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A FRAMEWORK FOR POPULATION, HEALTH, AND ENVIRONMENTAL PROGRAMS

This publication was prepared by Scott Moreland and
Alexander Paxton of the Health Policy Project.





**HEALTH
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USAID
FROM THE AMERICAN PEOPLE

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Framework for Population, Health, and Environment Programs

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ABBREVIATIONS

HIV	human immunodeficiency virus
HoPE-LVB	Health of People and the Environment in the Lake Victoria Basin project
HPP	Health Policy Project
NGO	nongovernmental organization
PHE	population, health, environment
USAID	United States Agency for International Development
WWF	World Wildlife Fund

BACKGROUND

Population, health, and environment (PHE) programs are a growing programmatic approach to human development and environmental conservation; one that explicitly recognizes that people and communities are inextricably linked to the ecosystem in which they live. By attempting to integrate multisector interventions into a single, holistic program, PHE programs seek to simultaneously improve the health of people and the environment. The distinguishing nature of the PHE approach is that interventions in each of the three areas—population, health, and environment—integrate aspects of either or both of the other two areas. For example, family planning (i.e., population) messages might be included in a health component that delivers safe motherhood services, or nutrition (i.e., health) advice might be included in sustainable agriculture (i.e., environment) projects. PHE programs aim to increase access to family planning and other health areas, such as safe motherhood, child survival, and HIV while at the same time helping communities to manage their natural environments. Ultimately, the approach is aimed at protecting the environment while improving the quality of life of community members. Often, PHE programs also strive to improve the economic livelihoods of participants in order to improve their health and reduce their dependence on environmentally destructive farming and fishing practices.

PHE projects are predicated on the assumption that an integrated approach that combines population, health, and environmental interventions will result in greater synergistic impacts than if the interventions were executed vertically. This concept is often referred to as the “value added” of the integrated PHE approach. Although there is a growing, but sporadic, body of evidence to support this, (see Appendix A) there are few analytical models that can be used for advocacy purposes or at the project conception or design phase. Most PHE projects have some kind of logical framework (log-frame) within which they work. These frameworks link project inputs to outputs and outcomes. However, log-frames are inevitably specific to each project and there are as many log-frames as there are projects. Without a common framework, program planners, funders, and implementers lack a standard approach by which to assess the design and/or implementation of their individual programs. Moreover, because the evidence for the value added of the integrated PHE approach is so sporadic, program designers do not have a useful tool to design interventions and suggest intervention strategies.

APPROACH

In response to the need for a standard analytical framework by which to evaluate PHE programs, the USAID-funded Health Policy Project (HPP) developed the present tool to define the interactions between interventions in each of the three sectors—population, health, environment—and to show the synergies that can result from an integrated, multisector approach. HPP built a generalized PHE computer model/framework that can be applied to any PHE program. To access the PHE Framework, please contact the Health Policy Project, www.healthpolicyproject.com. Models have been successfully used to advocate for policy and program support from funders, policymakers, and local communities in public health, most notably for family planning (e.g., the RAPID model), but also in HIV and AIDS, child survival, and maternal health. In this project, HPP developed a simple model that can be used to demonstrate the advantages of the PHE approach. While there is a wide diversity of elements and interventions in PHE projects, the model attempts to capture the main elements of such programs, and is intended to serve as a planning and implementation aid to program designers and other advocates of the PHE approach. The purpose of the framework is to

- Estimate the value-added of integrated PHE programs
- Show the impact of various external factors on program outcomes

- Provide a design framework for program planners of PHE programs
- Serve as an advocacy tool for PHE

As the name implies, PHE programs explicitly address the population, health, and environment sectors of development. However, many PHE programmers include a fourth sector, livelihoods, primarily because environmental elements invariably involve some type of sustainable agriculture or fishing. By their nature, these are livelihood activities for beneficiaries. Many programs include a strong focus on improving household-level incomes and poverty among participants. These sometimes, but not always, are linked to environmental interventions. HPP therefore included livelihoods as a fourth sector within the framework.

OVERVIEW OF THE FRAMEWORK

The Excel-based framework can serve as a planning, design, and advocacy tool. Because the tool is based on a computer-based, mathematical model, it is quantitative. Therefore, all input and output choices made by users have to be measured in some way, either via indicators that can take on continuous values or via qualitative indicators that use Likert scores. This makes the tool very compatible with project work plans and monitoring and evaluation frameworks that have detailed plans for inputs, outputs, and outcomes.

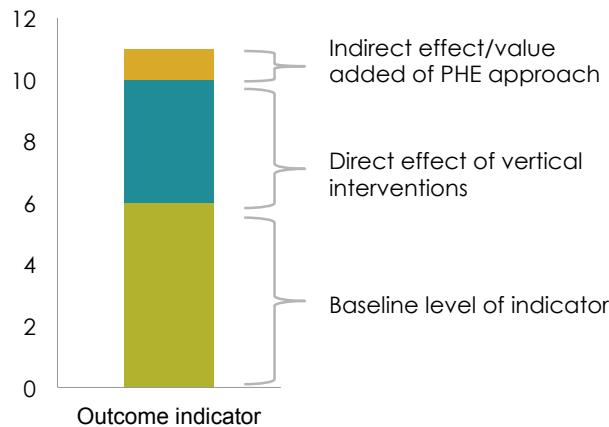
In using the framework users specify interventions and the level of intensity of each intervention for the included sectors: population, health, environment, and livelihoods. Users also indicate how the intensity of the interventions will be measured; that is they define an indicator for each intervention. Under the framework, users also determine what outputs or impacts they are trying to achieve and indicators for measuring those outputs/impacts. Users also choose the amount of integration of one program sector into another and the level of supporting factors for each sector, such as political support, finance, management, and human resources. These choices can help users see the direct effects of each interventions on the program areas and the indirect effects/value-added of using an integrated, PHE approach. To establish relationships between inputs and outputs users can draw on existing studies that will help to develop stylized, but reasonable, interactions between inputs and outputs.

In theory, PHE programs can achieve greater results than vertical programs for a variety of reasons: increased community buy-in; reinforcement of messages; and simultaneous addressing of multiple, development challenges and behavioral changes in one sector that impact on another sector. The magnitude of change in the outcome indicator of interest for a sector can be broken down into two parts (Figure 1):

Direct effect – the magnitude of the outcome that would be expected from a vertical program of similar intensity;

Indirect effect – the additional “boost” to the outcome in one sector due to integrating the intervention into another sector; thus representing the value-added of the PHE approach.

