

Learning Brief Number 1: Conservation and Family Planning: What is the value of integrating family planning into conservation projects?

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The following brief is an abridged version of an article that has been submitted to a journal for publication.

Summary

Conservation organizations have integrated family planning into site-based conservation activities in selected countries for almost two decades yet lacked strong evidence of the approach's value to conservation. Today this approach has come to be known as the integrated "population, health and environment" approach, or "PHE." Drawing on lessons from early integrated conservation and development projects (known as ICDPs), PHE projects aimed to be more targeted yet still integrated.

In 2004, with support from the United States Agency for International Development's Office of Population and Reproductive Health and Johnson & Johnson, WWF launched an effort to answer the question, "What is the value of integrating family planning into conservation projects, through a PHE approach?"

Methods

The approach used to conduct this research was to combine original qualitative research with a desk review of existing PHE projects implemented by the conservation sector. Working closely with one of the leading organizations in measuring conservation outcomes, called Foundations of Success, WWF designed a methodology that would use simple but cutting-edge tools in conservation science to apply rigor to answering this question. While the methodology was not equivalent to operations research, it was affordable, and WWF believed that this type of research would help the entire conservation sector focus on how to proceed in the field of family planning within a conservation context.

The aim of the analysis was to identify evidence of linkages between family planning interventions and conservation outcomes in conservation field projects. The analysis examined a portfolio of eight projects across six countries that had: primary end goals of conservation, been involved for at least three years in bringing family planning to local communities, and substantial amounts of monitoring and evaluation. WWF staff conducted semi-structured interviews with field project managers and constructed diagrams articulating project staff assumptions about linkages between family planning interventions and conservation outcomes. WWF staff then solicited existing data from projects, grouped assumption patterns according to those found in the literature, and finally, synthesized evidence related to assumption patterns.

Key Findings

The analysis had two types of findings: findings related to assumptions of the practitioners we interviewed, and findings related to the evidence available among the projects reviewed. Assumption patterns can also be thought of as practitioner "hypotheses" about linkages or "convictions" about linkages. "Evidence" includes both quantitative data and qualitative information.

The conservation practitioners we interviewed shared in common three general patterns of assumptions about how FP interventions affect conservation outcomes. We labeled these patterns: “decrease in human fertility,” “increase in women’s empowerment,” and “increase in trust, goodwill, and entry points for conservation.” A fourth general pattern of assumptions that we labeled “increase in cost efficiency and effectiveness” was not found among the practitioners we interviewed, but was commonly “observed” by WWF staff. Following is a description of these assumption patterns:

1) **Hypothesized linkage “Decrease in Human Fertility”:** Family planning interventions, integrated into site-based conservation efforts, are believed to increase use of family planning in remote, underserved communities, helping to reduce fertility and slow population growth, leading to reduced pressure on natural resources in the long term.

2) **Hypothesized linkage “Increase in Women’s Empowerment”:** Family planning interventions, integrated into site-based conservation efforts, are believed to empower women, thereby increasing conservation capacity through increasing women’s involvement in natural resource management, conservation and the formal economy.

3) **Hypothesized linkage “Increases in Trust, Goodwill, and Entry Points for Conservation”:** Family planning interventions, integrated into site-based conservation efforts, are believed to generate trust and goodwill towards conservation organizations and their environmental partners (including creating entry points into communities), leading to increased community involvement in conservation activities.

4) **Hypothesized linkage “Increases in cost efficiency and effectiveness”:** Family planning interventions, integrated into site-based conservation efforts, are believed to generate cost efficiencies and effectiveness for conservation, such as by sharing resources with an entity delivering family planning.

The projects we reviewed also shared in common two additional sub-patterns of assumptions that are actually nuanced versions of the general patterns. Sub-patterns relate respectively to targeting of youth, and using project strategies that rely on building awareness of PHE issues.

We divided each of the hypothesized linkage patterns stated by the practitioners we interviewed into: immediate results (such as increased family planning use), intermediate results and long term results. While the details of each practitioners’ assumption patterns differed from one practitioner to another, we found a surprising number of similar elements across the assumption patterns put forth by our interviewees, including: the general order of the results that were assumed to follow from the family planning interventions, the types of interventions that were assumed to relate to certain types of intermediate results, and the basic relationships among the factors related to direct threats to conservation outcomes.

Among the practitioners we interviewed, the “decrease in human fertility” and “increase in women’s empowerment” linkages are identical in the immediate or early stages of the linkages. Practitioners assume that before subsequent results related to fertility and women’s empowerment can be achieved, the use of modern family planning must first increase. Among the projects we reviewed, strong evidence existed to support the assumption that family planning interventions implemented by conservation organizations lead to an increase in family planning use in the remote areas where these projects are implemented.

This was the only strong evidence about assumptions patterns found in our analysis. Despite the fact that one of our criteria for project selection was that a substantial amount of monitoring and evaluation data had been collected in relation to a project, the amount of evidence available among the projects we reviewed to support other types of linkages or to support the intermediate or advanced stages of any linkage type was weak.

Major Implications

The analysis provides lessons that should help the conservation sector determine next steps in research and project development in integrating family planning with conservation activities. The projects we reviewed comprise almost the entire population of recent PHE projects implemented by the conservation sector. Our analysis also represents the first systematically gathered documentations of lessons from multiple countries about evidence related to the value to conservation of taking this integrated approach. Lessons below are explored in the journal article that WWF hopes to publish within the year.

- **It should be possible to establish a set of common indicators for PHE projects, in spite of often cited concerns that suggest otherwise.** The prevalence of only four general categories of assumptions among practitioners we interviewed indicates the existence of a shared understanding about why conservation organizations choose to undertake these types of projects, and may also be related to the fact that many PHE projects conducted similar types of interventions- especially family planning interventions.
- **“Decrease in fertility” and “increase in women’s empowerment” linkage types might be more relevant to conservation organizations undertaking PHE projects than the other linkage types,** because these patterns were put forth by so many of the practitioners we interviewed, and in both cases there was good evidence to support the intermediate stages of the linkages. In the case of women’s empowerment, in particular, conservation organizations need to boost their own capacity to develop specific project strategies related to those assumption patterns and develop relevant indicators.
- **Future research should also focus on building PHE practitioner capacity on monitoring and evaluating indicators relevant to “increase in trust, goodwill, and entry points for conservation” and “increase in cost efficiency and effectiveness” linkage types.**
- **Persistence and dedication to quality data collection in PHE within the conservation sector is still strongly needed.** The extent of evidence available in relation to all of the assumptions presented by the practitioners we interviewed demonstrates that the field of family planning in site-based conservation is still young, and stronger research methodologies and data are still lacking. Such data is crucial to ensuring continuing support to PHE projects within conservation.
- **In order to gather an evidence base that will fully answer the research question proposed in this analysis, research and project timelines should extend beyond the typical horizons of 5 to 6 years.** One of the key assumptions of the “decrease in human fertility” linkage was a reduction in family size, but changes in family size cannot be measured until women complete their reproductive years. This makes it challenging for a five or six year project to accurately measure these kinds of results. Shorter project cycles also mean that, for example, if additional project inputs are needed to ensure that changes in family size ultimately lead to changes in conservation outcomes, those inputs may not be present when needed.

- **Future projects should aim to measure health and time savings benefits of family planning for women, in order to increase the evidence base in relation to the women’s empowerment linkage.** A women’s empowerment linkage – such as the assumption that smaller, more manageable families give women more time and energy to spend on conservation-related activities for example- appears to be highly relevant to the conservation sector, but is also poorly documented.
- **If the PHE community wants to measure the specific contribution of family planning to increasing goodwill towards conservation, then more rigorous measurement and project design frameworks are needed.** Evidence for increasing goodwill towards conservation was inconclusive among the project we reviewed. No project had undertaken family planning interventions in complete isolation from other interventions. An evaluation conducted by David Carr in 2008 of 8 WWF PHE projects concluded that it is “overwhelmingly” evident that WWF’s population and health work buys goodwill for environmental conservation outcomes (Carr 2008). While our analysis could not confirm this conclusion, the projects we reviewed provided evidence suggesting that broad health interventions, and possibly family planning by itself, packaged with micro-credit opportunities for women, have a positive impact on goodwill towards conservation and create entry points for conservation.
- **Further study is required to determine which combinations of PHE-type interventions are most critical to increasing goodwill towards conservation, i.e., FP, health, microcredit.**
- **The linkage type that we have called “increasing cost effectiveness and efficiency” deserves exploration by the PHE community. To do this, PHE practitioners will need common indicators and frameworks for measuring efficiencies and cost effectiveness.** This linkage type was not well documented by our analysis, but was well explored by the IPOPCORM operations research project in the Philippines. IPOPCORM produced some of the most reliable information to date about the validity of the linkages explored in the WWF analysis, although its findings were limited to a single country. IPOPCORM concluded that integrated approaches had a higher positive impact at a lower total cost than single-sector interventions (D’Agnes, et al 2010).
- **WWF’s findings, coupled with IPOPCORM findings, suggest that conservation organizations which integrate family planning into site-based projects, may want to consider inclusion of integrated PHE awareness and youth-targeting as project elements.** This conclusion is drawn in spite of the relative lack of evidence among the projects we reviewed related to these sub-linkages. It is based on a fairly significant number of projects among those we reviewed that assumed these linkages were important, and additional IPOPCORM findings that suggested strong links between integrated projects and changing sexual practices among youth/declines in income poverty among youth (D’Agnes, et al 2010). Among the project included in the WWF review, data on youth-relevant indicators simply was not included in monitoring frameworks or was not well documented.
- **In closing, we conclude that there is a good basis of evidence upon which to conclude that there *may be* value to adding family planning to site-based conservation, through integrated PHE approaches- for the sake of conservation. However it is still too soon to make strong claims about the extent of any such value. It is also clear that the entire PHE-interested community could benefit from continuing to research the topic, to make sure all parties understand the potential value and limitations of the approach.** Research could explore priority topics such as: linkages with women’s empowerment, and how quickly this approach might impact governance, particularly of

natural resources; how health and family planning interventions build goodwill and trust among key stakeholder groups for conservation, and change behavior and attitudes towards issues that are key to conservation success; and, innovative ways in which conservation organizations can facilitate community access to family planning and health services at little or no extra cost to conservation programs.

References

Carr, D. 2008. Population, Health and Environment in Africa and Asia: An evaluation of WWF's USAID and Johnson & Johnson-supported projects. World Wildlife Fund, Washington D.C.

