Assessment Study on Experiences of the PHE Approach in Ethiopia: the Case of SNNPRS

Report Submitted

to

Consortium of Christian Relief and Development Association
(CCRDA)

by

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Acronyms/Abbreviations

ARI	Acute Respiratory Infection
BALANCED	Building Actions and Leaders for Advancing Community Excellence in Development
CFUG	Community-based Forest User Groups (Nepal)
CTPH	Conservation through Public Health
FP	Family Planning
GPSDO	Guraghe People's Self-help Development Organization
HIV/AIDS	Human Immune Various/Anti immune Deficiency Syndrome
HOPE-LVB	Health of People and Environment – Lake Victoria Basin
ICPD	International Conference on Population and Development
IPHEOSD	Integrated Population, Health, Environment and Other Sectors Development
IPOPCORM	Integrating Population and Coastal Resource Management
LMMAs	Locally Managed Marine Areas
NGOs	Non-Governmental Organizations
NRM	Natural Resource Management
PAI	Population Action International
PDA	Population and Community Development Association (Thai's NGO)
PHE	Population, Health and Environment
PHEEC	Population Health and Environment Ethiopia Consortium
PRB	Population Reference Bureau
RH	Reproductive Health
RIMS	Resource Identification and Management Society (Nepal's NGO)
UNFPA	United Nations Population Fund
USAID	United State Agency for International Development
VDC	Village Development Committee
WASH	Water, Sanitation and Hygiene
WWF	World Wildlife Fund

Executive Summary

This assessment report presents the experiences of the implementation of the Population, Health and Environment (PHE) projects in the Southern Nations, Nationalities and Peoples Regional State (SNNPRS) of Ethiopia. Four zones, four districts/*woredas* and five *kebeles* were included in the assessment study. Since the PHE projects in the SNNPRS were focused on the youth group of the population, 447 respondents of the study were all youth (16-24) which were sampled from the five respective study *kebeles.* A mixed methods research was utilized to generate cross-sectional data/information which intently was made to contain a longitudinal perspective. Multiple instruments of data/information collection were also deployed. Framed on a broader perspective of the PHE approach at global level and in Ethiopia, the report contains various evidences that reveal the extent to which the PHE projects had succeeded, or were impeded, in attaining the purposes for which they were designed.

The trust of the report is making the analysis and documentation of the technical and substantive aspects of the PHE approach with a major focus on the generation of evidences and knowledge tuned to the process of implementation and benefits secured by the local communities. The report attempted to generate both quantitative and qualitative evidences, besides a thorough review of various literatures in relation to the historical development, conceptual and practical significances of the PHE program/projects. Various evidences reveal the extent to which the PHE projects had succeeded, or were impeded, in attaining the purposes for which they were designed. The evidences and knowledge generated could be appraised and made use of for further scaling-up and sustaining the PHE approach.

A review of various PHE projects that have hitherto known to exist demonstrated that field-based practitioners and political leaders, based on their personal experiences, typically become strong advocates for the integrated PHE approach. However, most donors and national governments are not familiar with the positive results of PHE projects and, even if they are, they often find traditional sector-specific programming to be more bureaucratically convenient than the integrated programs. If integrated PHE approach is to thrive rather than wither after

its trial period, literatures implicated, two key actions are required: aggressive advocacy and dissemination campaigns that highlight the successes of PHE projects, and successful implementation of a 'scaled-up' PHE approaches that can affect the lives of a much larger target audience while becoming financially self-sustaining.

The lessons learned from the Packard and USAID PHE programs in the Philippines and Madagascar and PHE implementation practices in East Africa, particularly in Ethiopia, lend support for successes made by the PHE approach. In these countries, PHE approach has shown that biodiversity hotspots and protected area buffer zones are not the only areas where PHE may be appropriate. For instance, PHE proponents in the Philippines made experiment using the PHE as a framework for disaster mitigation projects and urban slum health and sanitation efforts. Hence, a wide variety of PHE type integrated programs including the key elements of family planning and natural resource management can be tailored towards particular needs of local communities and areas.

Literature and assessment evidences together testify the fact that integrated projects such as those framed in the PHE approach present prospects to strengthen community resilience through risk reduction, livelihood diversification, creating community involvement and trust, and improving governance structures. In this regard, for communities, and women and youth in particular, these programs are the means for empowerment and hence increasing involvement in decision-making and becoming agents of change in the economic and political life of their communities.

The present assessment study results further demonstrate the experiences accumulated so far in the PHE approach in the selected study areas (zones, woredas or kebele administrations) of the SNNPRS. Also, lessons have been learned that will be some use in expanding knowledge on how PHE programs faire across space and overtime. One of the major lessons has to do with the very nature of integrating population, health and environment sectors into one organic whole in which activities undertaken to accomplish one purpose effects positive changes in

others. Such synergetic development approach (PHE) is proved to be, as evidences show, valid in changing the livelihood of communities, which in itself has always been integrated. It is indicated that as the integration is strengthened and taken to heart by those critical stakeholders, including the government, communities seem to have begun reaping the benefits of the integration of the three pillars of PHE (population, health and environment) approach.

Moreover, an attempt is made to develop the PHE conceptual model as a summary implication of the findings of the assessment study to show how the PHE approach works towards achieving sustainable livelihoods within the bigger agenda of the sustainable development goals (SDGs). As noted elsewhere, the era of SDGs demands inter-disciplinary, practical, locally relevant and long-lasting solutions. The PHE strategies, parallel to the SDGs, emphasize integration, human rights, climate change adaptation, women's and youth empowerment, and sustainable livelihoods. The model makes clear that stepping out of the usual sectoral approach and forming cross-sectoral integration and partnerships makes certain that that both people and environmental resource base benefit together.

Based on our empirical evidences, the term 'PHE' seems narrower than what its practices actually portray. And, therefore, it is posited that this term is required to be renamed as Integrated Population, Health, Environment and Other Sectors Development approach (IPHEOSD). This new naming with no doubt embraces all ranges and breaths of the functions of the PHE approach.

Likewise, the PHE conceptual model reflects the integration of various sectors, the collaboration of diverse stakeholders, and the participation of all concerned bodies and individuals in the process of decision-making and related implementation actions. The framework takes into account the major challenges of the local communities as its points of departure and then endeavors to build the PHE integration paradigm on the basis of which the outputs (fertility reduction, sustainable use of natural resource and environment, better health delivery services, gender equality and others) are expected to be produced. The ultimate

outcomes in the form of improved livelihoods are what communities eventually garner from the PHE integrated approach.

1. Introduction

This assessment study report on the Experiences of the Population, Health and Environment (PHE) Approach in Ethiopia: the case of SNNPRS is prepared cognizant of the Terms of Reference (ToR) of the Consortium of Christian Relief and Development Association (CCRDA). This introductory section presents the settings, frame of the study, objectives, key study questions, and methodology of the assessment study.

1.1 The settings

The Consortium of Christian Relief and Development Association (CCRDA) is an indigenous non-profit umbrella organization with membership of 97 international and 263 Local Organizations (NGOs) engaged in various development activities. It is also a member of various National, Regional and East Africa CSO platforms.

The Southern Nations and Nationalities Regional State (SNNPRS) is the third most populous region in Ethiopia with an estimated land area of 112,343 km². The region has an estimated population density of 150 people per km², which is by far greater than the national average of 82.95 people per km². According to the Ethiopian Demographic and Health Survey (EDHS) 2011 (CSA, 2012), the rapid increase in the size of the region's population is attributed to the high total fertility rate (4.5). The same source noted that the need for family planning services among newly married women in the region was 25%, which is the second highest in the country next to Oromia. The unmet need for family planning among women aged 15-19 and 20-24 years is 33% and 22%, respectively.

The region has recorded problems of various kinds of health and environment. Sexual and reproductive health (SRH) related problems have been known to impact many contributing to, and caused by, livelihood challenges. Environmental problems include deforestation of lands for the purpose of farm land expansion and firewood and charcoal production, overgrazing of grasslands, degradation of the soil and natural flora and fauna, etc. In terms of energy use, about 2.3 out of 2.6 million households depend on firewood for cooking, and only 4,478 and 92,294 households use electricity and kerosene, respectively (CSA, 2010).

The prevailing situations in the region with regard to population growth, health and environmental problems have been appalling and hence they call for quick redressing. With a clear understanding of these situations, CCRDA has been involved in addressing SRH issues since quite some time, and achieved various kinds of outcomes.

Essentially, CCRDA has carried out PHE programs with its partners in particular with support obtained from the David and Lucile Packard Foundation for the last decade or so in addressing SRH and the integration of PHE issues in different parts of the country. The major achievements and lessons learnt from the first phase of the PHE project was documented, published and disseminated to the project implementing partners, relevant government bodies, donors and other likeminded NGOs/CSOs. These achievements and lessons showed clear direction for the second phase PHE project in identifying where to focus on and who could be the right target beneficiaries to address.

Likewise, the major achievements and lessons obtained from the second phase PHE project include the establishment of a strong multi-sectoral partnership with government bodies including zonal and *woreda* health, education, agriculture and women, children and youth bureaus/offices and *kebele* administrations. There is also an enhanced ownership of the PHE program among communities and their members. School based intervention and related community engagement have increased the enrollment of girls to appreciable levels and decreased school drop-out of girls. Above all, the project reached significant size of the youth group through youth centers besides enhancing saving culture, rehabilitating the degraded areas and improving environmental conditions.

Through this project, CCRDA managed to build strategic alliance with local, zonal and regional actors involved in addressing SRH, population and environment issues in the region(CCRDA, 2012). The lessons obtained from the previous project clearly indicate two directions for CCRDA: firstly, the need to scale-up the intervention to the adjacent *Weredas,* and secondly,

sustaining the gains of the previous project by building on the momentum already established to reach more people.

Hence, as stated in the project document, the overall goal of the project is to contribute towards improving SRH status in the target community and regionally at large through an integrated population, health and environment approach. This project envisages an increase in comprehensive knowledge on SRH issues, enhances SRH information and service utilization among married and unmarried youth aged 15-24 years, promotes the integration of SRH issues in National and Regional development agendas and demonstrate and facilitate the scale-up of integrated population, health and environment approach in SNNPRS.

In tandem with the above, CCRDA and its stakeholders have needed to understand the state of affairs of the experiences of the PHE approach implemented and knowledge accumulated as a result thus far in the SNNPRS upon which further scaling-up and sustainability of the PHE approach would be anchored.

1.2 Framing the Assessment Study

It was in the early to mid-nineties that the subject of integrated Population, Health and Environment (PHE) Programs began emerging in response to calls made by the major United Nations Conferences such as the Rio Earth Summit, the International Conference on Population and Development (ICPD) at Cairo, and the Fourth World Conference on Women in Beijing. Each of these groundbreaking conferences entertained critical issues of our time and propounded necessary actions to be taken by the international community.

At the turn of the millennium, outstanding community of practitioners joined by related policymakers became forerunners in expanding the PHE approach across the world with a focus on sharing best practices that eventually allowed bringing together various findings to further refine and develop the PHE approach. Interestingly, these attempts have coincided with the overarching purposes of the Sustainable Development Goals (SDGs) agenda whose intents often resemble PHE strategies in emphasizing integrated approach to development, concern for human rights, climate change adaptation, women and youth empowerment, and sustainable

livelihoods. Needless to say, issues of integration by stepping out of sectoral comfort zones and forming cross-sectoral amalgamation are believed to generate great benefits for the health and well-being of humans, ecosystems and the planet as whole.

Countries offered credence to the above calls and attempted to put in place the PHE approaches to grapple with the sustainable development exercises each country forestalled as one of its development pursuits. In this regard, Ethiopia is not an exception.

1.2.1 A Brief Historical Note on the PHE Approach

Global perspective

Before the PHE approach came into being, most community services were delivered in isolation. Conservation organizations focused mostly on the conservation of natural resources without considering the complex problems that affect the conservation of natural resources *per se*, particularly in considering other needs of the community. Similarly, health or family planning organizations focused on how to reach the community only with related information and services, without considering other needs which could also be important in influencing the acceptance of health and family planning services. On the other hand, conservation societies were deeply concerned about low success recorded in their conservation projects despite investing huge amount of money. This low success story lastly instigated them to understand the fact that conservation activities alone couldn't grantee saving the environment. Then, they came to the conclusion that to fully harvest the best out of their project and bring about sustainable changes in natural resource conservation, the conservation activities have to be integrated with family planning and livelihood activities. Therefore, the limitation of the single-sector based approach in fact initiated the integrated PHE approach. The first round of PHE projects were initiated in biodiversity hot spot areas of the Philippines, Nepal and Madagascar. The PHE projects implemented in those countries had significantly reduced the burden on natural resources and provided the community with alternative livelihood and sustainable use of natural resources.

