricts destructive fishing practices such as beach seine netting and poison fishing and includes seasonal and permanent coral reef and mangrove reserves, which contribute to restoration and conservation of marine and coastal health. These actions are critical to local livelihoods and food security and are essential to helping mitigate future anthropogenic and climatic pressures.



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Seaweed harvest

One of the most effective management approaches pioneered in Velondriake has been the use of temporary three to four month closures of shallow reef flats to octopus fishing, which is the most economically important fishery in this region. These seasonal restrictions allow the target species (*Octopus cyanea*) to increase rapidly in size and number. Fisheries research conducted by Blue Ventures over the last seven years has shown that villages that observe these closures see a significant increase in total landings after the reserve is re-opened, see no significant change in landings while the closure is in effect, and see lasting economic and social benefits to communities (Oliver, T. pers comm.). These successful results have inspired extensive replication of similar octopus closures along the coasts both north and south of Velondriake, with well over 100 closures to date across hundreds of kilometres of coastline.

In addition to the long-term conservation of fisheries, a key component of Blue Ventures' work in Velondriake is a sustainable aquaculture program that works with community groups and families to farm seaweed (*Kappaphycus alvarezii*) and grow sea cucumbers (*Holothuria scabra*) for international export. Once abundant in the wild, sea cucumber numbers have dropped dramatically in the last decade as a result of unsustainable overharvesting driven by the high price these animals fetch

on the international market. Southwest Madagascar's extensive seagrass lagoons provide an ideal spot for raising sea cucumbers, and the nearby city of Toliara is home to one of the only commercial hatcheries in the world, as well as a local seafood export company working with Blue Ventures to ensure the purchase of market-ready adults.

With Blue Ventures' technical support, sea cucumbers are reared in the intertidal zone of several villages, one of the first attempts worldwide to raise these ecologically important animals in enclosures within their natural habitat. Research pens are being used to experiment with new designs of both pens and nets, to better understand the ideal size of juveniles for release from hatchery to pen, and to determine the optimum stocking density within each pen. Improvements in all these areas since the first 'holothuriculture' trials in 2007 have greatly increased survival rates, with the mortality rate of sea cucumbers dropping from approximately 90 percent to 30 percent (and less than 10 percent in the research pens). This highly significant decrease makes rearing much more profitable for local families and provides a clear economic incentive to communities to take up this ecologically beneficial form of aquaculture.

Similarly, seaweed is grown on lines in shallow intertidal zones off the coasts of several villages within Velondriake. The crop is harvested after six weeks, dried, and sold to the export company. Unlike sea cucumbers, the process of raising seaweed is well understood throughout the world, and therefore technical support and problem-solving is much more straightforward.

Diversifying coastal sources of income through aquaculture helps reduce pressure on overexploited coral reefs, improving ecological sustainability within the LMMA and helping wild stocks of over-exploited sea cucumbers to recover. Sustainable aquaculture also contributes to local economic development, helping families supplement traditional household income and reduce the number of people solely reliant on daily fishing.

Anthropogenic pressures on the region's marine and coastal resources are growing due to changes in fishing methods and an increase in the number of people dependent on these resources. Immigration from inland villages to the coast, often following crop failure, is common in this arid region, as is immigration along the coast from the north and south as fish stocks in adjacent areas diminish. In addition, with an average of 6.7 children per woman, the local population of Velondriake is growing at a rate that is likely to outpace the recovery rates of fisheries stocks and the region's ability to generate alternative livelihoods (Blue Ventures, unpublished data). Therefore, the third component of Blue Ventures' integrated approach is a family planning and community health program, which provides family planning and reproductive health services to the Velondriake villages, allowing them to choose when and how many children to have. Not only do smaller, healthier families reduce the growing pressure on the area's fragile natural resources, but practicing family planning and improving household sanitation can also increase family well-being. For example, mothers have more time to contribute to activities that will help generate household income and are less physically burdened by multiple, closely-spaced births. Likewise, families with well-spaced, healthy children can often save more money and ensure that all children have adequate nutrition, clothing, and fees for school. As a result of Blue Ventures community-based family planning interventions, contraceptive prevalence rate increased from 8.3 % to 42% and from 10.7% to 27% in Andavadoaka and Velondriake respectively.