Figure 1. PHE Program Outcomes

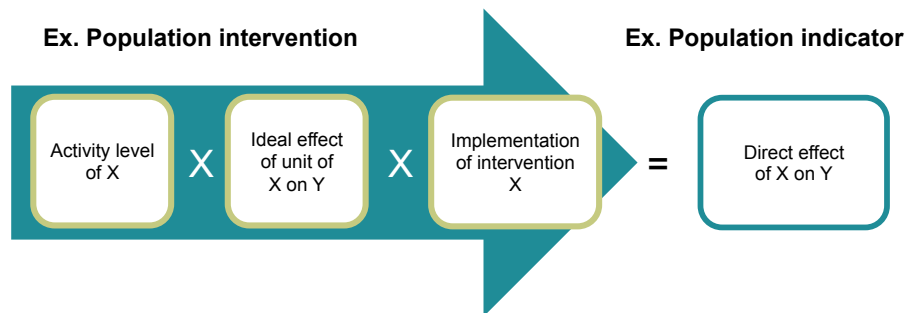


Source: Authors

Direct Effects

The direct effects of an intervention are calculated by applying input-output coefficients, defined for each intervention, to the level of intensity of the intervention. The coefficient defines the number of units of an output that are ideally changed as a result of a unit increase in an intervention. This is represented conceptually in Figure 2.

Figure 2. Direct Effect of Intervention X on Outcome Y



Source: Authors

It should be noted that multiple interventions can affect a single output. For example, a behavior change communication campaign for immunizations may raise immunization rates. Likewise, increasing the number of vaccination days may also improve immunization rates. However, the model does not currently take account of redundant effects of multiple interventions on the same output. Similarly, it is also likely that a single intervention may have an effect on multiple outputs.

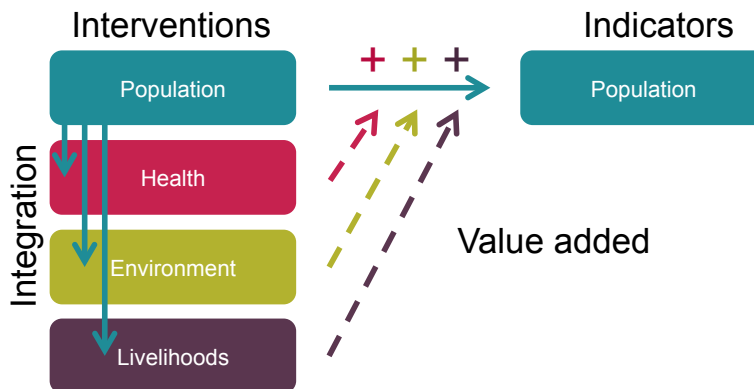
Indirect Effects

Indirect effects are the additional boost to an output indicator in one sector due to integrating an intervention in another sector. The indirect effect is the value-added of an integrated PHE approach, compared to a vertical approach. Integrating interventions from one sector (e.g., health) into another sector (e.g., environment) allows inputs from the two sectors to support one another. We refer to this effect as a boost. Some examples of integration are

- Distributing condoms during marine resource management meetings
- Promoting child spacing while teaching tree nursery management (e.g., with the use of slogans such as, “Give your trees and your children room to grow.”)
- Educating individuals about the effects of open defecation on clean water while promoting the use of improved latrines

Depending on the program, one sector can be integrated into multiple sectors. For example, family planning can be integrated into the health, environment, and livelihood sectors. Each of these would then provide a boost or indirect benefit to the family planning output. This concept is illustrated in Figure 3.

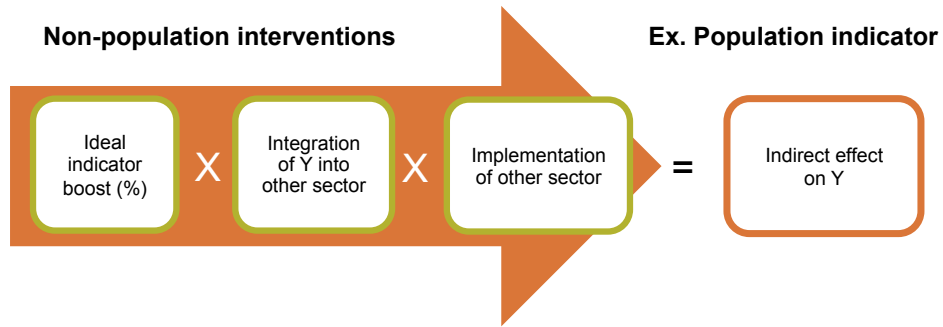
Figure 3. Indirect Effects of the PHE Approach



Source: Authors

One way to conceptualize the benefits of integration is as a boost or bonus to the direct effects of interventions. In the absence of strong data, a reasonable approach is to interpret this bonus as a percentage of the direct effects. As shown in Figure 4, the framework captures this boost by a coefficient. In Figure 4 the indirect effect is shown as calculated by multiplying three factors: the indirect effect on indicator Y is calculated by multiplying the percentage boost coefficient, times the degree of integration, times the intensity of the intervention in the non-Y sector.

Figure 4. Indirect Effects of Other Sectors on Indicator Y



Source: Authors

USING THE FRAMEWORK

There are six steps in using the framework:

1. Define interventions
2. Identify outputs
3. Indicate enabling environmental factors
4. Determine levels of integration
5. Specify direct and indirect impact coefficients
6. Review results

Define interventions

As noted above, the framework, available from www.healthpolicyproject.com, is an Excel-based tool, designed for easy navigation. Users are led through a series of screens that require them to input data. The first step is to define interventions for each of the four program areas: population, health, environment, and livelihoods. Interventions should be as narrowly defined as possible. Users can define up to 15 interventions per area, but for practical reasons we recommend between four and six per area.

For each intervention, users must specify how the intervention will be measured. This is essentially an indicator that tells how we can measure the intensity or level of the activity. For example, if the activity is “family planning behavior change communication,” as it is in Figure 5, the activity measure could be the number of community meetings. It is important that the activity measure is an indicator for an input and not an output or impact.

Figure 5. Defining Interventions

Select program interventions

Please input the program interventions. Interventions must be categorized according to primary program area: population, health, environment, or livelihoods. The list will expand as interventions are entered, up to a maximum of 15 interventions per category.

Intervention	Activity Measure
Population	
P1 FP Behavior Change Communication (BCC)	Number of community meetings
P2 FP Counseling at fixed clinics	Number of clients counseled
P3 Campfires/moonlight sessions for males	Number of sessions
P4 Training of health workers in FP	Number workers trained
P5 Training village health teams in FP	Number of teams trained
P6	
P7	
P8	
P9	
P10	
P11	
P12	
P13	
P14	
P15	



Intervention	Activity Measure
Health	
H1 Provision of solar lights for clinics	Number of clinics with solar lights
H2 Community Dialogue Meetings (CDMs)	Number of CDMs
H3 Provision of ante natal services	Number of clients served with ANC
H4 Promotion of latrine usage by community groups	Number of promotional meetings held
H5 Provision of immunisation services to children below 5 years	Number of children immunized
H6	
H7	
H8	
H9	
H10	
H11	
H12	
H13	
H14	
H15	

Source: Authors

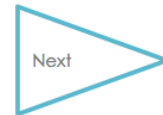
Once the user has defined the interventions and specified how the activity will be measured, they will then need to indicate targets for each intervention. This can be seen as a goal of the program based on budgets and work plans. For example, in Figure 6 we see that the expected level of behavior change communication meetings is 50. The time period during which these meetings take place, however, is not specified. It can be a quarter, a year or five years or “life of project,” just as long the same time period is used for all interventions.