D'Agnes, L., H. D'Agnes, J.B. Schwartz, M.L. Amarillo, and J. Castro, 2010. Integrated management of coastal resources and human health yields added value: a comparative study in Palawan (Philippines). *Environmental Conservation*, 37: 398-409.

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Learning Brief Number 2: Women's Empowerment for Conservation through the Population-Health-Environment Approach

Abstract

The following brief is the second in a series of three that highlights lessons about the value of integrating family planning and health interventions into site-based conservation efforts. The first brief summarizes a review conducted by the World Wildlife Fund (WWF) that consolidates the global evidence base in relation to the question: "what is the value to conservation of integrating family planning into site-based conservation using an integrated 'population-health-environment or PHE approach'?" The second and third briefs utilize case studies to explore two major findings from the first brief: 1) one of the key reasons that conservation practitioners adopt PHE approaches in site based conservation is to empower women, because they believe that women's empowerment is critically linked to their conservation goals, and 2) many PHE projects undertaken by the conservation sector have anecdotal evidence that PHE projects generate community goodwill towards conservation and conservation organizations, leading to increased community involvement in conservation activities. Yet in almost every PHE project implemented by the conservation sector, no consistent monitoring and evaluation strategies had been put in place to measure the degree of relevance or even the validity of these findings across the sector.

The Population-Health-Environment (PHE) Alliance Project, implemented by the World Wildlife Fund (WWF) from 2008 to 2011, with support from the United States Agency for International Development's Office of Population and Reproductive Health and Johnson & Johnson, aimed to change that practice, and by doing so, deepen the sector's understanding of the value of the PHE approach for conservation, and how the sector could better measure that value. The following learning brief explores the role of women's empowerment in site-based conservation through the PHE approach, using case studies from two PHE Alliance project sites – in Nepal and the Democratic Republic of Congo.

The brief concludes that women's empowerment is a viable justification for implementing PHE projects to improve conservation outcomes, as well as an end in itself. The case studies highlight positive women's empowerment outcomes and suggest that in the future, the PHE approach might emerge as a powerful strategy for ensuring: women's meaningful involvement in conservation, women's ability to derive tangible benefits from conservation, and more sustainable conservation successes.

Introduction

In 2004, WWF carried out an analysis of projects implemented by the conservation sector that integrated health and family planning into environmental activities. These projects are known as integrated population-health-environment or "PHE" projects. Almost 90 percent of conservation practitioners interviewed as a part of that analysis indicated that one of the most important values for conservation of implementing PHE approaches was to empower women (Oglethorpe et al. 2008). Practitioners assumed that PHE projects empowered women, and that empowered women contributed to improving conservation outcomes. However, none of these projects had developed frameworks for exploring or measuring their assumptions about the linkages between PHE, women's empowerment, and conservation targets. WWF took these findings as a mandate for the next round of PHE projects undertaken by the conservation sector. When establishing new PHE projects, WWF wanted to consciously consider women's empowerment and examine its relationship to conservation outcomes.

In 2008, with support from Johnson & Johnson and USAID, WWF launched the PHE Alliance project. The project consisted of PHE field implementation project work and a learning component. WWF invited its conservation field practitioners to develop at least two “learning questions” framed as hypotheses on how their PHE approaches linked to their highest priority conservation targets. Reaffirming the significance of WWF’s findings on gender in conservation within PHE projects, project managers from two of the three countries in the WWF project articulated questions related to women’s empowerment. These projects were in Nepal and the Democratic Republic of the Congo. Through case studies on these two projects, WWF explores lessons learned about the role of gender in PHE and conservation.

WWF’s PHE Gender Framework

The following case studies approach the topic of women’s empowerment through the lens of a gender framework and assessment tool called Women’s Economic, Social and Political Empowerment Tool or WWESPE—a tool developed specifically for WWF, in response to the gender-related findings of the 2008 Oglethorpe *et al.* analysis. WWF hired gender expert Nancy Diamond to establish a relevant PHE gender framework, substantiated by literature and experience, and to provide technical assistance to field sites.

First, Ms. Diamond conducted a literature review to find out what information existed in relation to the theory that women’s empowerment is a key result of PHE, and that women’s empowerment in turn supports site-based conservation objectives. She then developed the WWESPE tool (based on Eyben *et al.*, 2008) and empirical experience from the PHE sector. The goal of the Tool was to enable conservation staff to conduct periodic self-assessments of how their PHE or other conservation activities contribute to women’s empowerment, the potential conservation impacts of these efforts, and how women’s empowerment could be enhanced. Finally, Ms. Diamond traveled to WWF’s Nepal PHE project in February 2010, piloted the Tool, gathered and assessed field-level data in relation to the Tool, provided participatory feedback on gender issues to stakeholders in Nepal – including health partner ADRA (Adventist Development Relief Agency), the Department of Forestry, local leaders, volunteers, and other community members, and offered strategic advice to WWF on how to hone project strategies to increase the likelihood that PHE projects would have a positive impact on conservation through women’s empowerment. Based on feedback from stakeholders, she then refined the WWESPE Tool.

The Tool (see Annex B of Diamond, 2010) focuses on three major dimensions of women’s empowerment (social, economic and political) which are thought to be achievable and measurable within the timeframes, staff, resources and budgets available to PHE projects. The Tool also includes scorecards to tabulate indices for each of the dimensions. Examples of each type of empowerment include:

- For women who are *economically empowered* by PHE activities, one expects to see: improved access to paid work; and/or greater food security;
- For women who are *socially empowered* by PHE activities, one expects to see: improved marital relations, access to family planning, family well-being, and/or literacy;
- For women who are *politically empowered* by PHE activities, one expects to see: improved skills/ household support for civic engagement and/or improved leadership at the community-level.

By the end of the project, WWF only had the opportunity to implement WWESPE in Nepal and was unable to implement the Tool in the other PHE Alliance field sites.¹ Therefore this brief uses the WWESPE framework only as a broad lens for considering the findings of the following case studies.

¹ WWF had originally planned to include the Kenya PHE project site as one of Dr. Diamond’s field study sites, but due to factors beyond WWF’s control, that plan did not come to fruition. WWF still plans to continue to pilot

Case Study from Nepal: Women's Empowerment for Conservation through PHE in the Terai Arc Landscape

WWF-Nepal PHE Theory about Women's Empowerment

In 2009, WWF-Nepal staff worked closely with WWF-US PHE staff to develop the following theory, based on WWF's research findings about the value of PHE for conservation (Oglethorpe et al. 2008):

WWF PHE project managers hypothesized that PHE interventions would increase and improve women's capacity to manage, lead, and be more involved in Community Forest User Groups (CFUGs). The assumed effect was that with increased involvement by women, through the provision of integrated family planning, health services, and environmental education and services, CFUGs would become more inclusive, stronger institutions, with more relevance to the whole community. With women's involvement, CFUGs would have a more positive impact on long term natural resources management issues and conservation than they would have had without women's involvement.

Case Study PHE Learning Questions

- Do women become more involved in Community Forest User Groups (CFUGs) as a result of PHE interventions?
- How does women's involvement affect the direct threats to WWF's conservation targets for the area?

Methods and Limitations

The findings presented in this case study rely in part on background information and gender analysis findings outlined in the Diamond case study (2010), but rely primarily on findings from the integrated PHE Alliance project baseline and endline surveys conducted in project interventions areas in 2008 and 2011. Those surveys included household surveys employing multistage sampling designs, focus group discussions with various project target groups, and key informant interviews. Survey information is supplemented by interviews with project staff and a limited number of key project-related documents.

Given that this project was not designed as a research project, the choice of methods was not intended to enable WWF to produce comprehensive or definitive answers to the questions posed above. Rather, the project gave WWF the opportunity to consciously build hypotheses into project design and monitoring frameworks, and to draft this case study as a means of understanding the potential implications of PHE project strategies through information that could be gleaned from project monitoring data.

WWF PHE Project in the Terai Arc Landscape, Nepal

The Terai Arc Landscape (TAL) spans across India and Nepal over an area that is about twice the size of the US state of Maryland. Containing 11 protected areas and the unprotected corridors between them, the Landscape supports Asia's last remaining wild elephants, rhinos and tigers and a large, rapidly growing human population. About half of the landscape lies in Nepal, where more than 75 percent of Nepal's lowland forest still remains. Pressures on these remaining forests and the natural resources that they contain are considerable. About 90 percent of the residents of Nepal's Terai Arc rely on agriculture for their livelihoods, yet rural farmers have low yields from traditional agriculture and depend on

WWESPE in future PHE projects, and envisions that the tool may also have broad (non-PHE specific) application across the conservation sector.

firewood and wild forest foods to supplement their incomes. Increasing demands for land and natural resources feed growing levels of forest encroachment, timber and wildlife poaching, and overgrazing.

In 2001, WWF-Nepal launched the TAL program to help conserve the area's habitats and biodiversity, in order to ensure the ecological, economic and socio-cultural integrity of the region. Creation of wildlife corridors between protected areas is a key component of the TAL strategy and necessitates that WWF Nepal work closely with communities living in and around the corridors. Community partners include Community Forest User Groups (CFUGs) and their umbrella organizations, Community Forest Coordination Committees (CFCCs). The TAL program works with these groups: to promote anti-poaching patrolling and reporting in wildlife corridors and sustainable management of community forests, grasslands and protected areas; to develop ecotourism opportunities for local communities; and to reduce and mitigate wildlife damage to communities through restoration and production of wildlife compatible cash crops and basic agroforestry.

From 2005 to 2008, with support from Johnson & Johnson, WWF began to integrate PHE activities into the suite of interventions in the Terai Arc. The first PHE project was restricted to just one area, called the Khata Corridor. PHE was one of an array of approaches that WWF-Nepal piloted throughout the landscape—all of which aimed to help engage local communities in the core conservation mission of the TAL program while simultaneously building healthier, more sustainable communities. From 2006 to 2008, with funding from USAID, the project was continued in Khata, and integration across P, H and E activities was increased.

The PHE Alliance Project (2008-2011) represented the third phase of PHE in the Terai. It was supported by both USAID and Johnson & Johnson, and enabled WWF-Nepal to scale up to a total of three sites in the Terai: Khata Corridor, Lomahi Bottleneck, and Basanta Corridor, covering a total population of about 123,000 people in 15,000 households (by the end of the project, about 30% of households had at least one household member who had participated in the PHE project). The new project followed a model similar to the first two, but built on the most successful aspects of the PHE approach. The PHE Alliance project aimed to improve people's access to safe drinking water, sanitation, basic health and family planning services; to develop alternatives to using forest timber for fuel wood; and to strengthen mothers' groups and community forest user groups to ensure greater sustainability of health and conservation outcomes.