The Ethiopian perspective

The PHE Ethiopia Consortium grew out of a coalition-building workshop and international conference on PHE in November 2007. This conference brought together Eastern African partners to discuss about how to introduce the PHE approach to the region and how to create networks of PHE implementers in the East African region and in Ethiopia. Above 50 Ethiopian organizations gathered after the conference to form an ad-hoc committee constituting seven organizations on interest to explore opportunities for PHE in Ethiopia. The seven organizations were: Lem Ethiopia, Engender Health, Addis Ababa University, Arbaminch University, Consortium of Reproductive Health Associations (CORHA), Ethiopian Environmental Protection Authority (EPA) and Horn of Africa Regional Environmental Center (HOA-REC). EngenderHealth, with the support of the Packard Foundation, agreed and pledged to host and support a coordinator for the committee for one year. The first name of the Ethiopian PHE was the Consortium for the Integration of Population, Health and Environment.

The ad-hoc committee members and the coordinator held an establishment and launching conference on May 30-31, 2008 with 51 organizations and individuals attending. President Girma Woldegiorgis was the patron of the conference and the emerging PHE Consortium. The PHE Ethiopia Consortium was legally registered with the Ministry of Justice under registration No. 3695 on August 13, 2008. Its board members were elected with a representative from EngenderHealth as Chair, Addis Ababa University as Vice Chair, and Lem Ethiopia, EPA, Network of Ethiopian Women's Associations (NEWA), Federal Ministry of Health and Integrated Bio-economy Enterprise as members. It is re-registered as a resident charities consortium under registration number 1496 through the Charities and Societies Agency in February 2009 at a time when it adopted the name PHE Ethiopia Consortium (EC). At this time, the universities and consortia who were members of PHE EC became partners, as the new law prohibits consortia from being a member of other consortia.

The PHE project was first introduced in Ethiopia by Lem Ethiopia with funding from the David and Lucile Packard Foundation in 2002. Based on the success of this pilot project, the Packard Foundation partnered with USAID to support a 2007 regional conference on PHE in East Africa that was organized by Population Reference Bureau and Lem Ethiopia. In 2008, Packard funded several organizations across Ethiopia to pilot the PHE approach including PHE Ethiopia Consortium, the Relief Society of Tigray (REST), Guraghe People's Self-help Development Organization (GPSDO) and Consortium of Christian Relief and Development Associations (CCRDA). Other generations of the PHE projects were introduced into different regions of the country including to the SNNPRS some of which are the subjects of the present assessment study.

1.2.2 The Tenets of the Present Assessment Study

Although a lot has been talked and done about improving peoples' health and livelihoods, reversing the process of environmental degradation and adapting to the changing climate, the actual PHE approach has not taken root until the PHE – Ethiopia Consortium developed and put forward the definition of PHE, which reads as '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.' Such a definition of the PHE in the context of Ethiopia is meant to give recognition to the fact that communities cannot exercise adequate stewardship for their natural resources and environment unless their health, nutrition and economic needs are addressed.

Access to family planning information and services is anchored at the heart of the PHE approach as a supportive mechanism to basic health and environmental management activities for the purpose of improving rural livelihoods in Ethiopia, as elsewhere, and eventually improve the health of women and their families. It is this definition and the recognition accorded to the very fabric of integrated approach of the PHE that has been more or less driving the PHE framework in Ethiopia. Accordingly, several projects have been implemented in various parts of

the country and it is expected that achievements have been made and lessons have also been learned.

However, as development takes apace in improving the three pillars of the PHE, i.e., population, health and environment, in an integrated (PHE) fashion as well as in their separate (stand-alone, sector-based) nature, it remains quite imperative to have a clear understanding of the benefits of the integrated PHE approach over the latter approaches. It is also paramount important to have a well-established knowledge of the conceptual underpinnings of the PHE approach and the extent to which the three pillars of PHE are integrated, where the strengths and also the caveats are in this integration. The anticipation that PHE approach cannot be an appropriate development approach in all places and at all times deserves attention and response for experiences have shown that local circumstances often dictate the significance of one development approach over others.

Fairy obviously, the experiences accumulated in the implementation of various PHE programs/projects in different parts of Ethiopia during the past years could provide adequate database on what have worked well and what challenges have been faced. It is so useful and timely to look backward and extract the required knowledge from the artifacts of PHE programs/projects and look forward to use the knowledge as instruments for new PHE initiatives. This is essential because of the fact that the three pillars of PHE are and will remain to be at the heart of development undertakings should the livelihoods of the people change for the better.

1.3 Objective

Against the general backdrop in framing of the study shown above and as also stated in the Terms of Reference (ToR), CCRDA commissioned this study to assess the experiences of its programs/projects implemented through PHE approach in the SNNPRS. This assessment is a quest for specific knowledge generated by the PHE approach that would be appraised and made use of for further scaling up and expansion of the PHE approach. The assessment is, therefore, a thorough review of literature and explication of the facts related to the PHE

programs/projects in relation to its historical development, conceptual and practical significances as demonstrated in the process of implementation. In brief, the assessment is necessitated to center on the analysis and documentation of the technical and substantive aspects of the PHE approach with a major focus on the generation of evidences and knowledge tuned to the process of implementation and benefits secured by the local communities.

1.4 Key Study Questions

In the light of the above, the assessment study attempted to address key study questions related to the levels of understanding of the communities and other stakeholders about the PHE approach, the extent to which the links among the PHE pillars have been understood, the benefits of the PHE approach compared to non-PHE approaches, issues of coordination, implementation, sustainability and replicability of the PHE approach, fundamental concepts and frameworks that rendered drive to an integrated PHE approach as an acceptable mechanism in development intervention, and comparative lessons that can be learned from other countries regarding PHE approaches.

1.5 Methodology

The methodology adopted in this assessment helped to answer the key assessment study questions indicated above and hopefully showed that the assessment is of high quality. Within this methodological pursuit, appropriate sources of data and information (primary and secondary) collection instruments were selected such as survey questionnaire, focus group discussion (FGD) and key informant interview checklists/guidelines, prepared and utilized. Moreover, qualified field data collectors were identified and trained on the administration of data collection that allowed ensuring the production of quality data and hence standard report.

1.5.1 Study Design

The assessment study was a regional survey targeting one region – SNNPRS. It employed a mixed methods research with a quantitative aspect dominating over the qualitative one. A cross-sectional study with a longitudinal perspective was carried out from April 2-22, 2016 to understand the experiences of the implementation of PHE approach in the SNNPRS, focusing on

four zones (Wolayita Zuria, Hadiya, Silte, and Guraghe) (see Figure 1.1) from which five respective weredas (Sodo Zuria, East Badawacho, Silti and Halbareg, and Sodo) and then five respective kebele administrations were purposively selected as shown in detail in table 1.1. Specific datasets pertaining to the background characteristics and those related to the various experiences of PHE approach were collected from the youth group of the population aged 16-24 using structured survey questionnaires while focus group discussions (FGDs) were organized from the community to solicit data/information that could reflect community perspectives, and in-depth interviews with carried out with religious leaders and the renowned elderly and also with representatives of sector offices, project implementing NGOs and development associations to capture data/information/perspectives attuned to their respective constituencies and/or offices.

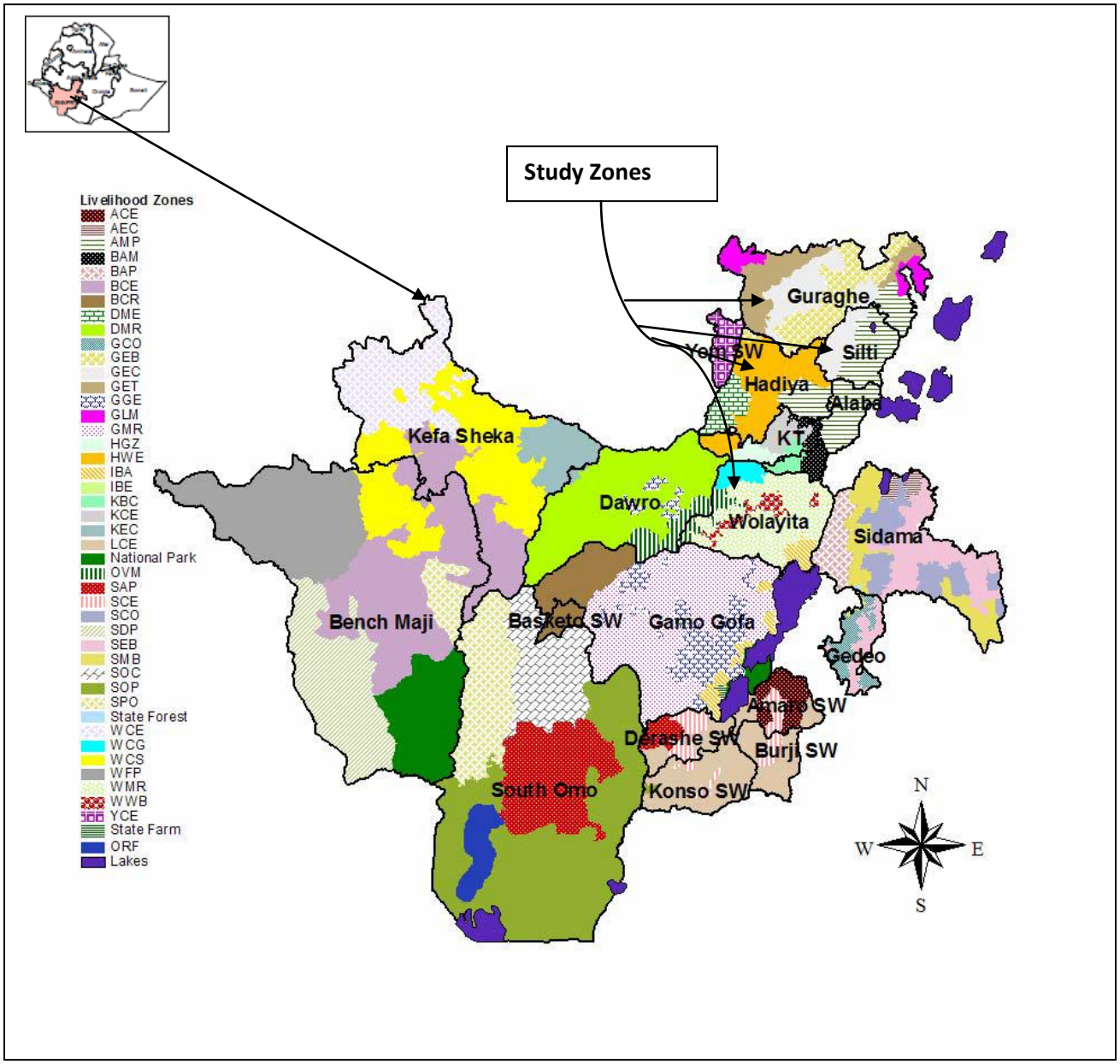


Figure 1.1: Map of the SNNPRS and Location of the Study Zones

1.5.2 Sampling Procedure

The study involved youth respondents (aged 16-24 years) selected from the five PHE intervention kebele administrations (Buge Wanche, Mazoria, Burka Dilapa, Mesrak Yekoche and Buee 01) using a systematic sampling technique. The sample respondents were assigned to the five kebele administrations proportional to the size of their populations. The sample size was determined based on Yamane (1967), who provides a simplified formula to calculate sample sizes:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision. A 95% confidence level and P = 0.05 are assumed. When this formula is applied to the 5401 total youth beneficiary obtained from the five kebele administrations, we get the sample as shown here:

$$n = \frac{N}{1 + N(e)^2} = 5401/\ [1+5401(.05)^2] = 5401/\ [1+5401(0.0025)] = 5401/14.5025 = 372.$$

Knowing that the youth is a dynamic group particularly in the southern part of the country and anticipating that their response rate could be low, a sample size of 372 is increased by 20% (75), which makes the ultimate sample size 447.

The assessment study employed a two stage random sampling design to select the sampling units by taking into account the objective of the assessment. PHE implementation Kebele administrations were taken as primary sampling units and youth respondents were ultimately selected randomly using Probability Proportional to Size (PPS), size being number of beneficiary youth reported from each *kebele*. The following various factors were taken into consideration in sample size determination: representativeness, cost, time, variability of indicators to be assessed and the precision required to estimate the assessment.

Homogeneity is assumed among all the sampled zones, *Woredas* and kebeles of SNNPRs since the way of life, living conditions and levels of the communities and the youth seem not to

significantly vary and are not far apart from each other. The size and distribution of the study sample for this PHE assessment were designed and determined to be representative at the regional level. The sample *Woredas* with their respective size of youth respondents are depicted in table 1.1.