Figure 6. Defining the Level of the Intervention

What is the maximum possible activity level of each intervention, assuming perfect implementation?

For each intervention below, please enter the ideal number of activities. This target should be a "stretch goal" that can only be achieved under perfect programmatic conditions and resources. Later, this number will be adjusted by the tool based on programmatic challenges.

Population	Activity measure	Ideal target
FP Behavior Change Communication (BCC)	Number of community meetings	50
FP Counseling at fixed clinics	Number of clients counseled	300
Campfires/moonlight sessions for males	Number of sessions	50
Training of health workers in FP	Number workers trained	30
Training village health teams in FP	Number of teams trained	20
Health		
Provision of solar lights for clinics	Number of clinics with solar lights	50
Community Dialogue Meetings (CDMs)	Number of CDMs	45
Provision of ante natal services	Number of clients served with ANC	500
Promotion of latrine usage by community groups	Number of promotional meetings held	25
Provision of immunisation services to children below 5 years	Number of children immunized	500
Environment		
Support the demarcation and protection of fish breeding areas	# of fish breeding sites demarcated and protected	15
Promotion of agro-forestry practices	# trees planted	1000
Strengthening BMU capacity to reduce illegal practices and promote sustainable fishing	BMU personnel trained	50
Promoting sustainable fishing through fish farming	fish farms established	15
Livelihoods		
Selling energy-saving stoves	Stoves sold	200
Engage community group members in generation of alternative livelihood / environmentally friendly practices	# community groups engaged	15



Source: Authors

Identify outputs

The next step is to specify the impact or output indicators for each of the sectors. There can be multiple indicators for each sector. It is also important to note that each output indicator can be impacted by more than one intervention. The user defines each output indicator, in the units in which it will be measured, and gives a baseline value of the indicator at the beginning of the program. If the program has a baseline survey, the baseline value can come from that. If, instead, the program is introducing something totally new, the value may be zero. For example, Figure 7 shows an indicator for “clinics operating in evening hours,” where the units are given as number of clinics and the baseline value given is zero.

Figure 7. Indicators for Outputs

Program Outcome Indicators

Please input the outcome indicators that are relevant to the program. If appropriate, please enter a baseline value.

Indicator	Units	Baseline Value
Population		
YP1 # of female Users of contraception	Users	200
YP2 # males who support FP	men	50
YP3 % of FP users satisfied with quality of services obtained	Percentage	10
YP4		
YP5		
YP6		
YP7		
YP8		
YP9		
YP10		
YP11		
YP12		
YP13		
YP14		
YP15		
Indicator	Units	Baseline Value
Health		
YH1 Clinics operating in evening hours	# of clinics	0
YH2 % pop indicating positive health seeking behavior	%	10
YH3 % of pregnant women receiving 4 ANC visits	% pregnant women	25
YH4 % population using latrines	% populaition	25
YH5 % of children < 5 fully immunized	% children < 5	25
YH6		
YH7		
YH8		



Source: Authors

Indicate enabling environmental factors

The effectiveness of the interventions on program outcomes can be influenced by factors both inside and outside of the program. In the framework, these factors are primarily the level of integration between sectors and the extent to which enabling environment factors can enhance or inhibit the effects of the interventions. The framework’s “Enabling environment and program implementation factors” page gives users the opportunity to define enabling environmental factors that will affect the success of their intervention. These might include things such as the local policy environment, financial resources, or level of community engagement. As shown in Figure 8, users indicate these factors and then specify the extent to which they believe these factors may help or hinder the intervention in each of the four program areas. Users rank enabling environmental factors using the following scale:

- **Excellent:** The enabling factor is ideal, or close to ideal, and would contribute to maximum feasible results if other enabling factors are present.
- **Very good:** The enabling factor is more than sufficient and will likely contribute to greater results than would be expected under usual circumstances.
- **Good:** The enabling factor is sufficient for achieving the program's expected results.
- **Fair:** The enabling factor is insufficient and will reduce program performance below expected levels.
- **Poor:** The enabling factor is severely deficient or absent and will severely affect program performance.

Figure 8. Indicating and Ranking Enabling Environmental Factors

Enabling environment and program implementation factors

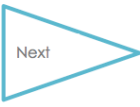
For each of the four PHE program areas, please indicate the level to which each of the enabling factors is in place.

- Excellent** - the enabling factor is IDEAL or CLOSE TO IDEAL and would contribute to maximum feasible results if other enabling factors are present
- Very good** - the enabling factor is MORE THAN SUFFICIENT and will likely contribute to greater results than would be expected under usual circumstances
- Good** - the enabling factor is SUFFICIENT for achieving the program's expected results
- Fair** - the enabling factor is INSUFFICIENT and will reduce program performance below expected levels
- Poor** - the enabling factor is SEVERELY DEFICIENT or absent and will severely affect program performance

The list can be edited to suit your project. Select the appropriate number of factors and edit list as necessary.

Number of factors to consider

Edit list as necessary		Population	Health	Environment	Livelihoods
1	Effective leadership and management	Good	Fair	Excellent	Very Good
2	Availability and training of human resources	Poor	Poor	Very Good	Very Good
3	Financial resources	Good	Good	Fair	Excellent
4	Evidenced-based programmatic decision making	Fair	Poor	Good	Very Good
5	Commodity security measures	Very Good	Fair	Very Good	Fair
6	Advocacy efforts supporting the program	Excellent	Poor	Excellent	Good
7	Champions at all levels advocate for PHE program area	Good	Fair	Poor	Good
8	Community engagement in addressing activity barriers	Excellent	Fair	Fair	Very Good
9	Activity works to foster positive social norms and transform gender roles	Very Good	Excellent	Excellent	Excellent
Overall Implementation Summary		Good	Fair	Good	Very Good



Source: Authors

Determine levels of integration

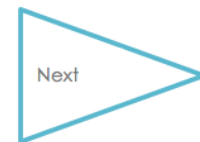
An important aspect of PHE programs is that they are integrated. Once users have defined their interventions, indicated enabling environmental factors, and identified outputs, users will then need to determine the level of integration of each sector into the other three sectors. For example, as shown in Figure 9, the user specifies the extent to which population is integrated into each of the activities for health, environment, and livelihoods. The *framework* uses a Lickert scale to measure the level of integration. There are four levels of integration that users choose from a drop-down menu: None, Very Little, Moderate, and Strong. How the integration is achieved is not part of the framework so users will need to decide how the integration takes place and its level. This is done for each of the four program areas. Figure 9 gives an example of this step.

Figure 9. Determining Levels of Integration

How well is Family Planning integrated into these non-FP activities?