Challenges

Many of Blue Ventures' challenges in PHE stem from working in such a remote and isolated area—Velondriake is accessible from the rest of Madagascar only via dirt or sand roads, which are often impassable after heavy rains, and even in favourable conditions require at least eight hours in a strong 4x4 vehicle to reach the nearest town. This makes bringing supplies (for example netting,

ropes and family planning supplies) difficult and expensive. Likewise, transportation to the villages within Velondriake—many of which are located on islands or within isolated mangrove forests—is difficult; program staff are often reliant on traditional sailing pirogues and at the mercy of the wind and weather, and it can take two to three days to travel between some villages within the LMMA.

Another challenge is that of working primarily with individuals who have little or no formal education and of identifying local individuals to partner with who are motivated and capable. Investments in building the capacity of Velondriake committee members, aquaculturists, and community-based distributors of family planning and community health products are ongoing.

A third challenge, and one which many other PHE organizations and projects are likely to experience, is how best to foster genuine integration between the three segments/sectors of population, health, and environment. With separate funding streams, differing programmatic start dates, and staff who may have initially been hired for a specific activity of an otherwise multidisciplinary initiative, it is often a challenge to break from thinking and acting with only one's primary program objectives in mind. Blue Ventures is addressing this challenge by making sure to conduct frequent cross-program meetings and training sessions on how the programs integrate and are interdependent. Staff is also working to find a balance between having staff with specific technical/programmatic skills that are needed, while also encouraging them to be mutually supportive generalists.

Finally, and specific to the alternative livelihoods program, there is a great desire on the part of the local communities to begin seaweed farming or sea cucumber rearing and yet successful implementation is limited by physical geography. Both seaweed farming and sea cucumber rearing require gradually sloping intertidal zones that are protected by strong winds and waves during bad weather. Additionally, seaweed thrives in areas with constant water flow whereas sea cucumbers require different underlying sediments with sufficient nutrient-rich detritus on the sea floor. So, while broad-scale expansion of these alternative livelihood initiatives within all coastal villages is a frequent request from partner communities, such scaling is simply not feasible with current technology.

Lessons Learned

There are several key reasons why Blue Ventures has been successful in all three of its programs—marine resource management, alternative livelihoods, and family planning. First is the organization's relatively small geographic focus. While far-reaching, broad-scale conservation and development can

only be achieved at large levels, scaling-up from a successful pilot too quickly can be dangerous and costly. Through its work in Velondriake over the last eight years, Blue Ventures has prioritized these 24 villages and the coastal and marine environment in which they lie in order to understand what works well in this context.

Likewise, Blue Ventures has paid great attention to successes and challenges over time, and has made it a priority to understand how and why challenges exist. Patient to get things right, it was not until late 2009 that Blue Ventures looked towards replicating the marine management successes seen here in Velondriake to a second site further north. Similarly, the family planning and community health program is now expanding outside Velondriake villages, but again, only after several years of close observation. Likewise, the expansion of sea cucumbers and seaweed to other villages will happen only after the model has been refined to a truly replicable form, and Blue Ventures is confident that the habitat is suitable and that the factors contributing to early mortality can be adequately controlled.

Because the community-based sea cucumber rearing project is currently globally unique, Blue Ventures technicians have found it particularly useful to organize frequent meetings in order to discuss challenges, successes, and lessons learned with partners. These meetings include a variety of players—local government authorities, private fisheries export and collection companies, funders, researchers and NGOs—and have served to encourage critical information exchanges and to foster

cooperation and synergy between the numerous sectors engaged in Blue Ventures' work.

Importantly, Blue Ventures is invested in the communities of Velondriake and these programs for the long term. Because the organization receives funding from the social enterprise side, there is a vested interest in and ability to continue work in the region even if outside funding declines or disappears. With nearly a decade of presence in this area, and plans to support these communities in the future, Blue Ventures can be assured that—when the time does come to leave—that continued efforts here are program-driven, not donor-driven.