Gender Dynamics in the Terai Arc Landscape, Nepal

From the beginning of WWF's work in the Terai, WWF noted that gender played a critical role in WWF's ability to achieve success in conservation. There is a great deal of ethno-cultural heterogeneity among the Terai population. Among Hindus, which comprise the majority of the population, castes play a major role in governing social relations, influencing local politics and controlling access to economic resources (Diamond 2010). Patriarchy and conservative Hindu values are common characteristics of the various castes. There is a core belief that women need to be controlled by men in economic, social and political spheres (Pandey et al, 2006, as cited in Diamond 2010). Lack of assets, lower educational levels and limited options for work and mobility have reduced women's status and their confidence about participating in public decision-making. Although equal rights were ratified under Nepal's 1990 Constitution, and the 2008 interim Constitution (which has not yet been endorsed by the Constituent Assembly) also includes equal rights for women, there are still many discriminatory laws and traditional practices which effectively limit women's access to economic, social and political resources (Diamond 2010).

Yet, given all of the conditions working against women in Nepal, some political and social factors have changed Terai women's opportunities in Nepali society. The Maoists, who fought against the Nepali government during the Nepali Civil War (1996-2006) changed societal attitudes and practices with respect to women in a number of ways, including increasing involvement of women in CFUGs. A study conducted in the Terai also found that across all caste-ethnic groups, Terai husbands consult with their wives about decisions more often than in other parts of Nepal (Pandey et al. 2006, cited in Diamond 2010). Also the majority of residents in the PHE Alliance project area are of the Tharu ethnic group, a group that, under the caste system, is next to the bottom of the social hierarchy. By tradition, Tharu women hold lower status than men but they have no inherent restrictions on gaining greater freedoms. In WWF surveys carried out in PHE project field sites, Tharu women are recognized as playing a relatively stronger role in natural resources management issues than women in other parts of the country (Bhattarai, WWF PHE Project Coordinator, email to Honzak, September 2011) Despite these examples of gender equity, in most cases men hold decision-making power within households and communities.

PHE Alliance Project and Benefits to Women

Recognizing some of these gender issues from the inception of the TAL program, WWF's TAL program and PHE work in Khata included gender equity provisions in many of its project activities. The first two phases of PHE projects (2003-2008) did not specifically emphasize the link between women's empowerment and conservation. However, project managers observed that women's empowerment might contribute significantly to conservation success and sustainability, as well as improve family health (documented in unpublished results chains developed by WWF PHE and conservation project managers during an evaluation of WWF PHE projects conducted by David Carr in 2008). The PHE Alliance project launched in 2008 allowed WWF to explore these gender-related observations and more consciously approach women's empowerment issues in the expanded project implementation areas. The new project involved multiple PHE activities that provided tangible benefits for women. For example, the project:

- Trained approximately 600 project volunteers, including adult and youth male and female peer educators, Female Community Health Volunteers who run mothers groups and serve as community-based distributors of family planning commodities, and male and female Local Resource Persons who monitor FCHV-run mother's clubs and PHE meetings. Peer educators in particular were required to work in mixed-sex teams and equal numbers of males and females were deliberately recruited.
- Trained 91 existing and 10 new mothers groups in population, health and conservation issues along with promoting awareness of savings and credit cooperatives to help increase the number of female shareholders in cooperatives and women's income generating opportunities.
- Improved reproductive health service delivery by building capacity of more than 200 government health personnel, ensuring availability of contraceptives off-hours and in remote locations, and by partnering with CARE and the local government to convert the facilities at one remote health outpost into a birthing center. Over the life of the project, use of modern contraception among women of reproductive age increased from 52 to 66 percent.
- Facilitated installation of 153 new tube wells with hand pumps, and in some cases, provided household level water filters, with the goal of reducing people's exposure to arsenic and pathogens in drinking water. Reducing family illness decreases time burdens on women, who are often the primary caretakers of those who are ill.
- Helped install more than 1600 improved cookstoves, about 20 percent of which included attached biogas toilets. The improved stoves require less fuelwood (so reduce women's need to spend time gathering wood in forests) and produce less household smoke (and thus may reduce levels of respiratory illness).

- Promoted inclusion of PHE activities such as peer education on health and environment issues, community-wide health and environment awareness events into the operational plans of CFUGs (CFUGs use their own funds to sponsor the activities ²).

In addition, the implementation of WWESPE allowed Dr. Diamond to carry out a retrospective analysis of women's empowerment issues, dating back to 2003, when WWF Nepal's PHE work in the Terai began. The tool also enabled WWF-Nepal -in collaboration with Dr. Diamond and partners- to put into place a gender action plan that included additional gender-focused monitoring indicators, to be implemented starting in 2010.

Following the gender training and development of a gender action plan, the PHE project honed its project activities to include:

- Orientations on "Increasing women's access to cooperatives and the impact on conservation" were held for cooperative executive members at all three sites.
- Cooperative education was delivered through behavior change communications (BCC) classes and also through trainings for mothers' groups. This helped increase the number of female shareholders in cooperatives.
- A three day gender training was provided to CFCC staff and members to sensitize them on gender issues.
- CFCCs began to give priority to women for trainings offered to members.
- In various conservation and health trainings, gender based violence (GBV) awareness was included as a cross-cutting issue.

The gender action plan developed through Diamond's 2010 field visit also set targets to : 1) increase loans to women for biogas and improved cooking stove technologies by 10%, as a demonstration of women's increasing involvement in the CFCC sponsored savings and credit cooperatives; 2) increase the number of women in leadership positions within CFUGs, as a demonstration of women's increasing involvement in CFUG governance and leadership (this would be measured through the already-planned surveys); 3) increase the number of female participants in livelihood trainings, literacy classes and PHE study tours; 4) increase women's access to knowledge about self-improvement and legal rights; and 5) increase the proportion of women in the CFCC executive body.

Measures and Findings

The PHE Alliance Project had an extensive monitoring and evaluation plan that included baseline and endline household surveys, focus groups, and key respondent interviews. Key indicators measured by those surveys related to: provision of safer drinking water, sanitation, maternal and child health, family planning and reproductive health, improved cookstoves, and conservation and natural resources management related attitudes and practices.

For example, from the outset of the PHE Alliance project, the two project surveys aimed to measure changes in the percent of female participation in target area CFUGs and in the percent of CFUG leadership positions held by women.

² PHE activities supported by community forest operational plans include: PHE street dramas; awareness programs on safe drinking water and the "small happy family"; coordination with the DMoH for family planning camps; special events on National Environment or World AIDS Day, etc.

Use of the WWESPE tool demonstrated that as of April 2010, the TAL and TAL-PHE approaches were helping to advance women's empowerment, including economic, social and political aspects, and their involvement in conservation in Terai project communities. The extent and pattern of empowerment varied with differences in community-level project implementers and local leadership, but women's empowerment increased over the life of the project. (Project implementation models were observed to be similar across communities.)

Project findings included both: evidence for potential links between PHE interventions and increased women's empowerment, specifically, their increased involvement in and leadership of community forestry user groups (CFUGs); and evidence for potential impacts of women's empowerment on conservation outcomes.

According to the WWESPE findings, the most significant women's empowerment changes potentially linked to conservation outcomes in WWF's TAL programs were those related to CFUGs and community forest lands. The PHE Alliance Project's baseline survey in 2009 found female participation in CFUGs was substantially less than half, ranging from 13 to 33% of the membership base across the three project sites. By 2011, when WWF conducted its endline survey, female participation had increased in all three project sites, with increases between 4 and 22 percentage points above baseline values.

During the same time period, household survey data suggest that more women were also attaining leadership positions within CFUGs. At baseline, only 16% of CFUG had female presidents and only 22% of CFUGs had women in the non-president leadership positions. WWF's endline survey demonstrated that by 2011, 27 % of CFUGs had female presidents and 47% of CFUGs had female treasurers, vice-presidents and secretaries.

Unfortunately, it is unclear whether WWF's baseline findings regarding CFUG leadership were entirely comparable to the more comprehensive endline results (that covered 144 CFUGs), because the baseline sample only included data from 12 CFUGs (4 from each of the 3 project areas³). Nevertheless, the direction of change is consistent with an increase in female representation in CFUG leadership.

Qualitative information from focus groups conducted during the endline survey also supports WWF's theory that the PHE project contributed to greater gender balance in CFUG leadership. Focus groups with male and female CFUG member groups reported that they observed greater gender balance over the life of the project. The PHE project coordinator also observed that women who are involved in the process, and particularly those in leadership roles, energized CFUGs. He said that women demonstrate "more concern" for conservation issues than men, and than they did prior to the project (Bhattarai interview 2011). Furthermore, Diamond's case study found that communities credited TAL activities with playing a role in expanding governance-related skills for women such as increased confidence and negotiation skills; these skills should make their involvement in the CFUGs more effective.

There was also evidence that women's empowerment affected conservation outcomes. First, baseline and endline survey data suggest that the PHE project may have helped improve women's attitudes towards conservation. At baseline, about half of women said that wildlife conservation was necessary in the Terai and that wildlife conservation was important to human and ecosystem health; by the end of

³ WWF was informed that the CFCCs now have a database which did not exist at the beginning of the project which contains information, among other things, on gender makeup of membership and leadership of many more CFUGs than at the time of the baseline survey.

the project the percentage of women who agreed with both of these statements had increased to 95%. These data suggest that women's involvement and leadership in CFUGs could have a positive impact on conservation. Women were also reported to be more familiar with conservation and well-being linkages, which they attributed to TAL PHE activities.

The positive changes in women's attitudes towards conservation could have been caused by factors external to the PHE project, since the project was not designed to assess causal relationships. However, when PHE Alliance endline household surveys asked women and men who had experienced a positive change in attitude towards conservation, to what factors they attributed their positive attitudes, among the top two answers were: improved health services and increased access to clean water, both of which were supported by the PHE project.

An analysis of the project's endline survey data also showed a positive and statistically significant correlation between PHE project participation and household adoption of improved cookstove/biogas technology. While not broken down by gender, this finding suggests that direct participation (of male or female household members) in the PHE project affects influences their uptake of this "improved" natural resource management practice (Pollnac, email to Honzak, 9/28/11). Survey data also showed a notable increase in household adoption of the two technologies: from 8% of households at project start-up, to 21% by the end of the project. Based on the number of these energy saving technologies installed, WWF calculates that roughly 2932 kg of wood were saved through their use.