Table 1.1: Distribution of sample Youth Respondents by Zones, *Woredas,* Kebele Administrations and Implementing Organizations

Zone	Woreda	Kebele Administration	Implementing Organization	Size of Youth Beneficiary	Sample Respondents
Wollaita Sodo	Sodo Zuria	Buge Wanche	Wollaita Development Association	900	70
Hadiya	East Badawacho	Mazoria	Participatory Poverty Reduction Organization	650	67
Silte	Silti	Burka Dilapa	Silte Development Association	905	74
	Hulbareg	Mesrak Yekoche	Addis Development Vision	676	46
Guraghe	Sodo	Buee 01	Guraghe Zone Development Association	2270	190
Total	**5**	**5**		**5401**	**447***

*Since the required sample respondents could not be obtained from some *Kebele* administrations, an attempt was made to adjust the gap from other *kebeles*. Such an adjustment is appropriate since the youth population across the SNNPRS appears to be quite homogenous as mentioned elsewhere.

1.5.3 Methods of Data/Information Collection

As indicated elsewhere, the assessment study was based on both primary and secondary dada/information sources. Primary data/information was collected from three relevant sources; the local communities (beneficiaries), program owners/implementers and government agents. The collection of primary data/information from the local communities was based on a

structured survey questionnaire designed for such a purpose. This survey questionnaire generated more of quantitative than qualitative data/information in a longitudinal perspective.

Likewise, program owners/implementers and government agents were categorized into various tiers as per their involvements in the PHE projects. Their experiences were thus captured on the basis of data/information collection checklists/guidelines prepared for this particular intent. The data/information collected from these sources were more of qualitative than quantitative though longitudinal in nature covering the entire PHE program periods (including earlier and late phased out programs). Efforts were exerted to get in touch with as many as program owners/implementers and government agents as possible. Data/information collection continued until such time that data/information saturation was reached.

Focus Group discussions (FGDs) were organized and key informants were selected to collect further information as found appropriate to find responses to some of the key study questions or fill data/information gaps. The composition of the FGDs and number of key informants were decided after a reconnaissance visit was made to the study zones. Discussion guidelines and interview questions were prepared for FGDs and key informant interviews, respectively.

With regard to secondary sources of data/information, all documents and data/information related to CCRDA supported PHE program/project (baseline, progress, monitoring and evaluation, etc.) were accessed. In fact, the search for these secondary sources of data/information was the first step made tostudy and understand what data/information are available or not that made it easier to pinpoint the kind of primary data/information collected. The experiences of other countries and scientific publications were accessed from libraries and websites.

1.5.4 Methods of Data/Information Analysis

This assessment study employed two-pronged approach in data/information analysis, namely quantitative and qualitative though both were integrated in a complementary way. For the quantitative analysis, appropriate statistical analytical soft-wares were utilized congruent upon

the nature of data and/or statistics generated and the purpose to serve. For the qualitative analysis, discussion and informant notes were thoroughly studied and transcribed such that fine but important concepts have appearance in the analysis. As mentioned, the quantitative and qualitative findings were integrated to develop a substantive base in attaining the objective, establish the right responses to the key study questions and eventually draw lessons on the experiences and hence the accumulated knowledge of the PHE approach in SNNPRS.

Concomitant with these data/information acquisition activities, the experiences of countries that have successfully implemented the PHE programs were critically reviewed and their results incorporated into the assessment report as best practices/lessons as well as comparative knowledge base. In fact, some of the key study questions were answered on the basis of the review and analysis of documents pertaining to the experiences of other countries. Furthermore, scientific publications attuned to the philosophy of the PHE approach at various levels were accessed and reviewed so as to frame the Ethiopian experiences on the one hand, and establish a particular knowledge contributed by the Ethiopian case on the other.

To facilitate data/information collection, data collectors and supervisors were recruited, trained and deployed in all study zones during the field work. A pre-test of the data/information collection instruments, particularly of the survey questionnaire was made along with data collectors and supervisors, and modifications were made as deemed necessary in response to the feedbacks obtained.

2. Literature Review

Population, health, and environment is a community of practice that has grown over the past three decades, which focused on developing integrated interventions to tackle challenges associated with population growth, poor health outcomes, and unsustainable resource use in areas where biodiversity is under threat (D'Agnes and Margoluis 2007). The PHE integration approach, though has counted more than three decades, has still been implemented on small scale project basis and it has yet to win the attention of the academic and policy-making communities. As a result of this situation, it has not attracted different research perspectives and seems to have demanded its own established theoretical foundation. This review, therefore, is made on available limited literature as well as PHE project assessments, implementation and monitoring and evaluation reports to document what the PHE approach has accomplished, successes made and challenges encountered in practical terms, and to comprehend conceptual and theoretical subjects it has established so far. The review covers a topic that starts with PHE definition genesis and evolution; secondly it tries to focus on identifying the benefits and links of PHE, thirdly it emphasis on theoretical frame works PHE integrated projects from three countries of Philippines, Uganda and Ethiopia. The fourth topic deals PHE and implementation of first generation projects and the five topic focus on effectiveness of PHE approach is effective and the six topic deals with the strength and weakness of the PHE approach. The seventh topic tries to focus on the experiences of PHE integrated project implementation around the world and the last part deals with the summary and the future of PHE.

2.1. Population, Health and Environment: Definition, Genesis and Evolution

2.1.1. Definition

Population, health and environment (PHE) integrated approach lacks a single agreed upon definition and as a result different organizations have defined it differently (D'Agens and Margoulis, 2007). Likewise, there is no unified approach that practitioners agree upon as a result

of which practitioners tend to develop their projects according to certain common principles (The BALANCED Project, 2013). That is why different organizations come up with different definitions but in the actual sense the essence of these definitions revolves around the integration of the three major components/sectors/pillars of PHE, namely population health and environment. Accordingly, Population Action International (PAI) defined PHE as "the linkage, within a community or group of communities, of natural resource management or similar environmental activities and the improvement of reproductive health, always including but not limited to the provision of family planning services" (Engelman, 2005:14).

The Population Reference Bureau (PRB) defined PHE as "an approach to development that recognizes the interconnectedness between people and their environment, and supports multi-sectoral collaboration and coordination." While its underlying philosophy is based on the interdependencies between the three sectors of population, health and environment, PHE "can accommodate other sectors and be successfully applied to achieve a range of development goals, from poverty reduction to food security to gender equity" (D'Agnes and Margoluis, 2007:5).

Likewise, USAID as the primary donor of PHE initiatives since 2002 defined PHE approaches as "population, health and environment interventions that are conceptually linked and operationally coordinated at the field level." This means that organizations and partners are not working in silos, or on activities that are unrelated to each other. The USAID's definition assumes the underlying relationships among partners and stakeholders across health and environment sectors and implies a close working relationship at the very basic project level (The BALANCE Project, 2013:17).

World Wildlife Fund (WWF) defined PHE approaches as "Projects that integrate health and/or family planning and conservation elements, seeking synergistic successes and greater outcomes than if they were implemented in isolation." This approach to development recognizes the interconnectedness between people and their environment, and supports multi-sectoral collaboration and coordination (WWF, 2008:2). The PHE Ethiopia Consortium also in its first

strategic document adopted a similar definition which holds that 'Population, health and environment (PHE) interventions in Ethiopia are a holistic, participatory and proactive 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' (PHEEC, 2012:15).

Samuel Sellers defined the PHE projects as initiatives that seek to holistically address concerns around population growth, poor health outcomes, and biodiversity loss in collaboration with local resource users through the provision of family planning, improved health service delivery, and conservation activities (Sellers, nd). He also further noted that Understanding how PHE programs function is an important step towards wider adoption of the approach. In particular, many PHE models assume that a synergy between population, health, and environment exists—that is, addressing all of these factors together improves human and environmental health outcomes more than if these issues were addressed separately.

Torell and colleagues (2013) defined PHE as a development approach that recognizes the interconnectedness between people and the environment. They further held that PHE focuses on the interactions among population, health and environment dynamics—particularly in biodiversity rich areas—and supports multi-sectoral collaboration and coordination. It works across these three domains in an integrated fashion—resulting in improved outcomes for each sector as well as for the community/target population at large. Effective PHE interventions are conceptually linked and operationally coordinated and apply multi-disciplinary interventions delivered through private-public partnerships in a coordinated and cost-effective fashion.

In all PHE definitions mentioned above there is an acknowledgement of direct links and connections among the reproductive health of individuals, both men and women; the health of communities and the health of the natural environment or ecosystems upon which all life forms depend. It is imperative that PHE approaches come in many forms, depending on the implementing organizations and the country or regional context in which they work. Since PHE

approaches combine a number of separate but related topics, these approaches or initiatives are sometimes not easily communicated in short sound bites. Due to such varying nature of the PHE approach, by definition, PHE is multi-dimensional, and the complex character of its interventions to improve both human health and ecosystem health can be challenging to describe (The Balanced Project, 2013).

Integrated projects that incorporate both reproductive health and environmental interventions have been given various names throughout the years – such as PHE (population, health and environment), RH/NRM (reproductive health and natural resource management) and community based population and environment (CBPE). Although these projects have different names and approaches, they are guided by the common belief that integrating population, health, and environment can potentially lead to synergistic successes and greater outcomes than if they are implemented in isolation (Leona and Cheryl, 2007).

At its core, the PHE development approach addresses the complex interrelationships between population, health, environment and economic dynamics to improve the well-being of people who depend on ecosystems for food, income, and other goods and services. According to recent studies, interlinked PHE activities promote synergies across sectors, creating multiple benefits to project participants and suggesting that the integrated approach adds value (The Balanced Project, 2013). All definitions explained above and other definitions that might exist address Population-health-environment (PHE) as a development approach that recognizes the interconnectedness between people and their environment, and supports multi-sector collaboration and coordination (D'Agnes and Margoluis,. 2007).

In conclusion, it is possible to coin what all PHE definitions have in common as the understanding that human populations can be one of the major threats to the environment they inhabit, that human health is inextricably linked to the environment, and that it is more effective to work across the human health and environment sectors than pursuing their interventions in isolation.

2.1.2. Genesis and Evolution

For well over three decades now, dozens of community-based development and conservation projects were experimented with a seemingly unlikely emergence of innovation: combining efforts to help communities manage and conserve their natural resource base with efforts to improve their health and increase access to family planning information and services. These projects that came about as conservation or community development projects focusing on natural resource management found the fact that women came forward and asked for help to plan pregnancies and improve their communities' health. Conservation, community development, and health focused non-governmental organizations (NGOs) then took the initiative to create programs linking health and conservation. These programs evolved into the current generation of population, health, and environment projects, or PHE projects as they are now more commonly known (Finn, 2007).

The time period exactly when PHE as development approach first appeared was documented differently by different writers. Anderson documented that a version of Population-Health-Environment programs first emerged in the late 1950s in the work of an international community development organization, World Neighbors (Anderson, 2010). World Neighbors often provided advice connecting family planning and natural resource management. It was not until many years later that PHE approach emerged as a specific area of programming and started to receive focused funding. According to Anderson, since the 1990s, Population-Health-Environment programming has been implemented around the world. In the 1990s, multiple private foundations in the United States, including the Packard, Summit, MacArthur, Hewlett, and Turner Foundations, began funding small-scale PHE programs internationally. Many of these funders withdrew from the field by the early 2000s, Anderson held, except for a new donor, the USAID.

On the other hand, Engelman (2005) identified that integrated approaches to environment, population and health are not new. As early as the 1970s family planning was being merged

with other types of health services and natural resource management in what was called integrated rural development. For example, the Family Planning Association (FPAN) of Nepal partnered with World Neighbors to add an agricultural component onto an existing family planning project. It proved to be such a successful project that a local NGO replicated this model throughout Nepal. Another early pioneer in this field, as Engelman pointed out, was the Population and Community Development Association (PDA) of Thailand, an NGO that brought family planning, water resource development, animal husbandry and marketing services to communities in Northeast Thailand. By the late 1980s and early 1990s, dozens of such projects were being developed in Latin America, Africa, and Asia.

In the same narration as Engelman, D'Agnes and Margoluis (2007) presented the same as cited in Engelman, that as early as the 1970s family planning was being merged with other types of health services and natural resource management in what was called integrated rural development. They argued that in the early 1990s, conservation organizations started taking a wider approach and began focusing more on community involvement in their projects ultimately incorporating more aspects of development, including health service delivery, education, alternative livelihood development, and other interventions. In the late 1980s and early 1990s, conservation organizations began focusing on projects that combined improving the quality of life for people with the management of biodiversity and natural resources. Projects from the early 1990s addressed a wide variety of community development needs (Oglethorpe, *et al.*, 2008).

Furthermore, Pielemeier (2005) explained that Population-Health-Environment programming is being implemented around the world, but it is mainly concentrated in or near threatened biodiversity "hot spots" or protected areas. Other settings include places where high population density (in terms of arable land) puts pressure on the natural resource base and places where certain indicators such as demographic, health, or poverty are worse than the average.
Moreover, the PHE model built upon integrated conservation and development programs (ICDPs), which were first implemented in the 1980s had the aim of simultaneously improving

human and environmental well-being (Wells and Brandon. 1992). ICDP practitioners sought to improve rural economies and the condition of nearby resources by educating communities on the impacts of human activities on environmental quality, by developing monitoring institutions to help communities protect resources, and by promoting and financing alternative livelihood strategies (Sellers, nd).