Finally, much of Blue Ventures' success in community-based marine conservation may also be attributed to the organization's early focus on octopus fisheries management, which enabled communities to see first-hand (and, importantly, over a short time frame of three to six months) the fisheries and economic benefits of closures. These early successes helped local people to understand that management actions can have a positive effect on their own bottom line as well as the environment and that they are in a position to alter the future of their marine resources. This paved the way towards community support for the permanent coral reef and mangrove reserves. This idea of octopus closures to get the conservation ball rolling has inspired Blue Ventures, at a different conservation site in western Madagascar, to begin management efforts by piloting temporary crab closures in mangrove forests—again, with the hope that other, more

ambitious and longer-term conservation initiatives will follow once communities feel empowered by these initial demonstrations.

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Traditional Vevo pirogue boat

ETHIOPIA'S PHE SPOTLIGHT: THE ENVIRONMENT AND DEVELOPMENT SOCIETY OF ETHIOPIA (LEM ETHIOPIA)

Mogues Worku Techane, Executive Director, Lem Ethiopia

With its wide range of ecosystems, diverse but rapidly being depleted natural resources, and a rapidly increasing population, Ethiopia is a priority for biodiversity conservation. The country's 2.7 percent annual population growth rate coupled with the increasing affects of climate change puts enormous strain on Ethiopia's natural resources and the livelihood security of its people. Historically, most Ethiopians have relied on rain-dependent agriculture for their livelihoods. Over time, however, and as the number of people who depend on agriculture for their food and income has increased, the country has witnessed accelerated land degradation, soil infertility, drought, and a rapid conversion of forest cover to farmland. These conditions have, in turn, driven households living on marginal land to adopt unsustainable agricultural methods.

To address these and other environment and development issues in Ethiopia, one group, the Environment and Development Society of Ethiopia (Lem Ethiopia), has been advocating for a multi-disciplinary approach. An example is the integrated population, health, and environment (PHE) development approach they are piloting to address the multiple issues of sustainable resource use, livelihoods, and health care provision for reproductive health (RH), family planning (FP) and HIV/AIDS.

Phase 1. PHE and Livelihoods Pilot

With financial support of the David and Lucille Packard Foundation, Lem piloted PHE in the highlands of the Harro Boki Kebele (village/ward), in the Welmera Woreda (district). The highlands of Ethiopia are home to more than 60 percent of Ethiopia's population and where more than 40 percent of the country's livestock are raised. Welmera is an area where the linkages between population, health and natural resources are many and strong. This pilot project, which ran from 2002 to 2004 and again from 2005 to 2007, targeted 34 households of "model farmers." Project activities focused on capacity building on natural resource management through sustainable resource use, livelihood security, health care provision for FP/RH and HIV/AIDS. Key interventions included capacity building to adopt appropriate technologies, provision of basic materials for natural resources conservation, and livelihoods diversification.

An assessment conducted seven years after the end of the project's first phase determined the project had successfully addressed the complex problems of high population growth, poor basic health, and inadequate natural resources management. Indicators showed

a 15 percent increase in income, an increase in use of family planning from nearly zero to 40 percent, a 50 percent reduction in waterborne diseases, and the reforestation and rehabilitation of more than 12 hectares of land in the target Woreda. Integrating a sustainable livelihoods component into the pilot projects had the benefits of increasing human resilience to the impacts of climate change, creating greater economic efficiency and social equitability, and promoting increased ecological stability. Lem Ethiopia found that integrated and multi-sectoral partnerships targeting livelihoods security were also a cost efficient way to generate added value and create synergies not found in vertical programs or projects.



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Enset crop harvested and bagged in the Girar Geber village

Phase 2. PHE and Livelihood Scale-up

Building on the success of its pilot project, Lem Ethiopia has continued to use a multi-sectoral approach in many of its development interventions including implementing integrated PHE initiatives in Ensaro Woreda (N.Shoa Zone-Amhara region), Girar Jarso Woreda (N.Shoa Zone-Oromiya region), and Wenago Woreda (Gedeo Zone-SNNPR). The Packard Foundation funds the projects in the first two Woredas while the Swedish International Development Agency/Sustainable Land Use Forum funds the third. While in some respects the sites are unique, they share two similarities—1) the people living there are highly dependent on natural resources for their food, and 2) current trends in population growth in each demand close attention.