Women's contributions to the increased adoption of improved natural resources management techniques may have been aided by the increased number of loans for biogas and ICS that the TAL area CFCCs provided to women. Over the life of the project, cooperatives- which are sponsored by the CFCCs and supported by the TAL and PHE projects- were able to double the percent of loans for biogas and improved cookstove technologies that were made to women (from 20% in 2009 to 43% in 2011). This achievement fulfilled one of the key targets set by the project's gender action plan adopted during the 2010 Diamond visit.

Finally, over the life of the PHE project, WWF observed that CFUGs demonstrated increasing levels of buy-in regarding, and competence in advancing, key conservation objectives. The positive direction of change observed in the indicators above is consistent with the increases in support for conservation demonstrated by CFUGs over the life of the project. "CFUG level of support for conservation" was measured based on reviews of CFUG operational plans in the three target areas.

Known as Community Forest Operational Plans (CFOPs), these plans are revised and ratified every 5 years. CFUGs use their own funds to support provisions included in their plans. The project used two indicators to measure "increased support for conservation"-- the incorporation into CFOPs of: 1) habitat management provisions- such as designation by CFUGs of a rhino feeding site as a protected area, for example- and 2) PHE provisions- which include a wide range of P,H, E and integrated PHE activities, described in footnote 2 of this case study.

In one of the three project areas where WWF had not worked prior to the PHE project, communities credit WWF with helping establish their CFCC and making their CFUGs operational. The operational plans under development by those CFUGs now include habitat management and PHE provisions but were not yet ratified due to the relatively short timeframe of the project. In the other two project areas, 100% of the CFUGs incorporated habitat management provisions in their plans by the end of the project and PHE provisions were adopted in 35% and 100% of CFUGs respectively (having started at zero or in situations in which the previous provisions had expired).

Discussion/Conclusions

Returning to the learning questions posed at the beginning of this case study, we arrived at several conclusions:

- Do women become more involved in Community Forest User Groups (CFUGs) as a result of PHE interventions? *We cannot be certain, but the evidence was suggestive of a link. Most notably, over the life of the project households surveys measured increases in women's participation in CFUGs of between 4 and 22 percentage points above baseline in all three project target sites, and focus group discussion participants attributed greater gender equity within CFUGs to PHE project inputs.*
- How does women's involvement in CFUGs affect the direct threats to WWF's conservation targets for the area? *We cannot be certain, but the evidence suggested several paths through which WWF's conservation targets were positively impacted as a result of women's empowerment through PHE. Most notably, the percent of women receiving loans for improved cookstove/biogas technology doubled and percent of households adopting these technologies also doubled over the life of the project; the impact of this uptake on local forests is measured in terms of kg of wood saved (approximately 3000). Furthermore, when women increased their participation and leadership in CFUGs, there was evidence that CFUGs became stronger and more energized supporters of conservation measures, and may have contributed to putting in place operational policies and practices expected to have positive impacts on conservation targets.*

There are a few important caveats to Diamond's findings about women's empowerment and potential conservation impacts of such empowerment. First, project data do not indicate whether women who received the most goods and services from the TAL PHE project were more involved in conservation activities than women who did not receive benefits from the TAL project. Therefore we cannot say that the increase in female participants or leaders in CFUGs are the same group of women who received PHE project benefits.

Second, PHE activities could not be entirely distinguished from broader TAL program activities. TAL preferences and US government (USAID) regulations meant that PHE activities were not distinctively branded. WWF's evaluation surveys also did not provide sufficient information to allow us to conclude that women's involvement, leadership and positive attitudes towards conservation are the *cause* of the positive conservation decisions that we observe are being made by CFUGs, for example. Nonetheless, the evidence presented above suggests that WWF-Nepal's theory about women's empowerment through PHE is plausible and merits continued investigation. To further research the impacts of population and health interventions on conservation outcomes, it would be necessary to control for community and service differences by explicitly comparing groups with and without exposure to population and health interventions in areas where conservation interventions are taking place.

Assuming that PHE approaches do indeed play a key role in advancing women's empowerment in the context of conservation, then future PHE projects may want to note project design elements critical to capturing gender-related benefits. Diamond observed that two of the most successful gender-relevant elements of the WWF PHE implementation model were: the use of adult and youth teams of male and female peer educators; and project efforts to stay firm on gender equity commitments for women's meaningful involvement, particularly in local resource management/conservation institutions.

This brief will now turn to a similar set of questions that were posed in the PHE Alliance project in the Democratic Republic of Congo (DRC). Lessons learned and recommendations are summarized after the DRC case study.

Case Study from the Democratic Republic of Congo (DRC): Women's Empowerment for Conservation through PHE in the Salonga-Lukenie-Sankuru (SLS) Landscape

WWF-DRC PHE Theory about Women's Empowerment

In 2009, WWF-DRC staff worked closely with WWF-US PHE staff to develop the following theory, based on WWF's research findings about the value of PHE for conservation (Oglethorpe et al. 2008): WWF PHE project managers hypothesized that PHE interventions would increase women's capacity and involvement in family planning and health care service delivery, use of family planning, support for conservation activities, and participation in the land use planning process. The assumed effect is the increase in women's involvement in all of these activities, which would lead to more sustainable natural resources management and conservation under the land use planning process than would have occurred without women's involvement. This case study explores this theory in the context of the PHE Alliance Project, implemented by WWF and partners in the Monkoto Corridor, Salonga National Park, DRC from 2008 to 2011.

Case Study PHE Learning Questions

- Do women become more involved in family planning and health service delivery as a result of PHE interventions?
- Do women use family planning as a result of PHE interventions?
- Do women become more involved in the land use planning process/committees as a result of PHE interventions?
- How does women's use of family planning, and involvement in health service delivery and land use planning affect the direct threats to WWF's conservation targets in the SLS landscape?

Case Study Methods and Limitations

The findings presented in this case study rely primarily on findings from the integrated PHE Alliance project baseline survey conducted in the project intervention areas in 2008, project monitoring data, and interviews conducted for this case study during several field site visits by Nathalie Simoneau, a nutritionist hired by the PHE Alliance project to provide technical assistance to the DRC PHE project between 2010 and 2011. The baseline survey in 2008 employed a multistage sampling design, focus group discussions with various project target groups, and key informant interviews. Survey and monitoring information is supplemented by a limited number of key project-related documents.

Given that this project was not designed as a research project, the choice of methods was not intended to enable WWF to produce comprehensive or definitive answers to the questions posed above. Rather, the project gave WWF the opportunity to consciously build hypotheses into project design and monitoring frameworks, and to draft this case study as a means of understanding the potential implications of PHE project strategies through information that could be gleaned from project monitoring data.

WWF PHE Project in the SLS Landscape, DRC

The Salonga-Lukenie-Sankuru (SLS) Landscape in the Democratic Republic of the Congo (DRC) contains Salonga National Park, the second-largest rainforest national park in the world. Salonga is the only national park that shelters the endemic bonobo, the closest relative of humans. One of WWF's key roles

in Salonga is to work with human settlements in the Monkoto Corridor – an important wildlife corridor that divides the park – to help them manage lands for improved conservation and livelihoods.

Human life in this remote corridor is challenging. Transportation to the area is limited: the only options are bush plane or a multiday river trip. Communities depend on hunting and fishing, and they lack access to basic services. Until WWF began working in the area, rates of childhood vaccination were among the lowest in the country, while rates of malnutrition were among the highest. Modern contraception was unavailable, the population had no access to clean water, health facilities lacked medicines and basic equipment, and dependence on wildlife for subsistence and trading led to Monkeypox and Ebola outbreaks.

WWF began working in the Monkoto Corridor in 2003, as part of the USAID-funded Central African Regional Program for Africa (CARPE), a consortium of multiple partners in the Congo Basin, whose vision was to advance biodiversity conservation while recognizing various land-use needs and taking into account the socioeconomic and socio-cultural needs of people. Approaches adopted by WWF since 2003 have included: 1) developing conservation strategies for specific species to reduce poaching; 2) mobilizing stakeholders to develop land-use plans that allow for habitat corridors across the landscape; 3) guiding the establishment of community-managed protected areas and improved livelihoods through economic diversification; and 4) collaborating with logging companies to define micro-zones for conservation.

Through the PHE Alliance project (2008 to 2011), WWF aimed to tackle the human health and conservation challenges of the area through an integrated PHE approach. The Project worked with health authorities and local partners to train Ministry of Health (MoH) staff and community health volunteers; upgrade health facilities and improve service delivery; improve nutritional status of women and children; improve access to potable water, vaccinations, and basic medical services and supplies, including contraceptives. The Project also conducted an innovative community-based film campaign aimed at empowering people to improve their own health and that of their environment. Local project-supported educators worked on building capacity of MoH staff to deliver improved health services and to promote PHE educational film campaigns. They also served as key players in mobilizing communities to participate in alternative livelihoods and conservation. This was accomplished through demonstrating the links between human health, ecosystem health and conservation, and improved agricultural techniques, food security and nutrition; and by encouraging community members to engage in agriculture as an alternative to hunting.

Gender Dynamics in the SLS Landscape, DRC

The population of the SLS Landscape, including Monkoto, is mostly homogeneous, comprised of sub-groups of the country's second largest ethnic group, the Mongo, but also includes small numbers of Batwa, Ngombe, and Mbole. As such, gender dynamics across the area share many commonalities. Women generally experience lower status than men in political, economic and social spheres. Polygamy is widely practiced, the average family size is 9 (underscoring the high number of children per household), and lack of schooling and literacy among women contrasts deeply with that of men. Ten percent more men than women are sent to school, and by secondary school, the percent of men with secondary education is more than double that of women (PHE baseline survey 2008). Access to economic resources is limited for all residents of Monkoto due to its remoteness. Yet even in this setting, economic disparity between women and men is pronounced. Women's principal source of revenue is from agriculture, while most men depend on fishing. Furthermore, only 5% of women compared to 18% of men have salaried work (PHE baseline survey, 2009). In the public sphere, women have much lower participation than men, which community members attribute to women's lower level

of formal education, lower literacy, and substantial workload related to the household and raising large families.

Despite their lower status, women's roles in various domains of life in Salonga have major impacts on the health of their families, communities and the environment. Women care for the very young and the very old. Women decide what the family will eat on a daily basis, are responsible for all stages of agricultural production after men clear the fields, and organize their own fishing groups to contribute to feeding their families. With large families, women are less mobile than men, and thus dependent on locally available resources for survival. This is especially the case in this remote setting. Thus for all these reasons, working with women can be an entry point to raise the awareness of entire communities on the connections between human health, natural resources management and conservation. Increasing women's involvement in improving human health, managing natural resources, and advancing conservation efforts represents an opportunity to advance women's access to the tools of self-determination.