To what extent do the following activities include FP messages or activities? For example, if FP commodities are distributed at the local marine management unit, then that may be an example of weak integration. However, if the members regularly hold formal discussions of the benefits of family planning, that would be an example of moderate or strong integration of FP into Marine Management.

Primary Activity		Population
Health		
H1	Provision of solar lights for clinics	None
H2	Community Dialogue Meetings (CDMs)	Moderate
H3	Provision of ante natal services	Strong
H4	Promotion of latrine usage by community groups	Minimal
H5	Provision of immunisation services to children below 5 years	Moderate
Environment		
E1	Support the demarcation and protection of fish breeding areas	None
E2	Promotion of agro-forestry practices	None
E3	Strengthening BMU capacity to reduce illegal practices and promote sustainable fishing	Some
E4	Promoting sustainable fishing through fish farming	None
Livelihoods		
L1	Selling energy-saving stoves	Moderate
L2	Engage community group members in generation of alternative livelihood / environmentally friendly practices	Some



Source: Authors

Specify direct and indirect impact coefficients

Once interventions, the level of integration, and outputs have been defined, the next step is to specify interventions’ expected direct and indirect effects in each sector via a series of coefficients. The numbers that users enter into the cells represent what are, essentially, input-output factors. These can be thought of as two types of impacts. The first, represented by the top cells on the “Effects” page (see Figure 10) are the direct effects of an intervention on the outcomes listed for its host sector. For example, how population interventions affect population outcomes. The number that is entered here can be interpreted as the maximum possible change (in absolute terms) in the indicator (column) due to one unit of the activity (row). The maximum effect can only be achieved under ideal implementation of the program.

The cells in the bottom panel (Figure 10) represent the interventions’ indirect effects on outcomes in the sectors other than the main sector the intervention falls under. For example, for an economic intervention, the bottom panel would show the indirect effects of that intervention on the outcomes for the population, health, and livelihood sectors. These effects are the value-added of program integration. The numbers shown represent the maximum possible percentage increase in the productivity of the interventions due to “perfect” integration into each of the sectors. It is important to understand that these integration effects represent the effects on the host sector of integration into other sectors. The idea is that the integration of an intervention into another sector can induce a boost effect on the sector of the intervention. For example, one may expect that integration of population activities into livelihoods interventions might increase the number of new family planning users. The numerical value that is entered into the bottom panel of the integration matrix (Figure 10) is a percentage increase in the effectiveness of the direct intervention on the sector outputs. As an example, we see in Figure 10 that the integration of population activities into the environment is assumed to provide a potential maximum boost of 5 percent for direct population interventions, when the level of integration is at its highest.

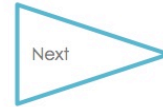
Figure 10. Specifying Program Effects

What is the maximum possible effect of each activity on each outcome, assuming perfect implementation?

Please adjust the effectiveness of program activities.

The cells in the top box represent the *direct* effects of activities on outcomes in the same program area, i.e. the effect of a *health* intervention on a *health* outcome. These effects would exist in a vertical (non-integrated) program. The number can be interpreted as the maximum possible change (in absolute terms) in the indicator (column) due to one unit of the activity (row). The maximum effect could be achieved only under ideal implementation of the program.

The cells in the bottom box represent the *indirect* effects of activities on outcomes outside of the same program area. These effects are the "value added" of program integration. These numbers represent the maximum possible percentage increase in the productivity of the interventions due to integration into each of the program areas. For example, one may expect that integration of population activities into livelihoods interventions will increase the number of new users by 10%.



Intervention	Activity	# of female Users of contraception	# males who support FP	% of FP users satisfied with quality of services obtained
FP Behavior Change Communication (BCC)	Number of community meetings	5	2	1
FP Counseling at fixed clinics	Number of clients counseled	1		1
Campfires/moonlight sessions for males	Number of sessions	3	2	2
Training of health workers in FP	Number workers trained	0.5		1
Training village health teams in FP	Number of teams trained	5	2	1
Maximum output boost (%) due to integration into:				
Population				
Health		30%	20%	25%
Environment		5%	5%	5%
Livelihoods		5%	5%	5%

Source: Authors

Review results

The final stage is to review the results of all the decisions and inputs that have been made on the “Impact” page. This is where the user can view how the interventions impact the output indicators and how the interventions’ factors and levels of integration affect the outcomes.

At the top of the page are two summary panels (Figure 11). One shows an implementation summary based on the implementation factors. It shows the average level of these factors for each program area. The second panel summarizes the levels of integration across the four PHE program areas.

The bottom part of the page shows the levels of each of the output indicators, for each of the four areas (Figure 12). There are five columns:

- The first column shows the baseline value for each output indicator.
- The second column shows the change in the indicator due to the direct effects of interventions in the same program area.
- The third column shows the change due to the indirect effects of programs outside the program area that are integrated into the program area. An example is shown in Figure 12. In this example, the first population indicator is for contraceptive users. The direct effect is calculated as 595.8 additional users while the indirect effects of integration shows an additional increase of 45.6 users for a total change (fourth column) of 641.4 users and a final number of women using family planning of 841.4 (baseline value plus total change).

Users can also graph each of the four PHE program areas by clicking on the shaded area and selecting the desired indicator from a drop-down menu (Figure 13).

Figure 11. Impacts: Implementation and Integration Summaries

Overall Implementation Summary

	Poor	Fair	Good	Very Good	Excellent
Population			Good		
Health		Fair			
Environment			Good		
Livelihoods				Very Good	

Integration Summary

Primary Activity	Secondary Activity			
	Population	Health	Environment	Livelihoods
Population		Moderate	Minimal	None
Health	Moderate		Moderate	None
Environment	Some	Some		Strong
Livelihoods	Moderate	Moderate	Strong	

Source: Authors

Figure 12. Impact Tables

Population						
Indicator	Baseline value	Direct effect	Indirect effect	Total change	Final value	
YP1 # of female Users of contraception	200.0	595.8	45.6	641.4	841.4	
YP2 # males who support FP	50.0	175.5	10.3	185.7	235.7	
YP3 % of FP users satisfied with quality of services obtained	10.0	365.5	24.7	390.2	400.2	