The Ensaro Woreda is characterized by an undulating landscape, erratic rainfall, severe soil erosion and minimal arable land. People living here are plagued by food insecurity and the average person owns less than one hectare of land. Although livelihoods

depend on livestock rearing and the production of rain-fed crops such as sorghum and teff (a type of grain), most of the land is unproductive because of the loss of fertile soil. The average family size is six, and 43 percent of the population is between the ages of 0-15 years.

The Girar Jarso Woreda has flatter land, less soil erosion, and better overall soil fertility and productivity than the Ensaro Woreda, but the main sources of livelihoods are the same. Although the environmental conditions are better, most households nevertheless experience food insecurity and many individuals choose to migrate to other areas where there is less population pressure on the average landholding area.



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Mr. Beriso, a model farmer, standing by his beehives

The Wenago Woreda, located in the southern part of the country, is unique because of its Gedeo-indigenous agroforestry system and its production of Yirga Chefe Coffee. The agroforestry system allows the Gedeo to produce coffee and livestock—which they depend on for their livelihoods—while at the same time maintaining the quality of the forest. The system strikes a balance between environmental conservation and subsistence farming. The area is densely populated, with an average of 1,000 people per sq km. Average family size is eight and 30 percent of the population is between the ages of 0-15 years. This Woreda does not suffer from the same food shortages as the other two Woredas and its environmental management is among the best in the country. However, the Gedeo-indigenous agroforestry system is threatened by climate change impacts and population pressure.

In the targeted communities of these three Woredas, Lem Ethiopia had the common objectives of working toward sustainable livelihoods, guaranteeing economic efficiency, striving for ecological integrity, and achieving social equity through use of the integrated PHE approach. Efforts to strengthen livelihoods have included: training women in different livelihood techniques such as beekeeping and poultry raising, training model farmers in organic green coffee pulp compost, and disseminating fruit tree seedlings as an alternative to drought-prone crops. Combined, these projects benefit more than 250,000 people, including model farmers, agricultural and health extension workers, teachers and students, and decision-makers and experts at the Woreda level.

Through these integrated development projects in the three Woredas, Lem Ethiopia is addressing the interlinked problems of population pressure, poverty, poor health, unsustainable resource uses, climate change vulnerability and natural resources management. Similar to the pilot projects, the main capacity building activities include workshops and trainings of model farmers, health and agricultural extension workers, teachers and students, and Woreda level experts in the fields of education, health, natural resources, and agriculture.

Program Achievements and Results

In the two short years of implementing the three PHE development projects, communities have already begun to see positive impacts:

- Food security has improved through the introduction of new varieties of fruit trees and new agriculture and livestock technologies. More than 3,000 Enset (*Ensete ventricosum*), a high-nutrition root crop also known as a 'false banana', and 600 apple seedlings have been distributed to 66 target households. On average, women's income has increased by more than 5 percent and is expected to increase further over the next few years.
- Government and community tree nursery sites in the Woredas produced over 2.5 million tree seedlings. The introduction of new varieties of tree species has improved food security and also provided communities with supplemental livelihoods, which will improve their livelihood security as well. Participating farmers have the potential to earn up to US \$200 from just 10 apple trees.
- There have been significant improvements in women's access to and involvement in RH/FP services which are carried out in collaboration with local government offices. In the Ensaro Woreda, the use of family planning increased by 51 percent, in Girar Jarso Woreda by 62 percent, and by 55 percent in

the Wenago Woreda. Communities also perceive a decreased prevalence of diseases in all three Woredas.

- Communities conceptually understand the value of PHE integration and seem aware of the clear link between improved livelihoods, increasing adoption of modern family planning, and participation in reproductive health services. A recognized and positive feedback loop is that when a woman's income increases, she is less likely to engage in risky behaviors that might lead to unplanned pregnancies and sexually-transmitted infections.

Program Challenges and Lessons Learned

- Development problems are complex and it makes sense to address these through an integrated PHE approach. However, to reverse the trend of resource depletion at a larger ecosystem scale requires a significant level of

resources—a level beyond what Lem Ethiopia has had available for its pilot projects.