Notwithstanding the above, Lianne, *et al.* (2015), explained that PHE programs evolved from sector-specific interventions that took place in the early 1990s. Such programs recognize the interconnection between communities, livelihoods, and the environment. The result is an integration of previously unrelated sectors, such as family planning and conservation. The incorporation of a strong livelihoods component into PHE programs promotes income diversification and fosters economic development, which in turn increases the demand for such programs among potential beneficiaries.

It is also documented that integrated programming to address both social and environmental challenges dates back to the mid-1980s, when integrated conservation and development projects started (Rachel, *et al.,* 2015). A subset of these programs have employed an integrated approach referred to as PHE aimed at simultaneously improving access to primary health care services, particularly family planning and reproductive health, while also helping communities conserve critical ecosystems and natural resources upon which they depend. The number of projects explicitly identifying themselves as PHE increased throughout the early 2000s.

It is known that beginning from 2008 the USAID had supported Building Actors and Leaders for Advancing Community Excellence in Development (BALANCED) Project began promoting and advancing the PHE approach in Africa and Asia (The Balanced Project, 2013). However, it also draws on the rich literature and experiences from conservation, health and development NGOs that have worked since the late 1980s to help rural communities increase access to family planning and health services, while at the same time helping them to manage their natural

resources in order to improve their health and livelihoods (De Souza, 2009). Often referred to as the "first generation" of PHE projects, integrated conservation and development projects were promoted in the late 1980s and 1990s as emerging approaches to increase community involvement in conservation. While the results of these projects were mixed, many of the lessons learned that emerged informed the generation of integrated health and conservation projects that were funded from 2000 to 2013 (The Balanced Project, 2013).

Although integrated conservation and development projects predate the 1990s as noted elsewhere, during this decade a large number of PHE programs were launched, largely funded by grants from private philanthropies, including the Packard, Summit, MacArthur, Hewlett, and Turner foundations (Hahan, *et al*., 2011). This same source indicates that in 2002, USAID began to fund PHE programming in response to foreign operations appropriations bill, which stated that under the Child Survival and Health Programs Fund, some portion of the funds for family planning/reproductive health should be allocated in areas where population growth threatens biodiversity or endangered species. It also underlined that supported by USAID and the David and Lucille Packard Foundation from 2000-2011, many health and conservation organizations in Madagascar and the Philippines incorporated development initiatives into their work in order to meet the needs of communities immediately adjacent to parks and protected areas.

2.2. Links among Population, Health and Environment and Potential Benefits

Understanding the natural links among the three pillars (population, health and environment) of the PHE integrated approaches is quite imperative to give necessary credence to the potential contributions these approaches would generate. It was in this vain that “We cannot simply confront individual preventable illnesses in isolation. The world is interconnected, and that demands an integrated approach to global health,” said President Barack Obama in May 2009, echoing what PHE practitioners have long argued: Integrated lives with integrated problems require integrated solutions (Clark, 2010:1). PHE programs are based on the belief that the development challenges of individuals and communities require integrated solutions.

By simultaneously addressing challenges such as population growth, natural resource management, and food security, proponents of the PHE approach argue that this integrated approach will not only produce better results, but also improve operational efficiency, garner community trust, and increase women's involvement and equality (Pielemeier, 2005).

While links among population, health, and the environment are sometimes acknowledged in national-level policies and development strategies, most development efforts continue to employ a traditional stand-alone sectoral approaches, aligned with the division of government services and institutional structures. In doing so, opportunities for achieving superior results—in cost-effectiveness, programmatic and administrative efficiencies, and programmatic outcomes by employing an integrated, holistic approach may be missed (Thaxton, 2007).

The PHE approach to development recognizes the interconnections between people and their environment and supports cross-sectoral collaboration and coordination. As its name suggests, the approach places particular emphasis on the population, health, and environment sectors; however, the underlying philosophy is fundamentally one of the integration of these three sectors. It can also accommodate other sectors, such as agriculture and education, and can be successfully applied to a range of development goals that range from poverty reduction to food security and to gender equity (D'Agnes and Margoluis, 2007).

Integrated PHE programs had a significantly higher positive impact at a lower total cost in both reproductive health and natural resource management indicators than single-sector approaches. With integrated messaging, programs are able to recruit a greater number of men to family planning efforts and more women and adolescents to conservation efforts. In Ethiopia, husbands in a PHE project were four times more likely to support use of family planning than husbands in a reproductive-health-only program (Belachew, *et al*., 2013).

Integrated programs and services benefit individuals, but they also generate benefits at national, regional, and international levels. Improved demographic trends and conservation efforts in biodiversity areas are critical to ensuring long-term prospects for sustainable

development (www.populationaction.org). PHE practitioners believe integrated conservation and development approach can achieve the following collective benefits (The Balanced Project, 2007):

• Building community ownership and buy-in. Given that PHE approaches address root causes of poverty and resource degradation, implementers find that communities embrace and adopt multi-sectoral approaches and these approaches build trust among community partners;

• By pooling and leveraging resources, PHE implementers can create economies of scale and merge funds from different streams;

• Building resilience. Communities with functioning and intact ecosystems are more resilient to environmental shocks and disasters. Healthier people are also known to be resilient as well;

• Creating improved efficiencies in program implementation. For example, organizations can share the costs of transportation and field staff expenses; and

• Strengthening local governance — by engaging local officials and providing space for dialogue and collaborative planning and coordination across sectors. Thus, arguably, there seems to be huge potential in the PHE integrated approaches to address naturally integrated development problems at the grassroots level.

2.3. Conceptual Frameworks and Empirical Evidences of the Integrated Population, Health and Environment Approaches

The PHE approaches have in essence rested on variously defined conceptual frameworks as per the existing varying definitions or principles. Stem and Margoluis (2004),produced a document based on a review of key PHE references that included institutional literature (both published and unpublished), project reports, project monitoring and evaluation plans, workshop reports, and academic literature, and compiled a series of results chains for different population, health, and conservation interventions and targets. These are simple boxes and arrow chains that define the underlying causal logic behind various interventions – how people believe that the interventions they use will lead to desired changes.

These same authors have described four main conceptual models for population, health, and environment interventions and outcomes: Firstly, with regard to health/population

interventions to achieve conservation outcomes; these causal chains illustrate the potential for improved health outcomes to actually lead to improved conservation outcomes. For example, they hypothesized that family planning interventions could reduce fertility, which could in turn have several possible positive impacts, including reducing land clearing, reducing migration to ecologically sensitive areas as resources become scarcer, and reducing burdens on women, who can then take more active roles in conservation activities. Secondly, in relation to conservation interventions to achieve health/population outcomes; conservation interventions that reduce biodiversity loss can increase the supply of wild foods and medicines, besides improving nutritional health. Environmental education efforts that link conservation with health can increase the willingness of communities to participate in conservation programs (Carr, 2008), which can also change reproductive health-related behaviors (Belachew, *et al.* 2013). Thirdly, concerning conservation or health/population interventions to achieve both health/population and conservation outcomes. Fourthly, focusing on the operational linkages that enable to achieve health/population and/or conservation outcomes; for each conceptual model, a general results chain is provided that lays out graphically common assumptions about how an intervention influences various factors to reduce threats and lead to the desired long-term conservation or population/health outcomes (Stem and Margoluis, 2004).

The literature on conceptual framework of the PHE approach is more of projects based and this is due to the fact that these PHE projects can look very different depending on the local interactions among population dynamics, human health problems, and the threats to local environmental conditions (Finn, 2007; The Balanced Project, 2013). It is noted that a PHE conceptual framework or model illustrates the situational dynamics (e.g. demographic, social, political, economic, and environmental factors) at play in a selected project site and the causal linkages and assumptions between the factors.

A useful way to gain a greater understanding of the interaction and association between different factors of PHE components at a local site is to create a conceptual model of the situational dynamics – prevailing circumstances. This is a particularly useful exercise for PHE projects due to the complex nature of these types of projects. It is important to understand

how the environment and health components are linked – and how to convey this linkage to the community. For the purpose of demonstrating the conceptual framework of the integrated PHE projects around the globe and to see how PHE projects best fit to local situations examples of three projects from three countries appear worthy of note. These PHE projects are: Balanced- Philippines PHE Project, Hope-LVB Uganda PHE Project and PHE Ethiopia's Consortium Conceptual model (The Balanced Project, 2013; Stelljes, 2013). The following sections bring up each of these three exemplary project experiences.

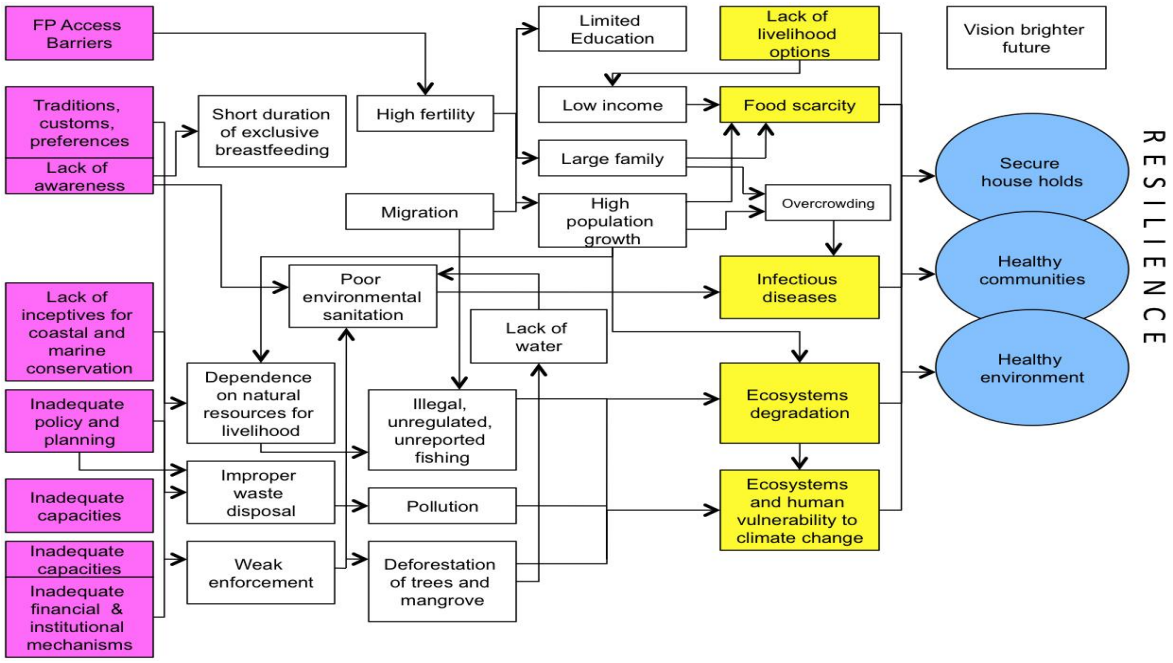
2.3.1. BALANCED - Philippines Population Health and Environment Project

With funding support from the USAID, Philippines Office of Health (OH) and Office of Energy, Environment and Climate Change (OEECC), and the BALANCED Project carried out PHE field activities in two key marine biodiversity areas in the Visayan and South Sea bioregions of the Philippines. Implemented in partnership with local governments that share jurisdiction over these marine bioregions, PFPI, CI/Philippines and CRC built the leadership and implementation capacities of national and local governments and stakeholders to respond in an integrated manner to interrelated population, health, and marine environmental issues in coastal towns surrounding the Danajon Bank (Visayas) and Verde Island Passage or VIP (Luzon). To better understand the issues and challenges specific to the targeted marine bio-zones, the BALANCED Philippines team developed a conceptual framework (Figure 2.1) based on the quantitative and qualitative evidence gathered prior to the implementation of the project. The graphic analysis was used for strategic planning, direction setting and for guiding the design of interventions and communication strategies suitable for both sectoral and cross-sectoral issues (The Balanced Project, 2013).