Role of Women in WWF-DRC PHE Project

From its inception, the WWF PHE project aimed to empower women as part of its broader project strategy - even if the attempted changes were only modest given the short three year timeframe of the Project. WWF has a gender policy, and WWF projects frequently aim to promote gender equity through measuring gender balance in project activities, setting gender balanced targets for key project activities, and providing women with opportunities to increase their knowledge base, literacy, or decision-making capacity in community committees, etc. WWF's early work in Monkoto included a variety of initiatives that helped increase women's involvement in WWF sponsored activities, such as establishing minimum quotas for female participation in newly formed land use planning committees, and organizing all-female agricultural committees. With the launch of the PHE project, the Congolese WWF landscape manager aimed to further promote female engagement in WWF-led initiatives. He posited that increased female access to health and family planning services and improved nutrition would help increase women's participation in natural resources management practices and conservation efforts, while contributing to much-needed improvements in maternal and child health status.

Under ideal circumstances, WWF would have been able to use the WWESPE tool in Salonga to shape its approach to female engagement. However, when WWF launched the Salonga PHE project, Dr. Diamond's gender work had not yet been implemented. Also, from the outset, the WWF PHE program director realized that the WWF PHE project in Salonga was too new to absorb advanced skills in gender mainstreaming simultaneously with basic skills in PHE implementation. Therefore in Salonga, WWF used WWESPE as an analytical tool to review work plans and reflect on project results. As WWF plans its PHE strategy for Salonga beyond 2011, WWESPE and the gender lessons learned from Nepal will be used to deepen WWF's gender-focused approach to PHE. The subsequent section describes the results of WWF's PHE interventions in Salonga through the lens of the WWESPE gender framework.

Explanation of Methods and Measures

To gather data for this case study, WWF relied on a number of different methods. As mentioned, in 2008, WWF carried out a comprehensive PHE baseline survey in Monkoto that included quantitative information collected from household surveys and qualitative information collected through focus groups and key informant interviews. All of this data was used to establish the baseline conditions for the case study.

Unlike in the other two PHE Alliance project sites (in Nepal and Kenya), WWF did not conduct a comparable endline survey. In years two of the three year PHE project, WWF made this decision due to the fact that this was WWF's newest and one of its most challenging and remote PHE project sites, and as such, project startup was substantially delayed (by about 1 year out of a 3 year project). WWF expects the project to continue beyond the original three year project timeline, and thus plans to wait at least one more year before assessing project progress.

For monitoring and evaluation purposes, and to inform this case study, mid-way through the project, WWF developed a set of monitoring methods that could be used as proxies to mirror the same kinds of indicators that WWF set out to measure in the baseline survey. For example, in the case of the indicator "modern contraceptive prevalence rate," WWF gathered the indicator at baseline using the standard household survey methodology. At endline, without a household survey, CPR could not be gathered. To estimate uptake of modern family planning methods, WWF used its database that monitored community based distributors and health facility contraceptives distribution to estimate an indicator called "couple years protection" (an indicator used in the family planning sector) and paired that data with estimates of monthly uptake by new and continuing users. In the case of other indicators that were measured through household surveys at baseline, WWF adopted monitoring indicators that could draw from other existing databases (such as from provincial health records or the records of other WWF projects being implemented simultaneously in Monkoto). Those records allowed WWF to retrospectively collate data from the first year of the project through the last year of the project.

Finally, this case study relied heavily on information gathered through interviews conducted by nutritionist consultant Nathalie Simoneau who visited Monkoto several times during the last two years of the project. Over the course of her visits, she worked closely with teams in Monkoto and WWF-US to track the nature and course of women's empowerment in PHE through discussions with community members and project staff in DRC.

Findings

Findings related to PHE project impacts on women's empowerment, and the relationship of women's empowerment to WWF conservation goals are outlined below. The PHE Alliance project:

Socially empowered women by:

1) Providing women and men with improved access to family planning.

One of the most direct and evidence-based results of the PHE project is increased access to multiple methods of modern family planning in an area that previously had no such access. USAID-Kinshasa donated contraceptives to the project, WWF trained health providers and community-based distributors, and community films and project-initiated mothers groups educated communities about reproductive health. By 2011, the project consistently observed about 300 new modern family planning users per month. The longer term consequences of this increased family planning use in Monkoto are not yet known, but family planning literature suggests that this has an impact on increasing women's decision-making ability within households and improves women's and children's health. In a place like Monkoto, where unmet need for FP was quite high – at 46% of adults (56% of women) of reproductive age- women's ability to space and limit their births, should also contribute to reducing population pressure on natural resources.

Politically empowered women by:

2) Increasing female capacity in health and environmental service delivery.

Before the PHE project started in Monkoto, females were not formally recognized by the Ministry of

Health (MoH) as health providers, despite the dominant role of traditional birth attendants in maternal health care. All community-based health education was delivered through a group of MoH recognized health volunteers, called Community Health Volunteers/CHVs (*relais communautaires*)- 120 of which were men, and only 2 of which were women. Within health facilities in the project's intervention area of the Corridor, only 2 of the 35 health personnel were female.

By the end of the project, through the project's efforts to recruit female health volunteers, 54 new female community health volunteers were trained on a wide range of health issues, including distribution of family planning- and integrated into the health system. The pool of new volunteers drew primarily from traditional birth attendants (TBAs). The MoH wants to see TBAs become *relais communautaires* because of their good rapport with and respect from community members gained over many years when TBAs were part of the official health system. The MoH's policy has changed and TBAs are no longer part of the official health system, therefore TBAs themselves appreciated the ability to take on more formal roles in the health system and benefit from training.

3) Engaging and educating women on nutrition, alternate protein sources and bushmeat related health issues, which also addresses the most pressing threats to WWF's conservation agenda in Salonga, including the highly sensitive topic of the illegal bushmeat trade.

WWF assessments show that the illegal bushmeat trade (which involves the illegal poaching and sale of wild animals like the bonobo from the Salonga National Park) is among the most urgent and large-scale threats facing the Park's wildlife. Yet one of the greatest challenges for WWF and the Park Service in Salonga is that local community members are rarely honest about bushmeat practices due to their legitimate fears of reprisal. Also, at the inception of the PHE project, WWF recognized that rates of severe-acute malnutrition among children under 5 years of age were at an "emergency level" in the Monkoto Corridor according to the World Health Organization standards (PRONANUT survey, 2009). In the initial design of the PHE project, WWF decided that a nutrition component within the PHE strategy could improve children's nutrition and help broach the sensitive topic of bushmeat. The focus of nutrition activities would be on educating mothers about optimal nutrition for their children. In Salonga, children and adults historically had high protein diets with strong dependence on bushmeat and fish. Nutrition education would naturally involve discussions about the suitability, practicality and legality of obtaining various protein sources, including bushmeat. The positive outcome of the nutrition efforts surpassed WWF's expectations. For the first time since WWF started working in the Salonga, women provided WWF with what seemed to be honest information about household bushmeat consumption, and how decisions were made about dividing bushmeat for consumption and trade. With this information, women were able to receive much more precise guidance from project-trained educators about the causes of childhood malnutrition (including the fact that bushmeat sources are dwindling) and determine realistic coping strategies, such as alternative protein sources from agriculture and from raising small farm animals. Also women could engage directly with WWF as partners in implementing the Salonga conservation strategy by promoting reduced human contact with bushmeat—which may reduce the possibility of Ebola virus or monkeypox transmission to their families.

4) Enabling women to move beyond individual and household level efforts into the domain of participating in and organizing groups and networks.

As a result of WWF initiatives, women have formed organized groups for the first time in the area's recent history. Before WWF worked in the area, there were virtually no organized groups for women or organized by women, except for religious groups (84% of the population participates in religious groups). The few organized groups that existed were agricultural and fishing groups run by men.

Through the PHE project, WWF helped women establish 27 mothers' groups that serve as discussion forums for a variety of health issues. Many female community health volunteers trained by the PHE project have also reported that they are now involved in other types of groups such as agricultural and micro-credit groups. The community health volunteers indicated that they feel empowered and feel they have gained the capacity to contribute to these types of groups (Simoneau, email to Honzak, 9/7/11). Three hundred and sixty women are now part of 19 micro-credit groups recently formed by a WWF microcredit project.

Through the land use planning process facilitated by WWF and WWF's livelihoods project, women were motivated to form nine agriculture-focused women's groups. The groups are known as *Femme Leader pour le développement économique de Monkoto* or in the local language (Lingala) as *Mama Molende* (Courageous Mothers).

One of the group's members explained that "working together is more efficient than working individually; we are stronger as a group," (Simoneau, email to Honzak, 9/7/11). While the formation of the mothers groups was the direct result of PHE activities, the WWF Livelihoods project helped form the Courageous Mothers groups about one year prior to the launch of the PHE project. The more recent initiative by the WWF Livelihoods project, to form women's microcredit groups, began in the last several months of the PHE project. Since organization of all three types of groups continued throughout the course of the PHE project, and group motivation was driven by WWF trained educators from both projects, it is difficult to separate out the degree to which PHE in particular helped women organize themselves, versus women organizing on their own or as motivated by other initiatives.

Various WWF project efforts have helped strengthen women's capacity to function effectively in group settings. The WWF land use planning project, the PHE project and a group called REFADD or *Réseau Femmes Africaines pour le Développement Durable* (African Women's Network for Sustainable Development) have all contributed to improving women's group organizational skills and literacy. REFADD, supported by the WWF Livelihoods project, spent up to 3 months with women in some Batwa (often translated as "Batwa pygmy") communities in order to give women opportunities to feel like they can contribute more in committees and better manage their daily lives by knowing how to read and write.

In interviews conducted in 2011, women in both sets of groups said that WWF training provided by the land use planning program on basic group management skills allowed them to feel more confident about voicing their opinions in group settings (Omari Ilambu, pers. communication with Simoneau, 3/2011). They also said that they now have better knowledge about agricultural techniques, and taking care of their families' health.

The impact of the two women's groups on health and environmental issues has not been assessed. WWF has observed that the women's agricultural groups are now growing and selling new types of produce in the market, such as healthier, green leafy vegetables that were grown but not previously sold or part of the diet in this area. Also, women who were invited by the WWF PHE project to be part of the management team of the mothers' groups have praised the formation of the groups for empowering them with the ability to keep their families and communities healthy. In one group interview, several women from the management team said, "We have only one regret-- not having had access to such groups long before!" (Simoneau, email to Honzak, 9/7/11).