- For program success, it is crucial that development actors and target communities have a solid conceptual understanding of the PHE approach. Without this, misunderstandings among stakeholders, government organizations, nongovernmental organizations, and local communities about the critical links in the PHE approach can become a roadblock in projects. Hence, capacity building and community participation in all stages of project implementation are critical to achieving the goals of improving communities, ecosystems and livelihoods.
- Development efforts should be flexible enough to adapt as communities' needs, local knowledge, and experience evolve. This is becoming increasingly critical as climate change and its associated impacts are putting additional pressure on the already fragile ecosystems and local communities.



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Grafted mango seedlings ready for distribution to model farmers in the Ensaro Woreda

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PHE IN ETHIOPIA: LIVELIHOODS AND YOUTH DEFINE THE WORK; VERIFIABLE RESULTS ARE NEEDED

Annie Wallace, former PHE Global Health Fellow

Recently, I completed a two-year fellowship in Ethiopia as a Population, Health and Environment (PHE) Technical Advisor to grantees implementing PHE projects funded by the David and Lucile Packard Foundation. At completion of the fellowship in October 2010, I drafted an informal assessment of the first two to three years of those PHE projects. The assessment explains why Ethiopia PHE practitioners feel it is essential to include livelihood components in their work; and offers recommendations from PHE practitioners and donors—as well as my own recommendations—on the way forward with PHE in Ethiopia. The following article provides a snapshot of those recommendations and discusses the livelihoods emphasis in Ethiopia and the role livelihoods should or should not play in PHE efforts in the field.

Livelihoods and the PHE Approach

In his September 2010 FOCUS article entitled, “Helping Hands: A Livelihood Approach on Population, Health and Environment Program,” Gib Clarke¹ proposes an evolution from what is currently called the PHE approach to what would be referred

to as the HELP Plus (Health, Environment, Livelihoods and Population—and other variables as needed) approach. Clarke explains the current PHE label “does nothing to showcase the dynamism, flexibility, broad participation, and responsiveness of PHE programs. Thus, the inflexibility of the name may close the door on additional funding opportunities from foundations that might value these attributes.” He suggests that including an ‘L’ to represent livelihoods will allow PHE programs to further meet the needs of communities and attract potential donors.

Almost all PHE projects in Ethiopia include a livelihoods component. Similar to Clarke’s motivation for wanting to include “livelihoods” in any label, PHE practitioners in Ethiopia want a definition that reflects that context, one in which livelihoods is a key goal—“Population, Health and Environment (PHE) interventions in Ethiopia are a holistic, participatory development approach whereby issues of environment, health and population are addressed in an integrated manner for improved livelihoods and sustainable well being of people and ecosystems².”

In Ethiopia, approximately 80 percent of the population relies on subsistence agriculture. Hence, any PHE project with an interest in protecting, conserving and/or rehabilitating natural resources and the environment will affect a large portion of the very sources of the community's livelihoods base. As such, PHE projects that want to achieve their "E" objectives must help build skills in alternative livelihoods and development. If they cannot provide communities with other sources of income generation to meet the immediate needs of their families, communities will inevitably fall back on what they have known and practiced for generations. In Ethiopia, this most often means turning to natural resources-dependent/depleting activities that put increased pressure on already overburdened resources.

The Guraghe People's Self Development Organization (GPSDO) is a Packard grantee implementing an Adolescent Sexual and Reproductive Health (ASRH) project and integrating population, health, environment and livelihood interventions to achieve their ASRH outcomes. The Guraghe zone is a densely-populated area and heavily reliant on subsistence agriculture. Here, heavy demand for agricultural land to provide food and income to the population has led to environmentally damaging activities that include rapid conversion of forests to farmlands. This in turn has led to severe soil erosion, poor crop yields, water scarcity and deforestation—all of which negatively impacts livelihood options and contributes to the high migration of youths from Guraghe's rural villages to Ethiopia's cities.



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Example of severe soil erosion

GPSDO is working to reduce this migration through its activities focused on rehabilitating land, reducing soil erosion, supporting girls' education, and—not surprisingly—on building skills in supplemental/alternative livelihoods development. In tandem with these "E" activities, GPSDO is working hard to reduce

unintended pregnancies and the risk of sexually-transmitted infections, particularly HIV among the youth. In looking across its integrated suite of interventions, GPSDO attributes some interesting results to its use of the integrated PHE approach. This includes an increase in family planning (FP) users, and an increase in female involvement in environmental rehabilitation activities and male involvement in family planning. GPSDO, like Clarke, believes in the importance of incorporating livelihoods in the PHE approach.