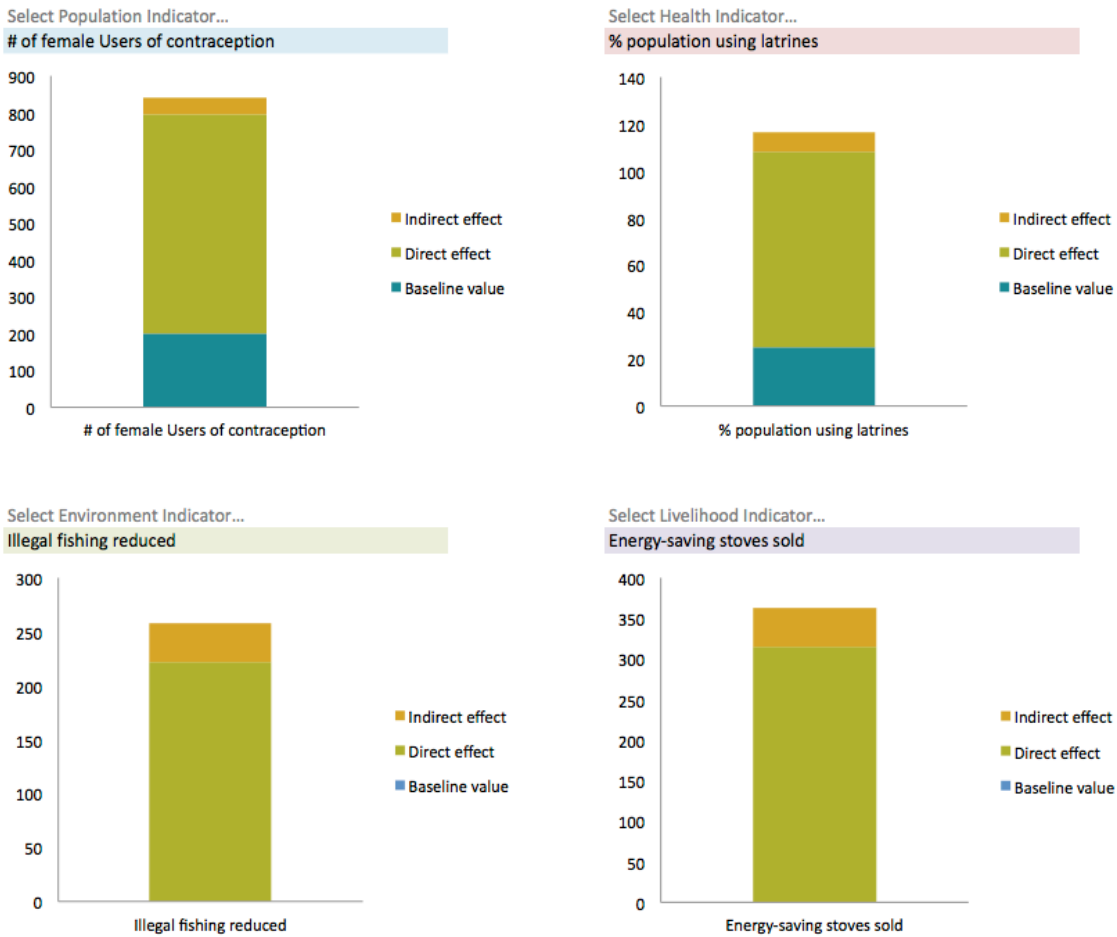
Health						
Indicator	Baseline value	Direct effect	Indirect effect	Total change	Final value	
YH1 Clinics operating in evening hours	0.0	8.6	1.2	9.8	9.8	
YH2 % pop indicating positive health seeking behavior	10.0	330.8	45.6	376.4	386.4	
YH3 % of pregnant women receiving 4 ANC visits	25.0	116.2	16.0	132.2	157.2	
YH4 % population using latrines	25.0	83.4	7.9	91.3	116.3	
YH5 % of children < 5 fully immunized	25.0	175.8	24.2	200.1	225.1	

Environment						
Indicator	Baseline value	Direct effect	Indirect effect	Total change	Final value	
YE1 Yield of fish	10.0	296.8	48.2	345.0	355.0	
YE2 Fish caught	50.0	316.6	51.4	368.0	418.0	
YE3 Reforestation	0.0	7913.9	1285.6	9199.5	9199.5	
YE4 Illegal fishing reduced	0.0	221.6	36.0	257.6	257.6	

Livelihoods						
Indicator	Baseline value	Direct effect	Indirect effect	Total change	Final value	
YL1 Energy-saving stoves sold	0.0	315.8	46.2	362.0	362.0	
YL2 Alternative livelihoods taken up	0.0	221.0	32.4	253.4	253.4	

Source: Authors

Figure 13. Graphs of Impacts



Source: Authors

CONCLUSION

When HPP originally proposed to develop the PHE Framework, the authors thought that there would be more empirical evidence to draw on and include. While the PHE field has been around for several years, PHE is still not a “mainstream” approach. Evidence of the efficacy of the PHE approach is still primarily anecdotal, as can be seen from the review provided in Annex A.

For this reason, the PHE Framework is “open” and adaptable to a wide array of, not only PHE programs, but any public health program that includes integrated interventions. As such, the authors believe the framework can be useful in designing alternative multisector, integrated programs. The value of a computer-based framework is in its ability to be easily changed so that alternate approaches can be compared. This might include various activities, levels of integration, and assumptions about enabling environmental factors.

The open architecture of the framework also allows users to draw assumptions about the quantitative impacts of interventions in one sector on outputs in that same sector, as well as impacts on other sectors in which the intervention is integrated. This allows the user to include either their own assumptions on

these relationships or research data from evaluations as they become available. Another promising approach would be for users to include impact assessments dynamically, as they become available during a program cycle.

To access the PHE Framework, please contact the Health Policy Project at

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APPENDIX A. PHE REVIEW: A COMPILATION OF DOCUMENTED “VALUE-ADDED” RESULTS FROM RECENT PHE PROJECT EXPERIENCE

As part of our foundational research for designing the framework, HPP commissioned Kathleen Mogelgaard to review a number of PHE programs and to examine the structure of these programs, especially the potential “value-added” of the PHE approach. The following review is summary of her findings.

Introduction, PHE Rationale, and Methods

Over the past two decades, development practitioners have designed, implemented, and evaluated integrated, community-based, PHE projects. While models of PHE vary greatly, the underlying motivation of donors and practitioners is to effectively address cross-cutting development challenges, and an underlying belief is that multisectoral, integrated interventions and services can be more effective than single-sector/vertical programs.

Over the past several years, partnership models and funding sources for PHE projects have evolved and expanded. PHE programs may include the provision of services from different sectors within a single organization; as well as situations in which separately-funded organizations focus on a single sector to coordinate their activities, often with the goal of contributing to each other’s objectives or achieving joint objectives. The examples outlined here represent partnerships between international nongovernmental organizations (NGOs); between international and local NGOs; between national NGOs and local governments; and other varied combinations. The donor landscape has also evolved over time, with private sector donors, such as Johnson and Johnson, joining the pool of private foundation and government funders.

Generalized rationale for PHE projects

The cross-cutting development challenges facing communities targeted with PHE approaches stem from geographic, social, and physical circumstances. PHE projects aim to reach communities that are highly dependent on local, natural resources/live near areas of ecological significance. These communities are experiencing rapid population growth that threatens to deplete natural resources and/or biodiversity. The belief that, in these circumstances, integrated projects can have better results is based on a multi-faceted rationale:

In addition to saving lives, delivering **voluntary family planning services** to hard-to-reach communities can help to slow population growth and therefore reduce one of the drivers of ecosystem threat.