5) Involved women directly in land use planning.

At the beginning of the land use planning process, women who were invited to come to Monkoto to

take part in the land use planning meetings would not attend; WWF was told that their husbands did not allow them to participate. To try to overcome this challenge, the land use planning project held meetings in each village to show communities the purpose of involving women in their meetings. The idea was that if men could see the value of women's contributions, they would subsequently be more likely to let their wives participate in higher level meetings that took place outside of their villages. Initially, there were only 3 women involved in the process. By 2011, female participation grew to 1118 out of a total of 2580 members of committees charged with establishing land use plans, called Local Community Development Committees, or CLDC – *Comité local de développement communautaire*, and women held positions such as secretary and treasurer. Like some of the other "women's political empowerment" results described herein, the PHE project was not able to measure its added value- if any- to mobilizing women under the land use planning process. However, the PHE project and the livelihoods project were two of the only projects operating in Monkoto during the same years that these results were achieved. The two projects invested in providing women with skills in management, group organization and leadership. It is clear that women with greater capacity and courage, such as the WWF-trained community health volunteers and health workers, are among those who should have greater ability than other women to effectively participate and hold leadership positions in the LUP process.

Economically empowered women by:

6) Contributing to the effectiveness of the WWF livelihoods project in Monkoto.

The PHE approach in Salonga would not have been able to achieve its women's empowerment goal without the existence of the WWF livelihoods project, and the livelihoods project might not be as successful without the support for nutrition education provided by the PHE project. The livelihoods project provided direct support to the creation and education of women's agricultural groups. Such efforts are essential to providing women with greater access to food security and the means of production, to giving women alternative agricultural options when they receive education about how to better nourish themselves and their children, and more generally, to transforming gender roles in Salonga.

Discussion/Conclusions

Returning to our learning questions, we have arrived at several conclusions:

- Do women become more involved in family planning and health service delivery as a result of PHE interventions? *Yes. The WWF project is the only access women in the region have to family planning and improved health services.*
- Do women use family planning as a result of PHE interventions? *Yes. By 2011, the project consistently observed about 300 new family planning users per month.*
- Do women become more involved in the land use planning process as a result of PHE interventions? *We cannot be certain, but the evidence suggests that PHE interventions contribute to women's involvement, as discussed below.*
- How does women's use of family planning, and involvement in health service delivery and land use planning affect the direct threats to WWF's conservation targets in the SLS landscape? *We cannot be certain, but evidence suggests several paths through which WWF's conservation targets could be positively impacted as a result of women's empowerment through PHE.*

The impacts of women's empowerment on conservation in Salonga are not yet known, given the short time frame of the project. What is clear is that:

First, looking at the PHE project's achievements through the lens of the WWESPE tool, we can see that the project directly impacted several key aspects of women's social/health and political empowerment, with less direct but still supportive impact on economic empowerment. On the social and health front, the project enabled changes in family planning use, which we presume in the long run, will give women greater decision-making power within the household. On the political and economic fronts, the project increased women's status and capacity in health service provision; provided women with information, tools and opportunities to learn about their own health, their children's health, group formation and leadership.

Second, women's high dependence on locally available natural resources (due to relative lack of mobility compared to men), their need to feed their large numbers of children, their inseparable interest in maintaining natural resources for those purposes, and their intimate knowledge of local issues mean that their participation in the land use planning committees or local community development committees, and improved agriculture efforts, are likely to make all conservation efforts more effective in the area.

Finally, by 2011, there was a massive increase in female participation in CLDCs (local community development committees charged with developing land use plans), up from 3 to 1118 women out of a total of 2580 committee members. Furthermore, training of women in management, group organization and leadership skills by the PHE project is likely to multiply their effectiveness in and ability to assume leadership roles in land use planning committees.

Combined, these factors make a powerful argument for the idea that women's empowerment could, given more time, have significant positive impacts on conservation outcomes in the Monkoto corridor.

Conclusions and Recommendations from Nepal and DRC Case Studies

In closing, WWF's collective PHE project experiences in Nepal and the DRC lead us to conclude that – as almost all conservation practitioners implementing PHE projects in recent years have contended- women's empowerment is a viable justification for implementing PHE projects to improve conservation outcomes, as well as an end in itself. The strongly positive women's empowerment outcomes highlighted in these PHE case studies even suggest that in the future, with more research, the PHE approach might emerge as a powerful strategy for ensuring: women's meaningful involvement in conservation, women's ability to derive tangible benefits from conservation, and sustainable conservation success.

Moving forward, WWF seeks to deepen its knowledge, hone its project strategies, and fine-tune its studies of the linkages between PHE, women's empowerment and conservation. If the opportunity presents itself, WWF will seek to partner with academic institutions to study how these linkages function, and by doing so, be able to draw firmer conclusions about causality. In the meantime, WWF will continue to pilot the WWESPE tool in new places, and incorporate women's empowerment as a key aspect of our PHE work. We invite donors, practitioners and the academic sector to join us in this effort so that together, we can expand our knowledge. Even if we can only link some aspects of women's empowerment to conservation outcomes, we will still have advanced human rights among some of the most remote and overlooked populations in the world.

References

Diamond, N. April 2010. Engendering Conservation Constituencies: Understanding the Links between Women's Empowerment and Biodiversity Conservation Outcomes for PHE Programs: WWF-Nepal Case Study. World Wildlife Fund, Washington D.C.

Eyben, R., Kabeer, N. and A. Cornwall. 2008. Conceptualising empowerment and the implications for pro-poor growth: A paper for the DAC Poverty Network, September 21, 2008. IDS, Sussex.

Oglethorpe, J., C. Honzak, and C. Margoluis. 2008. Healthy People, Healthy Ecosystems: A Manual on Integrating Health and Family Planning into Conservation Projects. World Wildlife Fund, Washington, D.C.

Ojha, H., L. Persha, and A. Chhatre. November 2009. Community Forestry in Nepal: A Policy Innovation for Local Livelihoods, International Food Policy Research Institute (IFPRI) Discussion Paper 00913. IFPRI. Available online at <http://www.ifpri.org/sites/default/files/publications/ifpridp00913.pdf>.

Programme National de Nutrition (PRONANUT), 2009. Enquêtes Nutritionnelles Territoriales dans les Provinces du Kasai Occidental, du Kasai Oriental, de l'Équateur et du Katanga. Ministère de la santé publique, Democratic Republic of Congo.

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The PHE Alliance Project (2008-2011) and the Successful Communities from Ridge to Reef Project (2003-2008) was made possible by the generous support of the American people through the United States Agency of International Development (USAID). The contents of this manual are the responsibility of the authors and do not necessarily reflect the views of the USAID or the United States Government.

We gratefully acknowledge financial support from Johnson & Johnson for the PHE Alliance Project and the Healthy Communities, Healthy Ecosystems Project (2003-2008).



Learning Brief Number 3: Goodwill Generation for Conservation through the Population-Health-Environment Approach

Abstract

The following brief is the second in a series of three that highlights lessons about the value of integrating family planning and health interventions into site-based conservation efforts. The first brief summarizes a review conducted by the World Wildlife Fund (WWF) that consolidates the global evidence base in relation to the question: “what is the value to conservation of integrating family planning into site-based conservation using an integrated ‘population-health-environment or PHE approach?’” The second and third briefs utilize case studies to explore two major findings from the first brief: 1) one of the key reasons that conservation practitioners adopt PHE approaches in site based conservation is to empower women, because they believe that women’s empowerment is critically linked to their conservation goals, and 2) many PHE projects undertaken by the conservation sector have anecdotal evidence that PHE projects generate community goodwill towards conservation and conservation organizations, leading to increased community involvement in conservation activities. Yet in almost every PHE project implemented by the conservation sector, no consistent monitoring and evaluation strategies had been put in place to measure the degree of relevance or even the validity of these findings across the sector.

The Population-Health-Environment (PHE) Alliance Project, implemented by the World Wildlife Fund (WWF) from 2008 to 2011, with support from the United States Agency for International Development’s Office of Population and Reproductive Health and Johnson & Johnson, aimed to change that practice, and by doing so, deepen the sector’s understanding of the value of the PHE approach for conservation, and how the sector could better measure that value. The following learning brief explores the role of goodwill generation in-site based conservation through the PHE approach, using a case study from one PHE Alliance project site- in Nepal.

The brief concludes that generating goodwill for conservation is a viable justification for implementing PHE projects to improve conservation outcomes. The case study highlights positive outcomes relating to the generation of goodwill for conservation, in a place where communities have historically been somewhat suspicious about WWF’s conservation agenda. The case study findings suggest that in the future, with more research, the PHE approach might emerge as a useful strategy for transforming community attitudes and behaviors towards conservation that are critical to ensuring long term conservation success.

Introduction

In 2004, WWF carried out an analysis of projects implemented by the conservation sector that integrated health and family planning. These projects are known as integrated population-health-environment or “PHE” projects. About half of the conservation practitioners interviewed as a part of that analysis indicated that one of the most important values for conservation of implementing PHE approaches was to generate goodwill, trust or entry points for conservation (Oglethorpe et al 2008). The general theory put forward by these practitioners is that family planning interventions, integrated into site-based conservation efforts, generate trust and goodwill towards conservation organizations, their environmental partners, and their environmental objectives (sometimes creating entry points for environmental work among populations that were otherwise unwilling to discuss conservation issues or

work with environmental organizations). Building trust and goodwill, in turn, is assumed to lead to increased community involvement in conservation activities. In 2008, an external consultant, Dr. David Carr, conducted an evaluation of 8 WWF PHE projects. The evaluation concluded that it was “overwhelmingly” evident that WWF’s population and health work buys goodwill for environmental conservation outcomes (Carr 2008). Carr utilized a combination of focus groups, key informant interviews, and observational visits to all 8 sites to produce his findings.

In spite of the results of these two analyses, as of 2008, the conservation sector and the still nascent field of PHE lacked a strong evidence base for the “goodwill hypothesis.” The review of WWF and non-WWF PHE projects with end goals of conservation conducted by Oglethorpe and Honzak (as documented in Oglethorpe et al 2008) found a relatively large number of practitioners believed in the power to conservation of the “goodwill hypothesis” but lacked rigorous monitoring and evaluation data to support those contentions. The projects reviewed by Carr had similar data gaps. None of the projects in the Carr evaluation or the Oglethorpe and Honzak review had intentionally built “goodwill generation” into their project strategies at project inception, or sought to measure “goodwill generation” in their monitoring and evaluation plans. This meant that no PHE projects- including WWF PHE projects at that time- had ever been able to gather quantitative data on goodwill, trust or community attitudes towards conservation.