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Women involved in environmental rehabilitation activities

Similar to GPSDO, the Consortium for Christian Development Relief Associations (CCRDA) includes livelihoods development as an important component of its work. In fact, its projects target females and train them in income-generating activities in which women are not traditionally involved, such as livestock management and the raising of seedlings, etc. In spite of the perceptions of both GPSDO and CCRDA, there is scant hard indicator results data and no research to support the correlation of the use of the integrated PHE approach or the inclusion of a livelihoods component as the reason for positive results in FP usage rates, and an increase in the involvement of women in environmental activities and men in FP activities. However, it is likely that indicator results data—if it were collected—and research findings, were research conducted, could substantiate these perceptions.

PHE Needs More Research and More Monitoring and Evaluation of Results

While Ethiopia PHE practitioners and Clarke believe there is a need for a more dynamic and representative label and definition of PHE, there is also opposition to any definitions and labels that "pigeon-hole" the approach. For instance, in the process of educating many private and foreign missions about PHE and specifically the PHE work being implemented in Ethiopia, many expressed a general resistance to or fatigue with "another" or

“new” approach to meeting community, country or organizational needs. Rather than focusing on a new “label” for the integrated PHE approach, a more compelling way to win the interest of donors—and practitioners also—is to discuss how the approach can contribute to the donors’ existing program goals and on-going initiatives (e.g., adolescent reproductive health, climate change adaptation or livelihood improvement) and to share the results that integrated projects have achieved in addressing these issues.

This is a challenge, however, as most PHE practitioners and their organizations in Ethiopia lack sufficient funds to cover the costs of collecting data on integrated indicators, and lack the capacity to implement rigorous monitoring and evaluation (M&E) and research activities. Also, in general, donors prefer to fund “on-the-ground” activities rather than M&E. As a result, while anecdotal “evidence” may be shared, hard results data and research—the kind of evidence that could convince donors and practitioners to invest more in PHE—are missing.

What is needed is a strategy for identifying and building a long term, sustainable network of in-country technical expertise and capacity builders in Ethiopia, one that would include skills building in designing projects that include training in how to design and implement M&E and in conducting the kinds of research that would support the collection, tracking, and analyzing of project results that can provide the evidence needed to generate increased support for the integrated PHE approach.

Conclusion

Providing organizations with the funding and tools needed to support M&E and/or research activities is essential to substantiate the value of incorporating livelihood activities as an integral component of integrated community development work, and to convince donors and practitioners of the benefits of the integrated approach whether it be referred to by the more common PHE label or, just as easily, by some other label such as HELP.

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1 Formerly with the Woodrow Wilson International Center for Scholars Environmental Change and Security Program

2 This is the definition that the PHE practitioners in Ethiopia developed to represent the work they are doing. It is the official definition of PHE for the Ethiopia network

ADDING FAMILY PLANNING TO AN ONGOING CONSERVATION AND LIVELIHOOD PROGRAM IN ZAMBIA

Dale Lewis, WCS Zambia and Linda Bruce, URI CRC BALANCED Project

The Conservation-Livelihood Initiative

Thousands of Zambians of all ages live below the basic calorie requirement, experiencing seasons of periodic feast and famine. Research conducted by Wildlife Conservation Society (WCS) Zambia revealed that without aid, most families in Luangwa Valley (Eastern Province) experience three to five months of chronic food insecurity. The results of their 2001 survey indicated that less than half (48.9 percent) of all households interviewed had enough maize to feed their family by the ninth month after harvest. Chronic food shortages contribute to wasting and stunting, which are common among Zambian children under five years of age. Fifteen percent of children in rural areas are underweight and almost half (49.5 percent) of the children in Eastern Province are stunted (chronically underweight), causing severe cognitive damage to growing minds and physical damage to bodies that can never be repaired, even if diet improves later (CSO 2009). The struggle between hunger and other needs can lead to broken families, drive families into poverty, and cause them to engage in desperate and often destructive livelihoods such as prostitution and poaching.