In the actual sense, the PHE conceptual models vary from country to country and from the project to project. Project models were built on explicit cause and effect relationships related to PHE interventions in order to achieve the intended outcomes. This would help project implementers in identifying the key factors in the results chains that need to be measured to

show predicted changes and identify possible indicators for those factors. After developing the conceptual model it is important to make ground truth (validate) a project's conceptual framework with community members and volunteers who live in the area and the environment that will be the target of a PHE intervention (Stem and Margoluis, 2004)

Figure 2.1: Conceptual Framework for BALANCED-Philippines PHE Project



Legend
Far-right column: "Vision for a Brighter Future" hinges on three co-dependent outcomes (three blue, interlocked circles)—secures households, healthy communities and healthy environment
Yellow boxes: direct threats to the Vision
White boxes: factors contributing to threats with arrows linked to the root causes (far-left)
Arrows: represent assumptions about the interrelationships among the factors

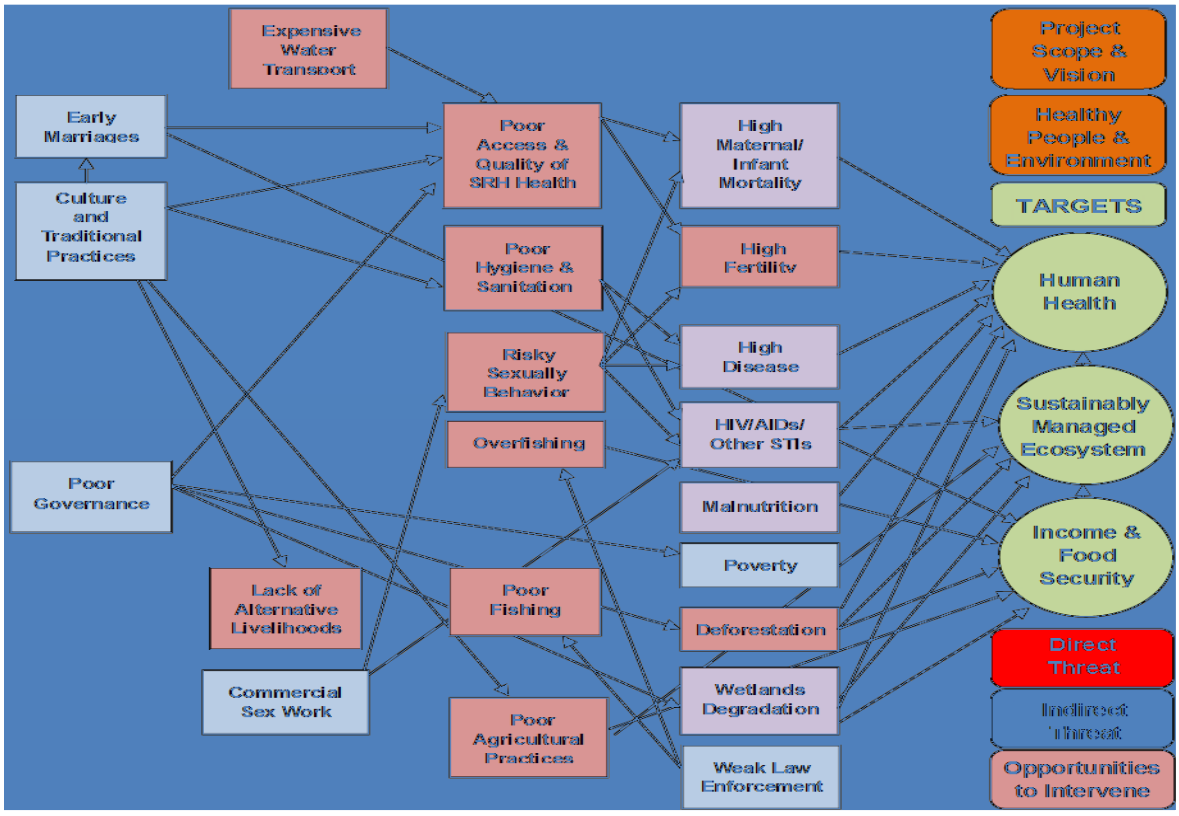
Source: The Balanced Project (2013)

2.3.2. HOPE-LVB Project/Uganda

The Health of People and Environment in the Lake Victoria Basin (HOPE-LVB) Project led by Pathfinder International and its partners - Ecological Christian Organization (ECO) and

Conservation Through Public Health (CTPH) in Uganda, and Osienala-Friends of Lake Victoria in Kenya provides underserved families and communities with knowledge and skills to improve their sexual and reproductive health, reduce poverty, and develop more sustainable practices for managing natural resources. It is jointly funded by the David and Lucile Packard Foundation, and others. The primary focus of the HOPE-LVB Project is to support women's access to maternal care and FP information and services, while simultaneously educating communities about population dynamics, environmental conservation, and livelihood improvement. It also contributes to reducing threats to biodiversity conservation and ecosystem degradation in the Lake Victoria Basin. The HOPE-LVB conceptual framework (Figure 2.2) demonstrates the threats to the environment and community health that project activities seek to change (The Balanced Project, 2013).

Figure 2.2: Conceptual Framework for the HOPE-LVB project



To depict how PHE is contributing at the national level in addressing development challenges, the PHE community developed a conceptual model for Ethiopia in February 2012 (Stelljes, 2013).

A conceptual model (Figure 2.3) included: targets of improving community health, livelihoods and bio-cultural diversity. Direct threats are factors that directly put pressure on target situation were identified such as population growth, limited access to health services, climate change and others. Indirect threats are factors that indirectly put pressure on target situation including poverty, limited use of FP, low level of education, etc., and opportunities that demand interventions in order to implement PHE projects to influence the target situations were identified.

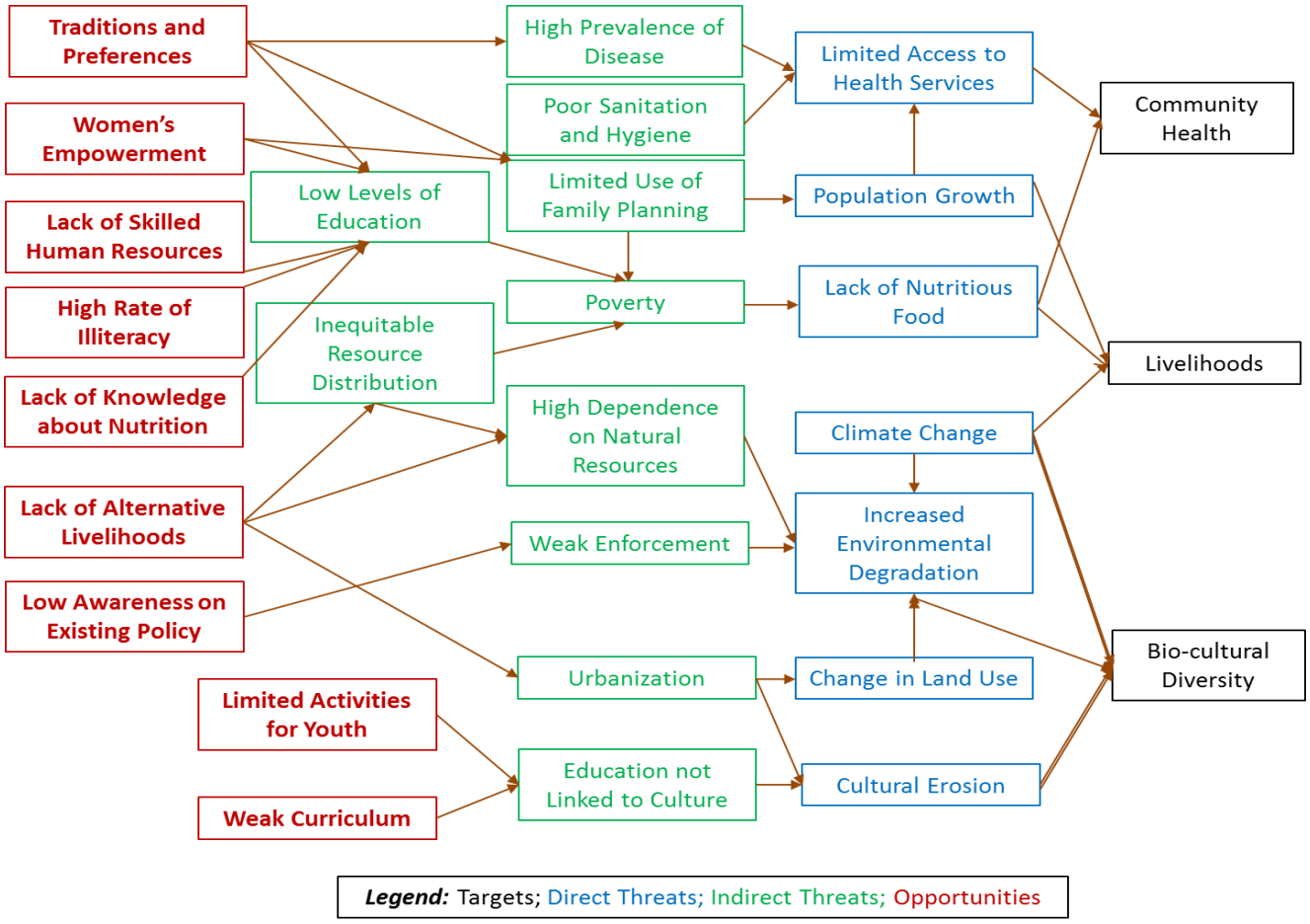


Figure 2.3: Ethiopian PHE Conceptual Model

Source: Stelljes (2013)

2.4. The Population, Health and Environment Approach and the First Generation of PHE Projects

John Pielemeier in 2005 had conducted the assessment of the first generation of PHE projects funded by Packard Foundation and USAID from 2000 to 2005.The assessment examined 11 field projects and 45 field sites/projects in Philippines, southern Mexico, Tanzania and Madagascar that integrated conservation and family planning at the community level within areas of high biodiversity. This assessment found that almost all of the integrated projects met most or all of their anticipated objectives within 9-36 months. The projects were also inexpensive, costing between $5 and $9 per beneficiary per year. And operational research conducted by PACT in the Philippines, Voahary Salaama project in Madagascar, and on a smaller scale, World Neighbors in the Philippines showed that integrated projects also produced reproductive health and environmental outcomes superior to those of single-sector interventions. It was demonstrated that the integrated approach appeals strongly to clients, who do not compartmentalize their lives in single sectors; to local political leaders; and to implementing non-governmental organizations (Pielemeier, 2005).

Other major conclusions of Pielemeier's assessment report included: inexpensive community mobilization techniques that provide significant program results within 1-2 years, the ease by which the health - and environment - based NGOs can adapt to successfully implement three-sector (PHE) community initiatives, the experience, leadership, acceptance of the PHE concept, garnering acceptability within the community are more important than the implementation modalities that might be different based on implementing organization. The Champion Community approach used in Madagascar is an excellent model that has proven ability to mobilize strong community participation to achieve clearly defined, multi-sectoral targets within a one-year period. The projects reviewed by the assessment have demonstrated that field-based practitioners and political leaders, based on their personal experiences, typically become strong advocates for the integrated PHE approach. However, most donors and national governments are not familiar with the positive results of PHE programs and, even if they are, they often find traditional sector-specific programming to be more bureaucratically convenient

than the integrated programs. Overall, the results of the first generation of PHE field projects strongly suggest that an integrated approach to community environment and population/health issues can provide successful outcomes, even in remote and underserved areas, in a relatively short period of time, and at low cost (Pielemeier, 2005).

2.5. Implementation Experiences of Integrated Population, Health and Environment Projects

To fathom the implementation experiences of the PHE projects, a brief review of three selected PHE projects from Nepal, Madagascar and Ethiopia are made, based on Hahn, *et al*.(2011), The Balanced Project (2013), and Stelljes (2013), respectively. The main focus areas of the review are background to project initiation, results achieved and challenges faced.

2.5.1 Integrating Population, Health and Forest Management Project in Nepal

The Integrating Population and Health In to Forestry Management Agendas in Nepal pilot project is an example of a sustainable PHE project centered on interrelated health, environment, energy, and poverty issues common to developing countries. It included:

1. The high incidence of child mortality associated with acute respiratory infections (ARIs) linked to indoor air pollution from traditional wood-burning stoves.

2. Unsustainable levels of tree harvesting leading to deforestation, loss of biodiversity, and loss of ecosystem services, thus contributing to poverty among forest-dependent people.

3. The tradition of early marriage and childbearing, combined with an unmet need for family planning, resulting in high fertility and population growth and increasing pressure on the environment.

In order to promote sustainability the project worked with local Community Forest User Groups (CFUGs) and incorporated a package of health and family planning interventions into their forestry management programs. These interventions were appropriate for local conditions and culture.

Community Forest User Groups emerged in Nepal in 1978 as a vehicle for a nationwide community forestry strategy aimed at preventing deforestation and habitat loss. The CFUGs were composed of several households charged with protecting, managing, and using a tract of state-owned forest consigned to them by the District Forestry Office according to the terms of the community forest operational plan. In 2006, a USAID review of one such project revealed success in promoting the capacity of CFUGs to manage forest resources in a socially inclusive and sustainable manner, and demonstrated the beneficial effect of these actions on biodiversity conservation. However, the report also noted several factors still negatively impacting natural-resource use and health in CFUG communities. Although alternative fuel sources had been promoted to reduce consumption of wood and resulting deforestation, the link between the uses of traditional wood stoves, indoor air pollution, and respiratory infections had not been explicitly made, and death from ARIs, especially in children, remained a major concern in CFUG communities. Lack of access to health services and modern family planning methods, as well as high fertility and population density in these communities, were also noted in the assessment. In addition, migration of men from the villages into India for seasonal work exacerbated HIV/AIDS.