WWF’s PHE program discovered that one key reason for this somewhat weak evidence base was that conservation organizations were often fearful of the consequences of directly broaching the topic of community trust in conservation-related entities or objectives in the places where they worked. The communities in which WWF had the greatest interest in generating improved community goodwill and trust were exactly the same places where relationships with communities were already tenuous or even openly hostile. For example, WWF’s PHE program documented several examples of projects that had been implemented by conservation organizations in places where local people had at one time been expelled from nearby parks or protected areas, or at least lost access to fishing or hunting rights as a result of the establishment of protected areas. As a result, communities were legitimately suspicious of environmental entities and saw no personal benefit in cooperating with them. Conservation organizations feared further jeopardizing their relationships by asking questions suggesting that communities might not trust them.

WWF took the findings as a mandate for the next phase of the PHE program. The PHE program aimed to find more creative ways of measuring goodwill that would not risk damaging WWF’s relationships with communities. Moving forward, WWF wanted to consciously consider whether generating goodwill towards conservation was an important intermediate goal of implementing PHE approaches. If yes, then WWF wanted to examine the role of goodwill generation in our PHE projects and its relationship with WWF’s conservation outcomes.

In 2008, with support from Johnson & Johnson and USAID, WWF launched the PHE Alliance project. The project consisted of PHE field implementation work in three countries-Nepal, Kenya and the Democratic Republic of Congo, and a learning component. WWF invited its own conservation field practitioners to develop at least two central “learning questions” framed as hypotheses on how their PHE approaches linked to their highest priority conservation targets. By doing so, the project aimed to set in place project strategies and indicators that would help advance our knowledge about the hypotheses. Reaffirming the significance of our findings on goodwill generation in conservation within PHE projects, project managers from two of the countries-Nepal and Kenya- articulated questions relevant to this hypothesis. Based on their interest in the question, and on the findings of WWF’s previous analytical efforts, WWF PHE program managers from the US office also encouraged the newest project site- in the

DRC to consider the relevance of goodwill generation in their project. Ultimately, all three projects decided to measure goodwill in their baseline surveys, but WWF also determined that only Nepal and Kenya-whose offices were more experienced in implementing PHE- would have the capacity to consciously mainstream the concept of goodwill generation into their project strategies and work plans, and measure their findings at the end of the project.

Only one case study- on Nepal- is presented herein, but some of the findings from Kenya and DRC are also integrated into the introductory and closing remarks. This brief seeks to deepen our knowledge about the role of goodwill generation towards conservation in PHE projects.

Methods and Measures Across All PHE Alliance Project Sites

In 2008, WWF had the opportunity to design household survey instruments that were similar across the three countries covered by the PHE Alliance project. In 2011, it had planned to repeat this process in all sites, but due to a variety of circumstances, WWF and partners decided not to implement an endline survey in DRC. End-of project surveys were carried out as planned in the other two countries. With the implementation of five of these integrated, in-depth PHE surveys for the first time, WWF had a unique opportunity to gain insight into the issue of goodwill generation through PHE and how it changed over time.

At all three project sites, WWF included questions in its baseline and endline surveys that aimed to measure changes in: a) familiarity with WWF, and b) community attitudes towards WWF's conservation mission, in an effort to measure key components of trust and goodwill towards conservation. The questions had never been field tested before, and were the vision of WWF PHE staff in the US and in the field, based on lessons learned about what type of quantitative information gaps were found by the 2008 Carr evaluation and Oglethorpe and Honzak PHE project review. Examples of some of the questions include:

- Before the interview today, had you heard of WWF?
- To your knowledge, is WWF's primary mission conservation, human health and development, or both?
- To what extent do you agree with the following statement: "WWF is interested in improving my family's health and well-being in addition to sustaining the wildlife and habitat of the (place/habitat where interviewee lives, e.g. Terai forests)."
- To what extent do you agree or disagree with the following statement "conservation of (habitat & wildlife in place where interviewee lives, e.g. Terai forests and wildlife) is important for a healthy ecosystem and human health?"

When possible, WWF also examined potential relationships between project participation, positive attitudes towards WWF and its conservation mission, and an understanding of the relationship between human and ecosystem health.

The Nepal case study that follows provides one example of what types of information these questions yielded and in what context. The reflections provided in the case study also serve as an invitation to the PHE community to ponder: in the future, what kind of information should the sector gather to shed more light on the "goodwill hypothesis" in the context of PHE and conservation?

Case Study from Nepal: Goodwill Generation for Conservation through PHE in the Terai Arc Landscape

WWF-Nepal PHE Theory about Goodwill Generation

In 2009, WWF-Nepal staff worked closely with WWF-US PHE staff to develop the following theory, based on WWF's research findings about the value of PHE for conservation (Oglethorpe et al. 2008):

WWF PHE project managers hypothesized that PHE interventions would improve community attitudes towards WWF's conservation mission in the Terai, thereby increasing buy-in to wildlife and habitat conservation activities. Specifically, WWF assumed that community members would play a more active role in forest management and would increase use of alternative energy technologies (including biogas and improved cooking stoves or ICS), which were key behavioral targets of the project.

Case Study PHE Learning Questions

- Do community attitudes towards conservation (or towards WWF) become more positive as a result of PHE interventions?
- How do changes in community attitudes towards wildlife conservation (or towards WWF) impact the direct threats to WWF's conservation targets for the area?

Case Study Methods and Limitations

The case study relied almost exclusively on findings from integrated PHE project baseline and endline surveys conducted in project interventions areas in 2008 and 2011 respectively. Those surveys included household surveys employing multistage sampling designs, focus group discussions, and key informant interviews. Survey information is supplemented by interviews with project staff and key project-related background documents.

Given that this project was not designed as a research project, the choice of methods was not intended to enable WWF to produce comprehensive answers to the questions posed above. Rather, the project gave WWF the opportunity to consciously build hypotheses into project design and monitoring frameworks, and to draft this case study as a means of expanding knowledge about PHE project strategies with as much information as can be gleaned from project monitoring data.

WWF PHE Project in the Terai Arc Landscape, Nepal

The Terai Arc Landscape (TAL) spans across India and Nepal over an area that is about twice the size of the US state of Maryland. Containing 11 protected areas and the unprotected corridors between them, the Landscape supports Asia's last remaining wild elephants, rhinos and tigers and a large, rapidly growing human population. About half of the landscape lies in Nepal, where more than 75 percent of Nepal's lowland forest still remains. Pressures on these remaining forests and the natural resources that they contain are considerable. About 90 percent of the residents of Nepal's Terai Arc rely on agriculture for their livelihoods, yet rural farmers have low yields from traditional agriculture and depend on firewood and wild forest foods to supplement their incomes. Increasing demands for land and natural resources feed growing levels of forest encroachment, timber and wildlife poaching, and overgrazing.

In 2001, WWF-Nepal launched the TAL program to help conserve the area's habitats and biodiversity, in order to ensure the ecological, economic and socio-cultural integrity of the region. Creation of wildlife corridors between protected areas is a key component of the TAL strategy and necessitates that WWF Nepal work closely with communities living in and around the corridors. Community partners include Community Forest User Groups (CFUGs) and Community Forest Coordination Committees (CFCCs) which

are composed of CFUG representatives from specific geographical areas. The TAL program works with these groups: to promote anti-poaching patrolling and reporting in wildlife corridors and sustainable management of community forests, grasslands and protected areas; to develop ecotourism opportunities for local communities; and to reduce and mitigate wildlife damage to communities through restoration and production of wildlife-compatible cash crops and basic agroforestry.

From 2003 to 2008, with support from Johnson & Johnson, WWF began to integrate population-health and environment or PHE activities into the suite of interventions in the Terai Arc. This first phase of the PHE program on just one area, called the Khata Corridor. The PHE approach was one of an array of different approaches that WWF-Nepal piloted throughout the landscape—all of which aimed to help engage local communities in the core conservation mission of the TAL program while simultaneously building healthier, more sustainable communities. From 2006 to 2008, with funding from USAID, the project was continued in Khata, and integration across P, H and E activities was increased.

In a third phase, from 2008 to 2011, the PHE Alliance project, supported by both of the previous donors, enabled WWF-Nepal to scale up the project to a total of three sites in the Terai- Khata Corridor, Lomahi Bottleneck, and Basanta Corridor, covering a total population of about 123,000 people in 15,000 households. The new project followed a similar model to the first two phases of the project, but built on the most successful aspects of the PHE approach. The PHE Alliance project aimed to improve people's access to safe drinking water, sanitation, basic health and family planning services; to develop alternatives to using forest timber for fuelwood; to strengthen mothers groups and community forest user groups to ensure greater sustainability of health and conservation outcomes; and to help generate the positive attitudes and behaviors towards WWF and its conservation mission that enable WWF to succeed in its community mobilization efforts- especially those that relate to CFUG and CFCC capacity building.

Role of Goodwill Generation and Trust in WWF-Nepal PHE Project

In the TAL, like many other landscapes where WWF carries out conservation work, local communities vary widely in their immediate assumptions about how the TAL program, WWF, and any other NGO that enters their area will impact on their well-being. Community receptivity to a nature conservation agenda is usually primarily dependent on the specific environmental values and past experiences of the diverse populations that comprise the landscape. The communities of the TAL are no exception. A 2006 study (Baral et al 2007) conducted in the TAL found that communities living around protected areas who had received longer term and higher levels of social and economic interventions from conservation and development organizations had more favorable attitudes and greater levels of participation in conservation than those who had experienced relatively lower and shorter term levels of intervention.

WWF's Eastern Himalayas Landscape leader explained that when WWF first launched the PHE program in Khata in 2003, "communities were not supportive of our activities, thinking that we are there to establish protected areas. It took us a long time to convince the communities that we were not there to declare protected areas," (Lohani, email to Honzak, 2011). Fears of communities towards the establishment of protected areas were based on a variety of concerns. It is well known that wild animals such as deer and rhino living within protected areas can cause substantial damage to crops. In addition, animals such as tigers, rhinos and leopards occasionally attack, maim or kill humans.

Compounding fears about the establishment of increasingly strict prohibitions on access to natural resources such as protected areas, is that throughout the Terai, existing protected areas continue to struggle to produce sufficient income from tourism to give farmers compensation for crop loss, loss of

life, or disabilities caused by conflicts with wild animals. Hunting and the ability to extract timber and non-timber forest products – when allowed- also can provide families with important supplemental support for their livelihoods.