One common way families compensate for insufficient food production is the illegal harvesting of wildlife and trees. Poaching with wire snares was typically performed not for consumption, but rather to exchange meat for maize or grains they could not produce themselves. In 2000, over 40 percent of the families interviewed by WCS Zambia reported using wire snaring as a mechanism to cope with food insecurity. As a result, wildlife populations declined dramatically. When food is scarce, many of the local people also turn to cutting down trees for charcoal production, which contributes to large-scale land degradation, habitat loss, watershed damage, and huge carbon output.

When they learned that the people were poaching due to starvation, WCS Zambia decided the first step to conserve wildlife was to help the people find a steady supply of food. The WCS Zambia Community Markets for Conservation (COMACO) program now provides sustainable sources of alternative incomes and other incentives for conservation to families living around Zambia’s national parks in the Luangwa Valley. COMACO currently targets 50,000 households surrounding the national parks in the eastern and western regions of Luangwa Valley. COMACO is creating income diversity by introducing a variety of income-earning livelihood alternatives

to the Luangwa Valley communities. With market support to provide pull-through for commodities, and training support to provide the skills needed to become successful at the new endeavor, COMACO members are fast becoming diversified, and seeing income as the result. The primary livelihoods promoted by COMACO are:

Beekeeping for honey is specifically designed to provide dry season income to discourage the illegal charcoal trade threatening the forests of Luangwa Valley.

Increasing crop variety is a crucial element of food security. COMACO has introduced rice, sugar bean, soybean, and cowpea farming as well as groundnut and cassava production. As a result, the number of different food crops contributing to member income has increased from 10 to 16.

Animal husbandry (chickens and goats) and fish farming are other popular activities among transformed poachers. They were introduced to provide another income-generating protein source.

Since poacher recruitment began in 2001, a total of 661 poachers have stopped active hunting in the Luangwa Valley. With each poacher averaging five to six animals per year, COMACO estimates that thousands of animals are being saved each year!

COMACO and Family Planning

Women living in the Luangwa Valley have on average 6.6 children. This places a huge stress on families' food security, health and use of natural resources. Hence, investing in family planning and reproductive health services is vital in mitigating the economic and environmental impact of population growth, improving food security and maternal and child health. Family planning and reproductive health (FP/RH) services are not uniformly available around the country. The contraceptive prevalence for women in Zambia is 30 percent, while 70 percent of women are not currently using any modern contraceptive method. Only 10 percent of women between 15 to 19 years of age use family planning (CSO 2009). While contraceptive prevalence in the Eastern Region is 53 percent, among the rural poor living around the Luangwa national parks it is only 37 percent (CSO 2009). Key reasons for the low use of contraception is lack of information and long distances to local health clinics (often up to 12 kilometers).

The above-mentioned health challenges suggest the need to increase men's and women's understanding of the benefits of birth-spacing and small family size and its implications for improved food security, enhanced livelihood and sustainability



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Group of women reading about family health and family planning in the "Better Life" book

of natural resources. There is also a need to improve access to FP methods in rural communities.

WCS Zambia has been promoting messages on health and family planning as a way to add value to the COMACO conservation-livelihoods model. These messages weave the relationships between markets, sustainable production practices, family health/planning and conservation. The primary target audience for these messages is producer groups, many of whom are women (51 percent). These producer groups are good entry points for introducing and sustaining an on-going discussion about the benefits of family health/planning for the ultimate objectives of food security and conservation.

However, more awareness building of the links between population and food security is needed as well as increased access to FP services for the 50,000 families that are covered by COMACO.

BALANCED/WCS Activity Description

With a two year seed grant and on-going technical support from the BALANCED Project, WCS Zambia is promoting FP/RH and adolescent reproductive health within the broader context of food security and seeking to increase peoples' understanding of how FP/RH—when implemented together with conservation interventions—can lead to poverty alleviation. Toward this end, WCS integrates family planning information and service delivery into ongoing conservation activities in the Mfuwe, Lundazi and Chama regions. The integrated FP/RH activities target producer groups and youth in 22 chiefdoms (eight in Mfuwe, 10 in Lundazi and four in Chama) serving an estimated total population of 25,200.