Based on these findings, it was recommended, three areas of intervention should be integrated into the natural resource management and governance activities of the CFUGs to enable them to meet local health needs and strengthen their conservation outcomes: ARI prevention measures, HIV/AIDS education, and promotion of family planning. Toward this end, USAID/Nepal supported a pilot project, Integrating Population and Health into Forestry Management Agendas in Nepal that used a variety of methods to establish channels within existing CFUG activities to promote awareness of and access to HIV and ARI prevention practices, and family-planning methods.

The PHE pilot was implemented by two local NGOs working in partnership with USAID: WWF and the Resource Identification and Management Society (RIMS). A third agency, ADRA-Nepal, assisted the two NGOs with family planning activities. In preparation for the implementation of

the Integrating Population and Health project, RIMS staff trained and mentored CFUG members to become PHE outreach workers, peer educators, improved cook stove (ICS) promoters, and community-based distributors of contraceptives. The RIMS field teams then worked directly with CFUGs in nine Village Development Committees (VDCs) of Dhading to implement the pilot project activities. These activities promoted cooperation across health, forestry, and energy sectors, with the aim of minimizing redundancies in services and leveraging available resources.

The PHE outreach workers and peer educators collected baseline data from the RIMS projects sites in October 2006 and every six months thereafter. The data were verified and triangulated with other sources of information obtained by the district health and forestry offices, and the project information system. Follow up data on health outcomes showed success in both increasing family planning and alternative energy uptake and decreasing ARI cases and referral rates (Table 2). By March 2009, the contraceptive prevalence rate had increased from a baseline of 44% to 68.7%. An increase in adoption of family planning and clean energy technologies was seen by RIMS after implementing street drama as an educational intervention. An increase in demand for condoms occurred after peer education focusing on the dual benefits of pregnancy prevention and reduced transmission of sexually transmitted infections.

Data on ARI cases reflect a seasonal cycle of peak incidence during the first three months of the year. By March 2009, the number of ARI cases (n=301) had dropped to <50% the number recorded in March 2007 (n=690). The declining ARI trend was inversely proportional to the trend in clean energy use, which increased from 22% of CFUG households in 2006 to 40.5% by 2009. These data suggest the possibility of reduced ARIs through better fuel-sourcing strategies, but other parallel activities may have contributed to this trend, particularly training of the female community health volunteers in ARI case management, and improved monitoring and promotion of preventive practices. The environmental impacts of the pilot project were also significant. The 2407 CFUG households that had adopted clean sources of energy were collectively saving an estimated 3583 metric tons of firewood annually (equivalent to 8958

trees). In addition to the benefits of reducing loss of forest cover and preservation of forest biodiversity, economic and social benefits were seen.

Nevertheless, the project faced several challenges during implementation. Initially, officials from district forestry office were concerned that the new PHE approach would distract CFUGs from their primary forest management and stewardship responsibilities. This was effectively addressed by advocacy efforts highlighting 'health is wealth' messages linking PHE goals to reduction in consumption of forest resources. Another issue was the communities' expectation that the project would provide them with income generating opportunities though no resources to support. The Resource Identification and Management Society overcame this by educating the community about the cost savings that accrue to families that use alternative energy and practice birth spacing, explaining that the long-term benefits of such practices were greater than the short-term gains from a dedicated income generating activity. Another challenge was related to the cost of alternative energy. The price of the biogas installation was beyond the reach of most CFUG families, even with the subsidy provided by the government.

The Integrating Population and Health into Forestry Management Agendas in Nepal project was unique in that it was able to implement the integrated PHE strategy among a large number of CFUGs and achieved significant results in a short period of time, despite limited funding. Furthermore, the mechanism needed to sustain the interventions was put in place via the CFUGs' successful addition of the family planning and alternative energy activities to their community forest operational plans, effective through 2012.The project had a positive influence on the health practices and pro-environment behaviors of people in the target communities, which can be attributed, in part, to the effective cross-sectoral collaboration catalyzed by RIMS.

2.5.2. Locally Managed Marine Areas Project in Madagascar

Since 2004, Blue Ventures has been working with Velondriake, one of the largest locally managed marine areas (LMMAs) in the western Indian Ocean, to conserve and sustain marine

and coastal areas. This LMMA encompasses more than 1,000 square km of marine, coastal, and terrestrial environment, and is home to nearly 8,000 people. Approximately 80% of this population relies on the direct use of coastal and marine resources for their livelihoods. Blue Ventures supports the LMMA by building community capacity in governance, enforcement, and natural resource management tools.

Local governance is authorized by the government through a set of local laws, called dinas. These laws are enforced by local communities through a democratically elected local management committee. For example, within the LMMA, there is dina on gear restrictions that limits destructive fishing practices (e.g., poison fishing and beach seine nets). There is dina that permanently closes certain reef and mangrove areas in order to preserve critical fish habitat, and lays out seasonal closures to octopus harvesting in order to allow this economically important species to recover and in the long-run provide fishers with increased profit.

To date, six zones of coral reef and one of mangrove forests have been designated as permanent no-take-areas to further reduce anthropogenic stress in Velondriake. These core protected areas were identified via a participatory process with local communities. The coral reserves were chosen for their unusually high coral cover, fish diversity, and general reef health - ecological indicators generally used to infer high reef resilience to climate change.

Recognizing that the region offers limited sources of alternative income aside from fishing, Blue Ventures has forged a public-private partnership with Velondriake and a local sea cucumber hatchery. Through targeted technical assistance and business management, Blue Ventures has worked with local fishers to develop farms for sea cucumber and seaweed that are sold on the international market. Sea cucumbers, prized on the Asian market, have been highly overfished in the local waters and these farms provide a significant amount of supplemental income. Many of these sea cucumber and seaweed farmers are women.

Although initially focused on marine conservation and sustainable fisheries management, Blue Ventures quickly realized the need to address unmet health needs of its partner communities within Velondriake. With the average woman giving birth to over six children, the local population was set to double in size in 10-15 years, outpacing the recovery rate of fisheries stocks and the region's ability to generate alternative livelihoods. Not only do smaller, healthier families reduce the growing pressure on the area's coastal and marine resources, they can also allow women to become more involved in natural resources management and participate in income generation activities.

Before Blue Ventures opened the first family planning clinic in Velondriake, women seeking RH services had to walk 50 km to the nearest government-run facility which was often under stocked and out of supplies. Not surprisingly, contraceptive prevalence in the area (10%) was much lower than the national average (27%). Since 2007, Blue Ventures has provided weekly family planning clinics, and trained an extensive network of 33 local women as Community Based Distributors (CBDs) who are able to provide contraceptives (condoms, pills, and injectables). The program has expanded to include education and supplies for WASH as well as maternal and child health, such as diarrheal treatments, water purification solutions, and bed nets within their villages. Funding for these health interventions has come from the Population and Sustainability Network, United Nations Population Fund (UNFPA), The MacArthur Foundation, USAID, and private donations.

Recognizing that healthy people are better able to be good stewards of their environment, Blue Ventures has truly integrated population, health, and environment programming into its organizational structure. Health staff work alongside conservation staff and programming is linked at all levels. This integration saved on costs (e.g., sharing transport, office space, and people), broadened the audiences that are reached with combined health and environment messages (e.g., discussing family planning at natural resource forums, or fishery management at health events), and boosted community buy-in to both conservation and health activities.

2.5.3. The Guraghe People's Self-help Development Organization PHE Project in Ethiopia

The Guraghe People's Self-help Development Organization (GPSDO), founded in 1961, was first known as the Guraghe Road Construction Organization (GRCO). The Guraghe people are an ethnic group in Ethiopia located in the Southern Nations, Nationalities and People's Region (SNNPR). GRCO was created by leaders in the Guraghe community to build roads to connect rural Guraghe communities with main roads so they could access markets and services, responsible for building over 550 kilometers of roads. In 1988, GRCO decided to expand its focus and hence to address the diversity of development challenges the Guraghe community was facing, and changed its name to GPSDO. The mission of GPSDO is to organize, coordinate, support and mobilize the efforts and resources of the community, and governmental and NGOs towards the socio-economic development of the Guraghe community. The vision is to see self-reliant, sustained and empowered Guraghe society within healthy and protected green environment. GPSDO works in nine *woredas* (districts) of the Guraghe zone in health, environmental protection, livelihood improvements, food security, education and capacity building. It has 27 staff and two offices - a zonal office in Wolkitte and a headquarters in Addis Ababa.

GPSDO started implementing the PHE approach in two *woredas* in 2008 (Cheha and Mehur-Aklil) with funding from the Packard Foundation. When Packard made a second phase grant for 2011 to 2013, GPSDO decided to scale-up the PHE approach to three additional *woredas* (Abeshgie, Endegagn and Ezha). As of 2013, the PHE project is implemented in 45 *kebele* (lowest administrative unit) within the five PHE *woredas*.

GPSDO has developed a conceptual model that depicts how it understands the relationships between what it intends to accomplish and the direct and indirect threats it must address in order to see the development of the Guraghe zone. The three targets GPSDO has selected are: livelihood/income security, human health and sustainable natural resource management (NRM). The four primary threats to achieving these targets are: low level of production

(agricultural) and income, malnutrition and health problems, large family size and unbalanced population and natural resource degradation.

On the ground, GPSDO is addressing lack of knowledge through a variety of education programs, including house to house counseling and community outreach via volunteer community health workers (VCHWs), providing educational tutoring, support and literacy classes for girls and women and trainings on natural resource management and alternative livelihoods. It provides resources to the participants in these programs such as modern beehives, bio-physical land rehabilitation structures such as check dams and molds to make energy saving stoves. The VCHWs are addressing the lack of access to family planning services by providing FP/RH counseling at the community level and can give condoms and pills to those who are interested. If a couple is interested in using another form of contraceptive, the VCHW will refer them to the (Health Extension Worker) HEW. The VCHW program is unique in Ethiopia and required special permission from the Ministry of Health when the Health Extension Program began in order to avoid duplication of efforts. The VCHWs' work is supervised by the HEWs and the two groups work closely together with Development Agents to address the needs of the *kebeles* where they are working.

An example of how these groups are working together to deliver integrated services is when there are community work days in the enclosed areas that have been established through community by-laws and are managed by youth groups. Development Agents oversee the bio-physical land management work while HEWs and VCHWs lead discussions about how family planning can help balance family size with the economic and land resources available to the family. In addition, the HEWs provide first aid should any injuries occur. From 2005 to 2011, the GPSDO PHE project resulted in: 106,856 women accepted a family planning method, contributing to an increase in the contraceptive acceptance rate from 8.1% to 35.2%. 246,600 mothers and children referred for maternal and child health services, 19,319 people referred to HIV counseling and testing, 6,364 women engaged in alternative livelihood activities, and 200 hectares of land is being protected.

GPSDO's program has several strengths to draw on: a truly integrated program, enjoyed the support of the community, including the elders, which facilitated the institutionalization of changes through the establishment of by-laws, the only PHE project in Ethiopia to be rigorously evaluated and one of the few globally to be able to show with statistical significance that its PHE project achieved greater results than a vertical FP/RH program alone, complemented government programs by supporting extension workers in health and agriculture, and made significant changes in the community with limited financial and human resources.

As to challenges, the evaluation revealed that government stakeholders are unevenly involved in the project, and that GPSDO shifted its focus away from self-reliant community development approach to project based donor funded activities, which has nevertheless become increasingly difficult to secure. Active engagement of diverse source of funding is noted as a future imperative work.

2.6. Summary

The PHE approach and its various reviewed projects that have hitherto known to exist demonstrated that field-based practitioners and political leaders, based on their personal experiences, typically become strong advocates for the integrated PHE approach. However, most donors and national governments are not familiar with the positive results of PHE projects and, even if they are, they often find traditional sector-specific programming to be more bureaucratically convenient than the integrated programs.

If integrated PHE Approach is to thrive rather than wither after its trial period, two key actions are required: aggressive advocacy and dissemination campaigns that highlight the successes of PHE projects, and successful implementation of a 'scaled-up' PHE approaches that can affect the lives of a much larger target audience while becoming financially self-sustaining.

The lessons learned from the Packard and USAID PHE programs in the Philippines and Madagascar and PHE implementation practices in East Africa, particularly in Ethiopia, lend support, insights and guidance for expanding programs in those countries, as well as for new PHE programs in other countries. There are a number of opportunities for continuing with the evolution of PHE programs:

The government decentralization underway in many developing countries may provide a new dimensional perspective and the opportunity to break through the reluctance of donors and central governments to support integrated programs. Block grants are increasingly being sought and hence provided by national governments and donors to decentralized government units. These 'program' funds typically support the unit's development plan, which could be designed on an integrated rather than a sectoral basis with support from community advocates and local NGOs.

Moreover, biodiversity hotspots and protected area buffer zones are not the only areas where PHE may be appropriate. In the Philippines, PHE proponents are experimenting with using the PHE as a framework for disaster mitigation projects and urban slum health and sanitation efforts. These show a widening base of the PHE approach into new territories sectors and frontiers.