In order to gain community support for expanding conservation measures outside of protected areas, such as habitat management provisions that would allow freer passage of wildlife, WWF's TAL program had to transform knowledge, attitudes, and behaviors of communities that would enable them to support conservation measures. The WWF-TAL program also had to demonstrate that conservation could produce tangible benefits for communities. PHE was one component of a broader strategy to achieve this goal, and sought to directly improve the health status of the impoverished local population, to expand female participation in decision-making about natural resources and conservation, and to mobilize community forest user groups to become more effective agents of conservation.

The PHE Alliance project that expanded out from Khata into two additional areas in 2008, replicated many integrated program strategies that aimed to: increase participation in CFUG and other health and environmental activities; generate increased knowledge and positive attitudes towards conservation; and help communities realize the linkages between their own health and the health of their environments. As such, the PHE project ensured that project education and outreach efforts included messages that drew conceptual linkages between human health and the environment, and that health and environment sector personnel and volunteers were trained in delivering these linked messages in their daily operations. Key project interventions included:

- Increased access to clean drinking water. The project installed 153 new tube wells with hand pumps (in general, deeper wells built by the project were found to be free of arsenic), and distributed household level water filters to improve the availability of clean drinking water. Due to regular tests of water quality carried out in communities, the majority of community members are aware that without the hand pumps and filters, their water sources are frequently contaminated with unsafe levels of arsenic and bacteria.
- Increased access to technologies that reduce household reliance on fuelwood, time spent collecting wood, and may contribute to reduced incidence of respiratory illness. The project supported the installation of more than 1600 improved cookstoves, about 20 percent of which included attached biogas toilets. These stoves require less fuelwood and produce less household smoke (so may be associated with reduced levels of acute respiratory infection, a disease with particularly high prevalence in this part of Nepal).
- Enhanced quality and facilitated access to health services in this remote area. The project built the capacity of more than 200 government health personnel, helped increase availability of contraceptives off-hours and in outlying villages, and upgraded health facility equipment-with a focus on making facilities safer for deliveries.
- Provided out-of-school education through behavior change communication (BCC) classes and street drama. Classes and "street drama" focused on: raising awareness of basic health topics such as family planning and reproductive health; organizing and strengthening savings and credit cooperatives; and raising awareness of biodiversity loss, climate change, natural resource management practices etc. The project trained about 600 adult and youth project volunteers on these topics, who in turn reached thousands of households through outreach efforts, including drama.
- Provided women with training about savings and credit cooperatives and increased their access to income generating activities. The project trained 91 existing and 10 new mothers groups on population, health and conservation issues along with providing education on "savings and credit

cooperatives” to help increase the number of female shareholders in cooperatives and increase women’s income generating opportunities.

- Promoted inclusion of PHE activities into CFUG operational plans. The project helped CFUGs adopt activities such as peer education on health and environment issues, and community-wide health and environment awareness events into the operational plans of CFUGs (which means that CFUGs own funds will be used to sponsor the activities).¹

The design of the PHE Alliance project at this site enabled WWF to expand its evidence base for the theory that integrated PHE projects help generate community goodwill, and that increased goodwill leads to better conservation outcomes.

Explanation of Findings

Using the questions described in the introduction, in household surveys and focus groups at the baseline and endline of the PHE Project, WWF was able to gain insight into the learning questions posited at the beginning of the project.

Qualitative data gathered through endline survey focus groups revealed that human-wildlife conflict was still a challenging issue for many communities, but that despite these conflicts, community members felt that their attitudes toward wildlife had become more positive since the beginning of the PHE project. Focus group members attributed this positive change in attitudes to their observation that more community members were participating in conservation activities than a few years prior to the survey, and that conservation practices were improving. Examples of “conservation practices” includes community forest user groups setting aside areas specifically for wildlife conservation with restrictions on human use; community members participating in patrolling their forests for illegal activities including poaching; and improved management of specific habitats. Focus group members suggested that the PHE project played a major role in these positive changes.

Baseline and endline survey data suggest that the PHE project may have helped improve women’s attitudes towards conservation. At baseline, about half of women said that wildlife conservation was necessary in the Terai and that wildlife conservation was important to human and ecosystem health; by the end of the project the percentage of women who agreed with both of these statements had increased to 95%. Baseline data on attitudes towards conservation were not collected from men (due to miscommunications that took place during baseline survey planning), but endline data for men were collected. These data showed similarly positive attitudes- at 95 and 93% (with respect to the two indicators above). These data suggest that if community attitudes towards conservation help shape the activities of CFUGs, then at the end of the project, CFUGs are likely to be making conscious decisions about conservation, which could be expected to have positive impacts on conservation outcomes.

The positive changes in women’s attitudes towards conservation could have been caused by factors external to the PHE project, since the project was not designed to assess causal relationships. However, when PHE Alliance endline household surveys asked women and men who had experienced a positive change in attitude towards conservation, to what factors they attributed their positive attitudes, among the top two answers were: improved health services and increased access to clean water, both of which were supported by the PHE project.

¹ PHE activities supported by community forest operational plans include: PHE street dramas; awareness programs on safe drinking water and the “small happy family”; coordination with the DMOH for family planning camps; special events on National Environment or World AIDS Day, etc.

As outlined at the beginning of this case study, Nepal PHE project practitioners established at the outset of the PHE Alliance project that they thought positive attitudes towards conservation would in turn positively influence: the uptake of improved natural resources management practices (such as biogas and improved cooking stoves/ICS) and the effectiveness of CFUGs as conservation advocates/managers of forests.

An analysis of the project's endline survey data also showed a positive and statistically significant correlation between PHE project participation and household adoption of biogas technology. This finding suggests that direct participation in the PHE project affects their uptake of this improved natural resource management practice. Survey data also showed a notable increase in household adoption of the two technologies: from 8% of households at project start-up, to 21% by the end of the project. Based on the number of these energy saving technologies installed, WWF calculates that roughly 2932 kg of wood are saved through their use.

The factors described above may relate to the fact that over the life of the PHE project, WWF observed that CFUGs showed increasing buy-in to and competence in advancing key conservation objectives. The positive changes observed in all of the indicators discussed above are consistent with increases in support for conservation observed in CFUGs over the life of the project. "CFUG level of support for conservation" was measured based on reviews of CFUG operational plans, known as community forest operational plans (CFOPs), in the three target area.

CFOPs are revised and ratified every 5 years. CFUGs use their own funds to support provisions included in their plans. The project used two indicators to measure "increased support for conservation"-- the incorporation into CFOPs of: 1) habitat management provisions- such as designation by CFUGs of a rhino feeding site as a protected area, for example- and 2) PHE provisions- which include a wide range of P,H, E and integrated PHE activities (see footnote 1).

In one of the three project target areas where WWF had not worked prior to the PHE project, communities credit WWF with helping establish their CFCC and making their CFUGs operational. The operational plans under development by those CFUGs now include habitat management and PHE provisions but were not yet ratified due to the relatively short timeframe of the project. In the other two project target areas, 100% of the CFUGs incorporated habitat management provisions in their plans by the end of the project and PHE provisions were adopted in 35% and 100% of CFUGs respectively (having started at zero or in situations in which the previous provisions had expired).

Discussion/Conclusions

Returning to the learning question posed at the beginning of this case study:

- Do community attitudes towards wildlife conservation (or towards WWF) become more positive as a result of PHE interventions? *We know that community attitudes towards wildlife conservation improved substantially during the period that the PHE Alliance project took place, and that focus group members attributed these attitude changes to the PHE project.*
- How do changes in community attitudes towards wildlife conservation (or towards WWF) impact the direct threats to WWF's conservation targets for the area? *This case study suggests several paths through which WWF's conservation targets could be positively affected by improved attitudes towards wildlife conservation or towards the WWF Terai Arc Landscape (TAL) Program. For example, when community attitudes towards wildlife conservation improve, this may directly or indirectly*

create enabling conditions for local natural resource management groups (CFUGs) to become stronger supporters of conservation measures, and cause them to implement policies and practices that have positive impacts on conservation targets. Also, although WWF undertook to measure community attitudes towards WWF, the PHE Alliance surveys revealed that communities did not view WWF as a completely distinct entity. Projects in the area tended to be associated with the overarching "TAL program" versus WWF.

Because the PHE Alliance project was not designed to assess causal relationships, WWF cannot attribute changes in attitudes towards conservation to the PHE project or changes in use of improved natural resource management technologies or conservation-related decisions made by CFUGs to changes in community attitudes towards conservation. However, the evidence presented by this case study provides a compelling foundation for continuing to explore possible links between these outcomes.

For example, WWF knows that women are the primary decision makers in households about the types of stove their households will use, and women were strongly targeted as direct PHE project beneficiaries. Women's attitudes towards conservation clearly changed during the life of the project. Furthermore, women are the primary users of these technologies and also stand to benefit from reduced need to collect firewood or to inhale smoke from regular stoves. It seems at least plausible that women's attitudes towards conservation may have played a role in uptake of these stoves. It also seems plausible that changes in attitudes towards conservation would have a positive influence on outcomes of CFUG decisions and activities related to conservation.

The findings of the PHE Alliance project data provide only a glimpse into the complex relationships between PHE interventions, changes in community attitudes and practices, and conservation outcomes. A research project study design would have been necessary to ascertain the potential impacts of PHE on conservation in the TAL region. Comparisons between WWF-TAL sites with and without population and health interventions would provide the most conclusive evidence that PHE interventions are indeed causing increased goodwill toward conservation.

In spite of these challenges, WWF can tentatively conclude that existing evidence continues to show that PHE projects generate improved attitudes towards conservation; as such, PHE projects may be able to play a critical role in laying the groundwork for successful conservation projects, particularly in areas where goodwill and trust in conservation organizations is weak or lacking.

References

Baral, N. and J. Heinen. 2007. Resources use, conservation attitudes, management interventions and park relations in the Western Terai Landscape of Nepal. Environmental Conservation. Available online at: http://frec.vt.edu/GradStudents/Baral/Environmental_Conservation_34_1.pdf

Carr, D. 2008. Population, Health and Environment in Africa and Asia: An evaluation of WWF's USAID and Johnson & Johnson-supported projects. World Wildlife Fund, Washington D.C.

Oglethorpe, J., C. Honzak, and C. Margoluis. 2008. Healthy People, Healthy Ecosystems: A Manual on Integrating Health and Family Planning into Conservation Projects. World Wildlife Fund, Washington, D.C.

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