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COMACO field day, introducing new concepts for improved livelihoods in target communities

The project uses interpersonal communication channels and peer-mediated approaches to increase peoples' awareness of the links between population, health and environment and the importance of planning their families in improving the quality of life and addressing food insecurity. The behavior change communication interventions promote the use of modern contraceptive methods and prevention of sexually transmitted infections, including HIV. WCS Zambia also supports activities to expand access to FP information and products among couples and sexually active youth (15-19 years) at the grassroots level rather than solely depending on referral services to government facilities. For example, the project uses trained peer educators from among lead farmers and extension officers to carry free contraceptives from the Ministry of Health health centers to implement a community-based distribution system among COMACO's producer groups. Currently, there does not seem to be a problem with availability of contraceptives at the health centers, but rather with accessibility—e.g., health posts can be up to 12 kilometers away. Acceptance of FP among men can also be an obstacle. Adult and youth peer educators are trained to deliver integrated reproductive health and conservation messages to their peers and promote dual protection use among sexually active men, women and youth.

Taken together, WCS Zambia envisions that FP/RH interventions combined with existing livelihood and conservation activities will increase community health and well-being in the long term.

For more information about the WCS COMACO Program in Zambia, go to www.itswild.org. Information about the BALANCED Project can be found at www.balanced.crc.uri.edu.

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A YOUTH PHE PEER EDUCATOR'S TALE

Joan Castro, Executive Vice President, PFPI and Technical Assistance Lead, BALANCED Project.

“For healthy people and a healthy environment, conduct PHE education two youth at a time”



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Isaac in action

In a fishing community in the Shama district of Ghana lives Isaac, a young man of twenty. Like other youth his age, Isaac has big dreams. By the time he turns thirty, he hopes to have a good job as an accountant or in management and be married and starting a healthy family—one boy and one girl.

A visitor to Shama would notice two things—most families have large numbers of children, and most earn their livelihood from fishing. With many mouths to feed, the breadwinners/fishers too often resort to illegal and unsustainable fishing practices—such as using “chemicals” and “lights”—to attract more fish. This, however, only starts a vicious cycle of overfishing—a cycle that threatens the very ocean resources upon which families depend for food and income. As these critical resources are depleted, families are driven further into poverty. Isaac knows this pattern all too well. One of five children of an herbalist and fishmonger mother, Isaac watched as the fish his mother sold got smaller and fewer. This meant less money coming into the household and his family sunk deeper into poverty, eventually forcing him to leave school.

Isaac has learned there are ways that he and other youth can avoid falling into this same cycle of poverty and a world of depleted natural resources. He learned this from the *Hen Mpoano* project. Funded by the United States Agency for International Development, *Hen Mpoano* is implemented by the Coastal Resources Center at the University of Rhode Island and Friends

of the Nation. Together these organizations are partnering with the Central and Western Fishmongers Improvement Association (CEWEFIA)—a local nongovernmental organization that assists fishmonger groups in the coastal communities of Ghana’s Western Region—to help community members adopt family planning, access health services, and engage in tree planting. Collectively, these activities are helping improve the health and well-being of Shama’s people and their important but threatened ecosystems.

In February, CEWEFIA invited Isaac to attend a three day training to become a volunteer population-health-environment (PHE) peer educator. A new world opened up to Isaac as he began to better understand the linkages between population, health, and the environment; and as he learned about family planning methods, about mangroves and their role in a healthy ecosystem, and about moringa trees. After the training, Isaac reached out to the community to share—with young and old alike—what he had learned about planning one’s family and caring for natural resources. In spite of being teased and called “pastor,” Isaac was determined to help make a change in his community. He knew that a good place to start was with his peers—teaching them what he now knows about the interrelationships between population, health, and environment and encouraging other youth to also volunteer as PHE peer educators. “I will start with my friends, and they will educate their friends, and one day we will be an army of PHE advocates for a better Shama.”

Isaac is working on making his own dream a reality. He is looking for a job that can help him save and return to school. With a hopeful smile, Isaac says, “I will take my time before I settle down. I will use what I have learned as a PHE peer educator to make a better future. I will educate others—two youth at a time.” When there are more youth who think and plan like Isaac, chances are there will be more fish for Isaac, his friends, and all their yet unborn children.

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