The **health benefits** of an integrated project (through family planning and other basic health services) provide an entry point into communities to build trust and goodwill, and also reach more men than single-sector family planning projects.

Conservation activities, delivered as part of an integrated project, are better than single-sector conservation projects because goodwill has been established, and smaller, healthier families and women can be more engaged in conservation activities.

This review attempts to compile evidence that supports this rationale, drawing from the last decade or so of PHE project experience in Africa and Asia. It focuses attention on the question, “What are the reasons to pursue integrated projects, and what evidence—quantitative and anecdotal—exists to support these reasons?”

Methods

In compiling this review, the author drew on documents and reports from organizations with the broadest publicly-available information on their PHE work, namely: World Wildlife Fund (WWF), Conservation International, USAID’s BALANCED project, Blue Ventures, PHE Ethiopia Consortium/Guraghe People’s Self-help Development Organization, FHI 360, PATH Foundation Philippines Inc., HoPE LVB, and the Environmental Health Project.

PHE Project Goals and Objectives

The rationale outlined above is apparent in the ways many PHE practitioners describe the goals and objectives of their work. For most PHE projects, the central goal has at least two prongs: increasing access to/use of family planning services, and reducing threats to ecosystems/natural resources. Increasingly, strengthening or diversifying livelihood strategies is often a central strategy or mechanism for achieving these objectives.

The specifics of the **family planning-related goals** vary from project to project. It may be folded in to a larger, basic health or reproductive health context, or may be framed as an objective that is meant to contribute to a higher-order goal, such as improved maternal and child health or reduced population pressure. For example, HoPE LVB’s goal language that addresses family planning is to “increase access to FP and SRH services in order to improve MNCH in project communities” (Pathfinder International, 2012). For Conservation International, WWF, and several others, increasing access to family planning is the central goal, with a conceptual link to reducing population pressures.

Similarly, the natural resources-related goals within PHE projects take different forms, but generally involve increasing the capacity of local communities to sustainably manage local resources, thereby reducing threats to ecosystems and/or improving prospects for sustainable livelihood strategies that rely on healthy ecosystems. Diversifying livelihood strategies (to non-resource-dependent activities) is also seen as a component of relieving pressure on ecosystems in some PHE projects.

Below are several illustrative examples from current/recent PHE projects. Additional objectives reflect a growing interest by some practitioners in fostering a policy environment that supports integration.

HoPE LVB

“[The goal is] to reduce threats to biodiversity conservation and ecosystem degradation in the LVB, while simultaneously increasing access to family planning and [sexual and reproductive health] services in order to improve [maternal, neonatal, and child health] in project communities” (Pathfinder International, 2012). Objectives supporting this goal include

- By 2014, improve sexual and reproductive health and maternal, neonatal, and child health outcomes among populations living in LVB project sites
- By 2014, increase community capacity to sustainably manage LVB-related
- ecosystem resources to improve livelihoods, environmental sustainability, and well-being in LVB project sites

- By 2014, increase public and policymaker support for implementation of integrated PHE strategies in the LVB, including project sites (HoPE-LVB Baseline Assessment Team. 2013).

Conservation International

“[Conservation International’s] specific goals were to build and strengthen local communities, empowering them with knowledge, expertise and sense of ownership of vital ecosystem resources, such as forests and watersheds... [Conservation International’s] PHE projects improved access to family planning and health services...in vulnerable populations in rural, key biodiversity areas, while helping communities manage natural resources in ways that improved health and livelihoods. The idea behind these projects was to reduce population pressures that are driving the threats to biodiversity conservation in the world’s hotspots” (Conservation International, 2009, p.vi).

PHE-Ethiopia Consortium

“PHE-Ethiopia Consortium developed the following definition of PHE: “A holistic, participatory development approach whereby issues of environment, health and population are addressed in an integrated manner for improved livelihoods and sustainable well-being of people and ecosystems...PHE evolved from the recognition that communities cannot exercise adequate stewardship over their natural resources and environment if their health, nutrition, and economic needs are not met. Central to the PHE approach is improving access to family planning information and services, which works in a complementary fashion with basic health and environmental management activities to improve rural livelihood in Ethiopia and improve the health of women and their families” (PHE Ethiopia Consortium, 2013, p.6).

WWF, Ridge to Reef

“The goal of the project was to improve voluntary family planning/reproductive health in key areas where population growth has serious impacts on natural resources and find more sustainable solutions for local livelihoods, so as to reduce pressure on biodiversity” (WWF, 2008, p.4). Key objectives of the project included:

- To increase availability of lessons learned about PHE (global objective)
- To improve capacity of WWF for population work (global objective)
- To improve family planning and reproductive health services, knowledge, and use in priority areas of ecoregions
- To increase capacity of communities to effectively manage natural resources in priority areas of ecoregions
- To improve the sustainability of family planning and reproductive health in priority areas of ecoregions (WWF, 2008)

BALANCED Philippines

“The goal of this project was to build leadership and implementation capacity of national and local governments and stakeholders to respond in an integrated manner to interrelated population, health, and marine environmental issues in the Philippines” (Pollnac et al., 2013). Objectives, or “intermediate results” the project aimed to achieve included

- Increased access to family planning/reproductive health in key bioregions
- Increased community awareness and support of family planning and conservation as a means to improve health, food security and natural resources

- Increased policymakers' commitment to family planning services, coastal resources management and integrated policies
- Improved governance capacities of provincial and municipal local government unit in the Verde Island Passage and Danajon Bank marine ecosystems
- Increased incentives for coastal and marine conservation among coastal fisher households

PATH Foundation Philippines, Inc., Poverty-Population-Environment Project

“The goal of the project is to improve human and ecosystem wellbeing in regions of the country where interrelated poverty-population-environment dynamics pose threats to socio-economic development and the viability of life-sustaining ecosystems” (PATH, n.d.). Objectives of the project include

- Generate political commitment and support for integrated approaches to poverty alleviation that incorporate reproductive health strategies
- Expand planning capacity of provincial/municipal governments on integrated poverty-population-environment
- Create local government unit capacity to establish and sustain community-based family planning systems
- Improve family planning acceptance and use in focal areas (PATH, n.d.)

The Benefits of Integration

This section outlines documented benefits of PHE integration, summarizing three studies that sought to quantitatively measure the ways in which some sector-specific outcomes appear stronger in integrated projects relative to single-sector approaches. It then highlights evidence from PHE project reports to substantiate the main value-added categories outlined in an *Assessment of USAID’s Population and Environment Projects and Programmatic Options*, namely reaching remote and marginalized communities, greater participation of men in health activities, greater participation of women in natural resource management activities, greater engagement of youth, building community trust and goodwill, and operational efficiencies (Pielemeier et al., 2007). Finally, it touches briefly on three additional benefit categories that are supported only by single-project examples: project sustainability, reduced conflict, and strengthened local governance.