There is no question that a wide variety of PHE type integrated programs will need to be tailored towards the particular needs of local communities and areas. For example, HIV/AIDS has been added to some PHE programs in South Africa. In upland Madagascar, improved water supply for agriculture and hygiene has been a key factor in attracting communities to participate in PHE projects. The concept of integrated programs, including the key elements of family planning and natural resource management, should be viewed as a concept that will evolve into different forms in differing settings.

Overall, the results of the first generation of PHE field projects and their successor projects strongly suggest that an integrated approach to community, environment and population/health issues can provide successful outcome, even in remote areas, in a relatively short period of time, and at low cost. And donors and host governments alike will find it important to take a closer look at the many advantages and synergies provided by integrated PHE projects. They might well agree with the assessment's conclusions that the time is ripe for scaling-up these successful models to meet the livelihoods and food security needs of low-income populations.

Existing experiences have amply testified the fact that integrated projects such as those framed in the PHE approach present unique prospects to strengthen community resilience through risk reduction, livelihood diversification, creating community involvement and trust, and improving governance structures. In this regard, for communities, and women in particular, these programs are the means for empowerment and hence increasing involvement in decision-making and becoming agents of change in the economic and political life of their communities. Another unique prospect is the permeability of the PHE approach in incorporating feedbacks from all segments of society that in fact ensures participatory planning and monitoring and evaluation, which in turn reinforce social cohesion that underpins community resilience to disasters, conflict and other shocks.

Capitalizing on revealed benefits in integrating family planning into resilience programming and sustainable development objectives, through integrated programs such as those combining population, health and environment, offers an opportunity to package together a number of long-term, sustainable resilience-based solutions, increasing the effectiveness of each PHE approach.

3. Findings of the Assessment Study

This assessment report deals with the appraisal of the experiences and current state of knowledge on integrated Population, Health, and Environment (PHE) approach projects located at selected Zones of the SNNPRS on the basis of available evidence collected from various sources as indicated in the methodology section. Using primary quantitative evidences, this section presents the background socio-demographic characteristics, and then the health, natural resources and environment, and the livelihood situations of the respondent youth population in relation to the PHE approach.

3.1 Socio-Demographic Characteristics of Respondents

The survey provides data/information on some selected demographic and socio-economic characteristics of the youth respondents that include age, sex, place of residence and highest grade completed. The age of youth respondents ranges from 16 to 24 years. For simplicity and analytical purposes the youth respondents were categorized into three age groups: 16-18, 19-21, and 22-24. With the mean age 19.81 years, about 41.2% of the respondents were in the age group 16-18. Sex wise, the male group of respondents constituted about 51.7% while the female group accounted for about 48.3% of the respondents, which more or less resonates with the actual sex ratio of the general population (Table 3.1).

Table 3.1: Distribution of respondents by sex and age group, SNNPRS, 2016

Age	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
16-18	81	44	103	56	184	41.2
19-21	80	63	47	37	127	28.4
22-24	70	51.5	66	48.5	136	30.4
Total	**231**	**51.7**	**216**	**48.3**	**447**	**100**

As well known, education is a key input for development. Its power of enhancing economic growth, generating income and contributing to all other sectors makes education sector compulsory, decisive, and a major concern for all and that is why educational sector development is high on the agenda for economic growth and development of countries.

Survey results revealed that about 97.7% of the respondents have formal education (primary, secondary and above secondary). Nearly half (48.5%) and 42.3% of the youth respondents have completed secondary and elementary schooling, respectively. Urban areas have large size of youth who completed secondary schooling (68%) than rural areas (35.3%) while the latter has more youth (57.5%) who completed elementary schooling than the urban areas (19.9%) (Table 3.2). Arguably, when this particular case of school completion is considered and complemented with respondents' dependence on parents and their common feature of aspirations for self and community development in union, the youth respondents become homogenous as an acceptable thread, which quite clearly implies the fact that the respondents had reasonable background to perceive and understand the PHE interventions and reflect on its possible benefits and gaps on the same footing.

Table 3.2: Distribution of respondents by place of residence and highest grade completed, SNNPRS, 2016

Place of Residence	Highest Grade Completed											
	Primary		Secondary		Above Secondary		Non formal Education		No Education		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Rural	153	57.5	94	35.3	14	5.3	1	0.4	4	1.5	266	100
Urban	36	19.9	123	68.0	17	9.4	0	0	5	2.8	181	100
Total	**189**	**42.3**	**217**	**48.5**	**31**	**6.9**	**1**	**0.2**	**9**	**2.0**	**447**	**100**

Survey results show that most of the respondents are not married (72% of the total respondents) as they are youth below 25. Nearly four in five of the male and little less than two-third of the female youth is unmarried (see figure 3.1).

Figure 3.1: Percentage Distributions of Youth Respondents' Marital Status by Sex, SNNPRS 2016

With regard to occupation, most respondents are engaged in schooling (64.9%) followed by farming (20.6%) and as a housewife (7.8%) for women. Most respondents claimed to have some kind of occupation and only two reported that they are unemployment (see table 3.3). However, there is no question that underemployment and disguised unemployment are pervasive among those youth farmers, merchants and daily labourers.

Table 3.3 Distribution of respondents by occupation, SNNPRS, 2016

Occupation	Respondents	
	No.	%
Student	290	64.9
Housewife	35	7.8
Farmer	92	20.6
Government employee	3	0.7
Merchant	14	3.1
Daily laborer	9	2
Unemployed (no occupation)	2	0.4
Others	2	0.4
Total	**447**	**100**

The gadgets through which the youth access information are notably important for the acquisition of general knowledge. The possessions of radio and/or television and telephone/mobile set could be indicators of the extent to which the youth respondents tune themselves within their peer networks and with the implementers of the PHE projects and hence for the expansion of the PHE ideals. In this regard, it is found out that about 58.8% of the youth respondents own radio, 76.3% telephone and 12.8% television. More than three-fourth of the youth own mobile phones (Table 3.4).

Table 3.4: Distribution of respondents by ownership of radio, TV and telephone, SNNPRS, 2016

Possession		Respondents	
		No.	%
Radio	Yes	263	58.8
	No	184	41.2
	Total	**447**	**100**
Television	Yes	57	12.8
	No	390	87.2
	Total	**447**	**100**
Telephone	Yes	341	76.3
	No	106	23.7
	Total	**447**	**100**

3.2 Concerns Expressed by Respondents regarding the Population, Health and Environmental Issues

This subsection attempts to bring up various kinds of concerns expressed by the respondents with regard to population growth and size, health and natural resources and environment factors.

3.2.1 Respondents Concerns Related to Population Growth and Size

The proportion of respondents with the perception of population as a concern was found to be so high (99.5% (table 3.5) indicating that almost all respondents are afraid of the increase in population size mainly because of the fear of inadequate access and delivery of basic services and problems related to the capacity and management of land and environment.

Table 3.5: Percentage distribution of respondents by perception of the concern about population and reasons for the concern, SNNPRS, 2016

Population is a concern	Main population concerns*					Total
	Access & delivery of basic services	Availability/ supply of food	Land & environment	Health of population	Conflicts	
Yes	154(37)	79(19)	153(37)	26(6)	3(1)	415(99.5)
No	2(100)	-	-	-	-	2(0.5)
Total	156(37)	79(19)	153(37)	26(6)	3(1)	417 (100)

* Figures in parentheses refer to percentages.

This result is the same as the share of the rural youth group (over 60%) who perceived population increase as a concern much more than its urban counterpart (over 40%) (Table 3.6). This concern seems to be realistic given the fact that about 69.5% of the respondents have more than four family members and it is highly likely that, apart from husband and wife, the remaining family members are children.

Table 3.6: Percentage distribution of respondents about population as concern by sex and place of residence, SNNPRS, 2016

Place of residence	Population is a concern					
	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Rural	147	55.3	119	44.7	266	59.5
Urban	84	46.4	97	53.6	181	40.5
Total	**231**	**51.7**	**216**	**48.3**	**447**	**100**

Respondents with household sizes ranging from 5-8 constitute the highest share (58.4%) of the respondents whilst a third of the respondents have households with 1-4 members (see figure 3.2). These results somehow show that the provision of family planning services is insufficient in the study areas. If the services are available to all, experience shows that average household size often falls (PRB, 2014). The use of family planning services has nevertheless improved as noted by about 80.5% of the respondents as a result of the introduction of PHE program in the study areas, which basically means the provision of moderate type of family planning services. More

work is apparently required to increase the awareness level of the youth towards family planning issues.

Nevertheless, few respondents (5.8%) replied that a decline in the size of population is a concern in the study areas resulting from outmigration rather than deaths. As has been obviously known, youth outmigration has been noted quite consistently in the study areas and those who remain behind point out the fact that outmigration may depopulate the areas. Not surprisingly, about 92.6% of those respondents who perceived an increase in the size of population thought that the PHE approach has helped address the cause of population increase which solely be high fertility (see table 3.7). One could imply from here that family planning services provided by the PHE approach in the study areas have yielded a reduction in the level of fertility as witnessed by the respondents.

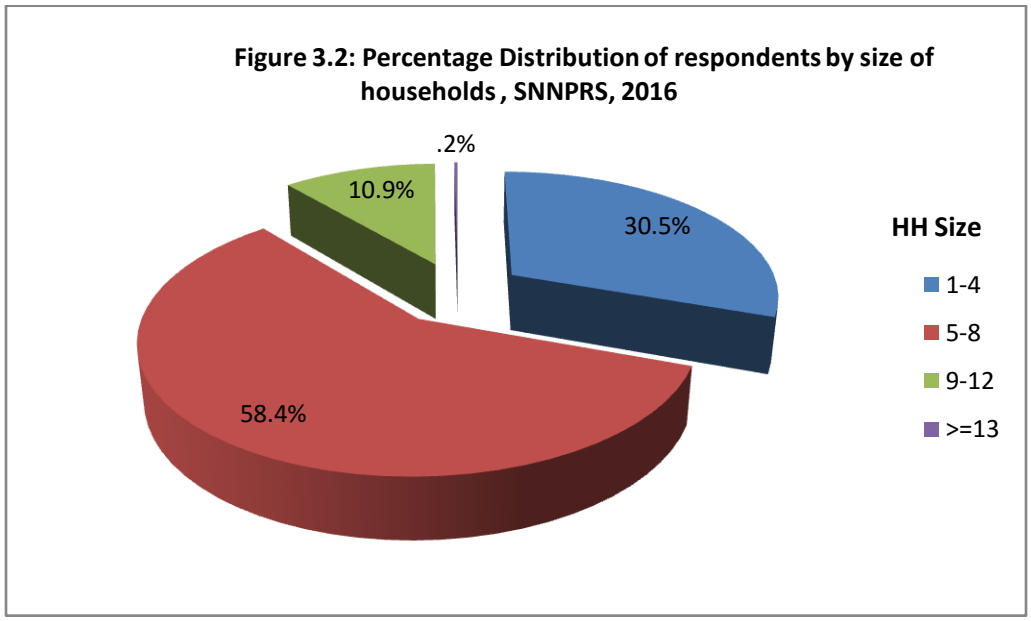


Table 3.7: Concern on population size and perception of the reasons for population decrease, and whether PHE program helped to overcome population increase, SNNPRS, 2016

Perception on population size	Respondents	
	No.	%
Increasing	417	93.3
Decreasing	26	5.8

Nothing	4	0.9
Total	**447**	**100**
Reason for population decrease	**No.**	**%**
Migration to other areas	15	57.7
Deaths	5	19.2
Both (migration & deaths)	6	23.1
Total	**26**	**100**
Whether PHE program helped to overcome population increase	**No.**	**%**
Yes	386	92.6
No	10	2.4
Don't know	21	5
Total	**417**	**100**

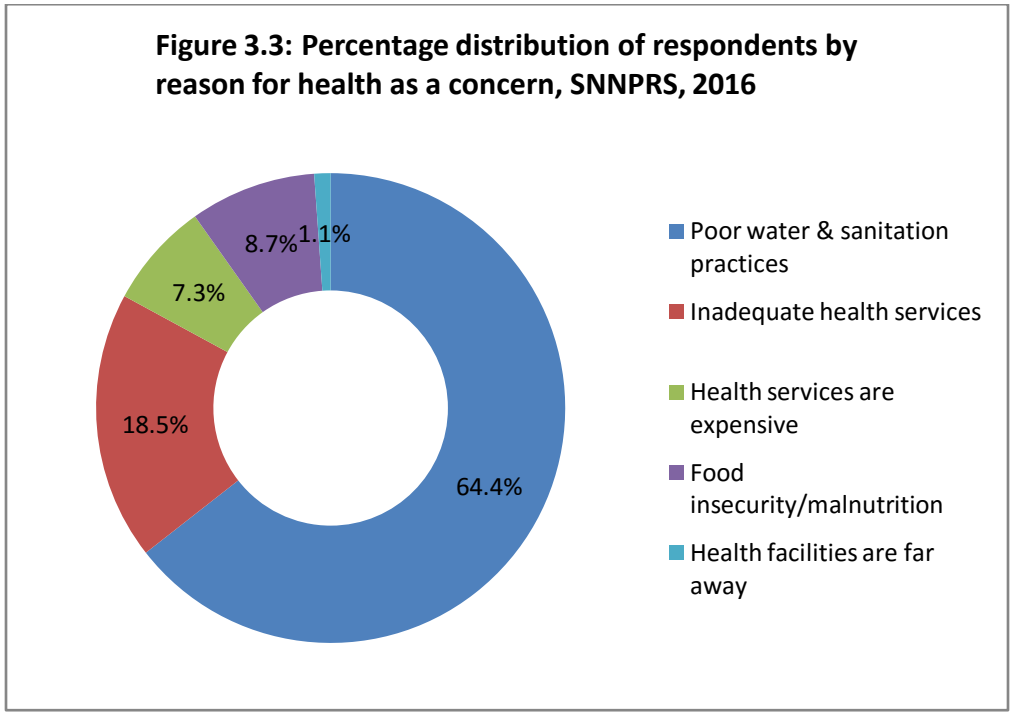
3.3 Respondents Concerns about Health (Sexual and Reproductive) Issues

Health issues have been the concern in the study areas for about 80.1% (Table 3.8) of the respondents and such concerns mainly resulting from poor water supply and sanitation practices (64.4%) than inadequate health services (18.5%) (Figure 3.3). From those who felt that health is a concern about 83.9% have observed some kind of improvement in health conditions of the people due to the interventions of the PHE program. On the other hand, relatively more female respondents have the impression that health is not so much a concern in the areas than their male counterparts (10.7% and 9.2%, respectively) (Table 3.8).