In general, recent PHE project documentation provides an abundance of sector-specific results (e.g., changes in contraceptive prevalence rates, numbers of trees planted, community health workers trained), but documentation that points toward the benefits of integration continues to be sparse, as the limited examples below demonstrate.

Improved sector-specific outcomes

While the ability to quantitatively evaluate the outcomes of integrated projects, relative to single-sector projects, faces numerous challenges, a limited number of studies have sought to do so through operations research methods. These studies support the idea that integration promotes synergy in project outcomes.

A comparative study of the Integrated Population and Coastal Resources Management project in the Philippines demonstrates improved sector-specific outcomes in integrated sites relative to non-integrated sites (D’Agnes et al., 2009). This study evaluated outcomes from three project sites: one that focused on coastal resource management only, one that focused on reproductive health management only, and a third that employed an integrated model in which family planning information, advocacy activities, and

reproductive health service delivery were integrated with coastal resource management activities. In assessing changes in a range of indicators from 2001 to 2007, the study found

- The integrated site showed a significant increase in contraceptive use at first intercourse and a decrease in young male sexual activity compared to the site receiving reproductive health services only.
- The integrated site showed significant increases in coral reef condition index, mangrove volume, and mangrove density, while the single-sector sites showed decreases or non-significant changes in these indicators.
- Households in the integrated site showed significant decreases in full-time employment in fishing and reported knowledge of illegal fishing activities, factors that amplify vulnerability to food insecurity.
- The proportion of young people with income below the poverty threshold decreased by a significant margin in the integrated site (D'Agnes, et al., 2011).

An evaluation of USAID's Environmental Health Project—a project that supported PHE programming in Madagascar—compared results from baseline and post-intervention surveys in communities where PHE activities were integrated with communities with available, non-integrated services. More than 40 indicators were assessed across project sites, in areas including health, natural resource management, food security, nutrition, livelihoods, and community participation.

Overall results from the evaluation demonstrate greater impact in integrated sites over a three year period (2001-2004). Among the key results

- The contraceptive prevalence rate reached 17 percent in integration communities in 2004 (about a five-percentage point increase from 2001), compared with 8 percent in non-integration communities.
- Tree planting increased by 12 percentage points and was practiced by 70 percent of households in integration communities, compared with 58 percent in non-integration communities.
- The proportion of children with normal nutritional status—the absence of moderate and severe chronic malnutrition (stunting)—increased by almost six percentage points and was five percentage points higher in integration than in non-integration communities (53% compared with 48%).
- Women in integration communities were more engaged in mobilization efforts and community groups, especially in groups engaged in natural resource management activities, such as farmers' associations, which are traditionally dominated by men. Women's participation in community groups in general increased by four percentage points in integration communities to 33 percent, while it decreased by five percentage points in the non-integration group to 26 percent (USAID, 2007).

More recently, the PHE Ethiopia Consortium conducted a study in the Guraghe Zone of Ethiopia, where the Guraghe People's Self-help Development Organization supports the delivery of family planning information and services. Through surveys and key informant interviews, the study assessed knowledge, attitudes and practices related to reproductive health, family planning use, conservation activities, and livelihood strategies in one *woreda* where services were delivered as part of an integrated package and in one *woreda* where services were not integrated (PHE Ethiopia Consortium, 2013). The study team acknowledged a range of limitations of the study design, and indeed, while significant differences are apparent in results from the integrated and non-integrated sites, the study itself does not shed further light

on the specific mechanisms that drive these differences. Nevertheless, the study provides a wealth of data and results that point toward specific benefits of integration.

While there was no significant difference in the contraceptive prevalence rate in the two sites, other results indicate significant differences in some attitudes and behavior, including

- **Different attitudes about future fertility.** In the integrated site, lower percentages of both women and men indicated a desire for more children; women in the integrated site also reported a lower number of children to be “appropriate.”
- **Greater FP knowledge.** Women in the integrated knew more FP methods, on average, than women in the non-integrated site.
- **Differences in fertility.** In the five years prior to the survey, women in the integrated site had, on average, 0.27 fewer children.
- **Differences in gender roles.** In the integrated site, 58 percent of women reported control over income generating resources, while only 15 percent of women indicated such control in the non-integrated site.
- **Stronger family planning support from men.** In fact, 30 percent of men supported family planning use by themselves in the integrated site, compared to 7 percent in the non-integrated site.
- **Greater use of energy saving stoves** in the integrated site, relative to the non-integrated site
- **Income-generating schemes in the integrated site are more diverse** than in the non-integrated site, and are targeted to environmental and food security outcomes.

Reaching remote and marginalized communities

Several PHE project reports document the success of integrated projects in bringing services, particularly health and family planning services, to communities that were historically underserved. The existing ties and relationships that environmental NGOs have in communities can help facilitate the introduction of health services and messages in underserved areas when integration takes place. In BALANCED project sites in Tanzania and the Philippines, for example, a key result was reduction of the distance people needed to travel to access family planning services, primarily through the training and support for community-based distributors and health extension workers (Coastal Resource Center, PATH Foundations Philippines, Inc., and Conservation International, 2013).

Similarly, to reach remote communities in the Sierra Madre region of the Philippines, Conservation International worked with local government partners to establish a network of community-based distributor centers for family planning services. And through a partnership with CARE Cambodia, Conservation International established the first ever health post in the Cardamoms Conservation Landscape, reaching communities that previously would have needed to travel several hours to access health services (Conservation International, 2009).

And in the Greenbelt Movement/FHI 360 program in Kenya, “green volunteers” included community health extension workers in their education sessions (FHI360/PROGRESS Project, 2013). In these sessions, CHEWS could provide detailed information on health and family planning services; services that CHEWS were expected to engage in, but sometimes struggled with due to inadequate ties to communities (FHI360/PROGRESS Project, 2013).

Greater participation of men in health activities

Community mobilization that comes from the delivery of a coherent, connected set of conservation and development activities can help to break down traditional gender roles in the health and natural resource management sectors.

Behavioral monitoring surveys conducted in 2009 and 2012 in BALANCED project sites in Tanzania indicated that men have become more positive toward and involved in family planning (Coastal Resource Center, PATH Foundations Philippines, Inc., and Conservation International, 2013). Conservation International's PHE activities in Cambodia, Madagascar, and the Philippines have had the result of increasing male involvement in family planning awareness and couples counseling, promoting male decision-making in reproductive health. Between 2005 and 2008, more than 700 men participated in CI's FP/RH education sessions (Conservation International, 2009).

Similarly, Greenbelt Movement/FHI 360 activities in Kenya suggest that integrating family planning messages into the green volunteers' community education on natural resource and environment topics can reach men who might not otherwise have exposure to such information (FHI360/PROGRESS Project, 2013). Focus group research confirms that this exposure allowed couples to talk more freely about their family planning choices, and motivated some women and men to seek family planning services as a couple (FHI360/PROGRESS Project, 2013).

Greater participation of women in natural resource management

Increased female involvement in non-traditional natural resource management activities—including beekeeping, goat raising, fish ponds and other livelihoods activities—was reported as a key result of Conservation International's Healthy Families, Healthy Forests PHE activities in Cambodia, Madagascar, and the Philippines (Conservation International, 2009).

Community surveys conducted in 2009 and 2012 in BALANCED sites in Tanzania show that both men and women felt more empowered to participate in conservation activities (Coastal Resource Center, PATH Foundations Philippines, Inc., and Conservation International, 2013).

Greater engagement of youth

This benefit was highlighted in the Pielemeier, et al., 2007 study—noting, in particular, that previous PHE project experience enabled greater access to adolescent boys for family planning efforts, and increased participation of youth of both sexes in conservation efforts. This review did not find further documentation of this benefit in recent PHE project experience.

Building community trust and buy-in

For many PHE projects, the provision of health services has served as an entry point into communities in remote, underserved areas. Anecdotal evidence suggests that by responding to immediate perceived needs for services, such as basic healthcare, immunization, nutrition, and pre- and post-natal care, PHE projects can gain favor within communities and gradually build trust and relationships that support longer-term conservation and family planning objectives.

Beyond health activities, other interventions that are often part of integrated projects serve immediate needs and have visible outcomes that have been shown to generate community buy-in for integrated projects. For example, construction of health posts and schools, improving roads or pathways to markets are examples from programs in Conservation International and WWF projects in Madagascar and Cambodia. Some coastal resource management projects, such as those associated with the Integrated Population and Coastal Resources Management project in the Philippines, have demonstrated early positive results in increasing fish stocks (through improved management of marine protected areas),

which is also seen as a way to build greater community support for broader objectives of integrated projects.

WWF points toward significant community-based conservation results as evidence of goodwill toward conservation and environmental activities. For example, WWF's PHE project in Kenya's Kiunga Marine National Reserve resulted in local fishermen establishing "no-take" for the first time in the reserve's history, and 100 percent of targeted fishermen exchanged their illegal fishing gear for sustainable gear (WWF, 2008).

In other areas, enhanced engagement of communities in the conservation activities that are part of integrated projects may be more transactional than simply a feeling of goodwill. One evaluation of WWF integrated project in India's Lagga Bagga region, for example, attributes dramatic declines in fuel-wood collection, in part, to the community's willingness to participate based on newly-delivered health facilities. In fact, the evaluation stated, "There is an obvious quid pro quo here where villagers feel obliged to help Forest Department and WWF with resource conservation in exchange for health aid" (Carr, 2008).

Operational efficiencies

Operational efficiencies were highlighted as a benefit in the Pielemeier et al 2007 study, which noted that PHE project experience up until that time were often noted to be time-efficient, cost-efficient, and cost-effective. This review found little further documentation of this benefit in recent PHE project experience, though a recent evaluation of Blue Ventures integrated work in Madagascar noted, "A new 4x4 (purchased with USAID funding) and a new boat (purchased with funding from the MacArthur Foundation) are currently in use and provide essential transportation for health missions, as well as opportunities to 'car pool' and 'boat pool,' allowing the Safidy team to coordinate and share fuel costs with the aquaculture and fin fish monitoring programmes, or for youth club supervision to be carried out alongside our village outreach tours. Combined missions not only reduce travel costs, but also enable the sharing of equipment such as generators, speakers and projectors" (Mohan et al., 2013).

Project sustainability

While sparse documentation directly supports the notion that PHE projects are more likely to be sustainable over time, some evidence suggest that the trust and goodwill that results from health interventions as an entry point may then help support sustainability of conservation activities. In WWF's coastal PHE work in Kenya, for example, the number of turtle nests and the percent of turtle nests reported by locals increased over time, even as payments for these observations decreased (Carr, 2008).

Reduced conflict

Pielemeier, et. al.'s 2007 review indicated that integrated programs in the Democratic Republic of Congo and the Sierra Madre have allowed secure program access to communities, and these areas have reportedly experienced less conflict. No further documentation on PHE and conflict was identified in this review.

Strengthened local governance

While the current review did not identify further documentation, Pielemeier et. al.'s 2007 review suggested that strengthening local governance may also be a benefit that arises from integration. Integrated projects, they note, have provided opportunities for local government officials to engage in coordinated planning and programming. A mayor in Palawan, for example, established a PHE project management committee, bringing together local government officials, NGO representatives, the local government planning officer, and police chief. Such meetings provide rare opportunities for discussion and coordination around locally-relevant, multisectoral issues.

Emerging Trends in PHE

In the process of this review, it became apparent that PHE project experience has vastly expanded and evolved in some areas, particularly

- Knowledge management, with the K4Health Population, Health and Environment website being a prime example (K4Health, n.d.)
- Capacity-building tools and strategies; the BALANCED project final report outlines detailed analysis, strategies, and lessons learned in capacity building, including innovative techniques for South-to-South capacity building (Coastal Resource Center, PATH Foundation Philippines, Inc., and Conservation International, 2013)

A recent study also documents the effectiveness of the FHI 360/Greenbelt Movement project in Kenya in training conservation volunteers to deliver accurate family planning information and referrals to communities in ways that the communities find acceptable and helpful (FHI360/PROGRESS Project, 2013).

A third trend that seems to have taken root in PHE project implementation in recent years is advocacy for local and national PHE-related policies. In reporting on its Ridge to Reef PHE programs in Madagascar, Kenya and the Philippines, for example, WWF noted more than 40 new policies implemented that advance PHE integration, including local government plans that outlined PHE objectives, executive orders, and municipal ordinances (WWF, 2008). Similarly, building capacity for policy advocacy was a key intervention in the BALANCED project's work in the Philippines, and by 2013, PHE was incorporated into six coastal resource management plans, and PHE councils were established as the result of PHE ordinances in five municipalities where PHE projects operated (Coastal Resource Center, PATH Foundation Philippines, Inc., and Conservation International, 2013).

While these trends don't necessarily fit neatly into efforts to evaluate improved outcomes that result from integration, it seems logical that they may make significant contributions to PHE project success. Determining effective ways to assess their impact may prove useful in promoting integration as a worthwhile activity.

A Final Question/Observation

In what ways does community understanding of PHE linkages contribute to better results in PHE projects? Among practitioners, there often seems to be the assumption that community understanding of PHE linkages contributes to stronger project outcomes; most notably, improved contraceptive prevalence rates, or greater participation in water, sanitation, and hygiene, or a greater support for/engagement in conservation activities. It's not clear, however, that this impact (i.e., how knowledge of linkages affects behavior) is being systematically measured. This may represent an area for further exploration in future PHE project evaluations. One example that may shed some light on ways this impact could be measured. A BALANCED project report documents changes in community perceptions between 2009 and 2012, demonstrating an increase in awareness of the benefits of planning one's family, a change that evaluators link to the project's efforts to convey PHE messages about planning family size (Coastal Resource Center, PATH Foundation Philippines, Inc., and Conservation International, 2013).

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