Table 3.8: Distribution of respondents by perception of whether the PHE program helped to overcome health concern, SNNPRS, 2016

PHE program helped to overcome health concern	Health is a concern in the area					
	Yes		No		Total	
Respondents	**No.**	**%**	**No.**	**%**	**No.**	**%**
Yes	349	83.9	67	16.1	416	100
No	9	29.0	22	71.0	31	100
Total	**358**	**80.1**	**89**	**19.9**	**447**	**100**
Respondents by sex	**No.**	**%**	**No.**	**%**	**No.**	**%**

Male	190	42.5	41	9.2	231	51.7
Female	168	37.6	48	10.7	216	48.3
Total	**358**	**80.1**	**89**	**19.9**	**447**	**100**



Quite about 60.7% of the respondents felt with reference, and gave more emphasis, to the improvement of water supply and sanitation practices as the main means to overcoming health concern in the study areas. Increasing knowledge and improving health delivery services are not given much priority as a means of addressing the health concern by the respondents (Table 3.9), which seems to reveal that there is adequate knowledge that health delivery services are up to the required levels. This has to do partly with the health of women in relation to fistula and prolepsis (misplacement of uterus) among large number of women in reproductive age in study kebeles. All PHE projects have prioritized these health problems and addressed them accordingly. As a result of this involvement of the PHE into women's health, which is understood to be critical, PHE projects are assumed to be 'health projects' and when issues of scaling-up or sustainability or phasing of the projects were mentioned, voices were raised unequivocally denoting that the PHE projects should continue (Women FGDs, Girls FGDs and elderly key informants).

Table 3.9: Distribution of respondents by perception of how the PHE helped to overcome health concern, SNNPRS, 2016

PHE program helped to overcome health concern	Respondents					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Improving water and sanitation	127	30.5	126	30.2	253	60.7
Improving health delivery services	40	9.6	24	5.8	64	15.3
Reducing cost of health services	2	0.5	2	0.5	4	1.0
Improving income	13	3.1	13	3.1	26	6.2
Increasing knowledge	31	7.4	37	8.9	68	16.3
Improving food security/nutrition	2	0.5	0	0	2	0.5
Total	**215**	**51.6**	**202**	**48.4**	**417**	**100**

Survey results have shown that the perception of respondents concerning an increment in age at first marriage has improved irrespective of the respondents' marital status, i.e., to at least 18 years rather than being as low as 13 years, as the three cases observed in this assessment. Such an improvement in perception regarding the age at first marriage is the outcome of increased awareness creation given by the PHE program intervention as indicated by about 87.9% (Table 3.10) of the respondents.

Table 3.10: Distribution of respondents by perception of an increase in age at first marriage as a result of PHE program, SNNPRS, 2016

Age at first marriage increased as a result of PHE program	Respondents					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Yes	203	45.4	190	42.5	393	87.9
No	28	6.3	26	5.8	54	12.1

Total	**231**	**51.7**	**216**	**48.3**	**447**	**100**

This increased awareness creation is made possible mainly through community conversation (55.6%) and school clubs (30.1%), and other means (Table 3.11). Likewise, about 83.7% of the respondents held that their perception about the age at first sexual intercourse rose resulting from PHE program intervention (Table 3.12 and Figure 3.4). These results somehow resonate with the age for first marriage responses discussed earlier and further relate to the issues of remaining abstain from sex until the youth are matured enough and then get married.

Table 3.11: Distribution of respondents by perception of how age at first marriage has increased as a result of the PHE approach, SNNPRS, 2016

Perception of an increase in age at first marriage as a result of the PHE program	Respondents (n=400)					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Through community conversation	107	26.8	116	29.0	223	55.8
Through school clubs	63	15.8	56	14.0	119	29.8
Through youth centers	12	3.0	1	0.3	13	3.3
Through peer-to-peer interactions	23	5.8	22	5.5	45	11.3
Total	**205**	**51.3**	**195**	**48.8**	**400**	**100**

Table 3.12: Distribution of respondents' perception concerning increased age at first marriage as a result of PHE program, SNNPRS, 2016

Increased age at first marriage as a result of PHE program	Increased age at first marriage as a result of PHE program through									
	Community Conversations		School Clubs		Youth Centers		Peer-to-peer interactions		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	218	55.6	118	30.1	12	3.1	44	11.2	392	100
No	5	62.5	1	12.5	1	12.5	1	12.5	8	100
Total	**223**	**55.8**	**119**	**29.8**	**13**	**3.3**	**45**	**11.3**	**400**	**100**

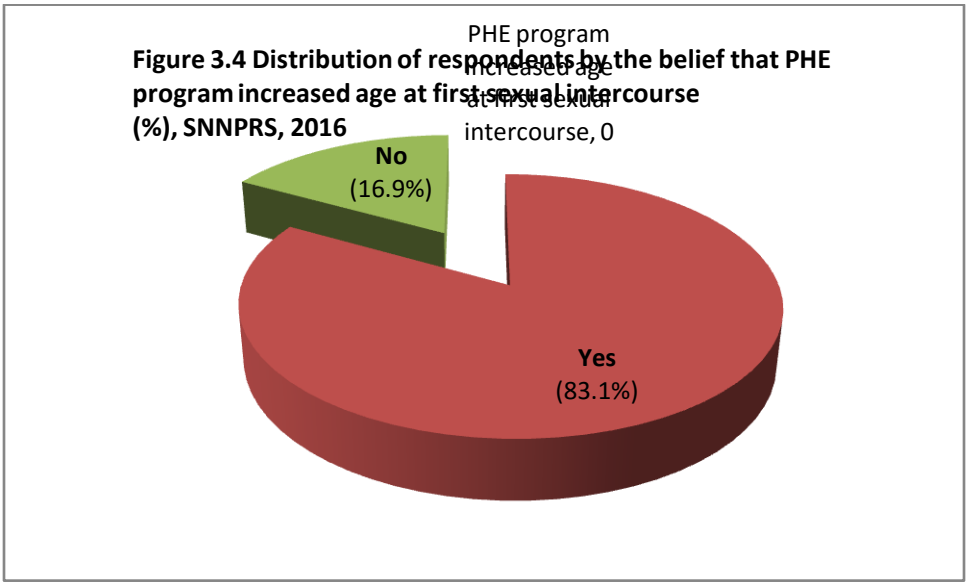


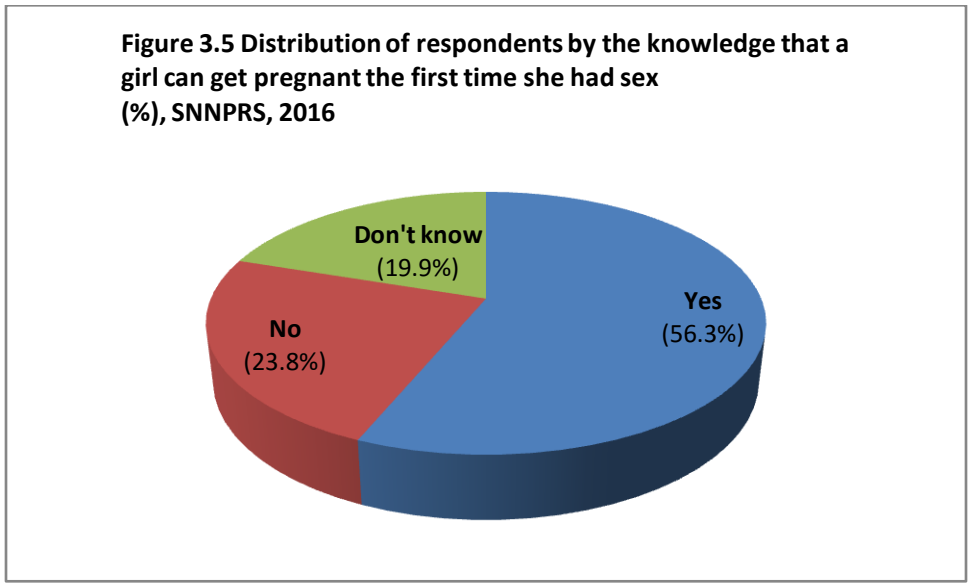
Figure 3.4 Distribution of respondents by the belief that PHE program increased age at first sexual intercourse (%), SNNPRS, 2016

With regard to self protection from unwanted pregnancy and sexually transmitted diseases, four of the five respondents know places from where to get condom even though only one out of ten respondents have used condom the last time they had sex. This shows that awareness created by the PHE program about places from where to obtaining condom is high while the use of condom is by far low indicating the mismatch between level of awareness and change of behavior (table 3.13). Usually condom is available in shops and youth possibly don't go and buy from shops or so being ashamed of peer and other people around. Seemingly from the education provided to increase/raise awareness on sexual behavior and the importance of condom use through open discussion about reproductive health, only a little higher than half (56.3%) of the respondents perceived that a girl can get pregnant the first time she had sex whilst about 20% of the respondents don't know about it at all (see figure 3.5).

Table 3.13: Distribution of respondents by knowledge of a place from where a person can get condom, SNNPRS, 2016

Know a place where a person can get condom	Respondents	
	No.	%
Yes	349	79.7
No	89	20.3

Total	**438**	**100**



Also, both male and female youth respondents were asked about the total number of children they want to have in their life time. More than three-quarter of the respondents (77.6%) expressed interest to have more than two children which in turn resulted from various factors including the demand for old age support, demand for child labor, children are the gift of God, and the fear of high infant mortality by about 23.9%, 20.7%, 18.4%, and 18.1%, respectively. The intervention provided by PHE program to limit the number of children to a replacement level, i.e., two children, was favored by about 92.4% of the respondents (Table 3.14), which shows the demand for old age support and child labor can be overcome/reduced by proper use of environment and natural resources, while infant mortality can be minimized through immunization and the provision of improved health services.

Table 3.14: Distribution of respondents by size of wanted children in their life and reasons, and whether education on wanted children given by PHE program was helpful, SNNPRS, 2016

	Respondents	
Total size of wanted children	**No.**	**%**
1-2 children	100	22.4
3-4 children	269	60.2
5-10 children	**78**	17.4
Total	**447**	**100**
Respondents by reasons for wanting to have more than two children		
Reasons for wanting to have more than two children	**No.**	**%**
High infant mortality	63	18.1
High child mortality	43	12.4
Demand for child labor	72	20.7
Demand for old age support	83	23.9
Children are gifts of God	64	18.4
Desire to have more children	21	6.0
Lack of knowledge	2	0.6
Total	**348**	**100**
Distribution of respondents by whether education about the size of wanted children has been provided by PHE approach		
Education provided by PHE on the size of wanted children	**No.**	**%**
Yes	413	92.4
No	34	7.6
Total	**447**	**100**

It is found out that four-in-five respondents also held that education offered by PHE programs have helped reduce infant mortality while three-in-four respondents felt that they are aware of causes for child mortality and how to decrease child mortality. The PHE program further reduced the belief to have more children for old age support, child labor and children are the gift of God changing the old and traditional way of thinking to have children (Table 3.15).

Table 3.15 Distribution of respondents by whether PHE approach has reduced infant mortality, child mortality, demand for child labor, demand for old-age support, and belief that children are gifts of God, SNNPRS, 2016

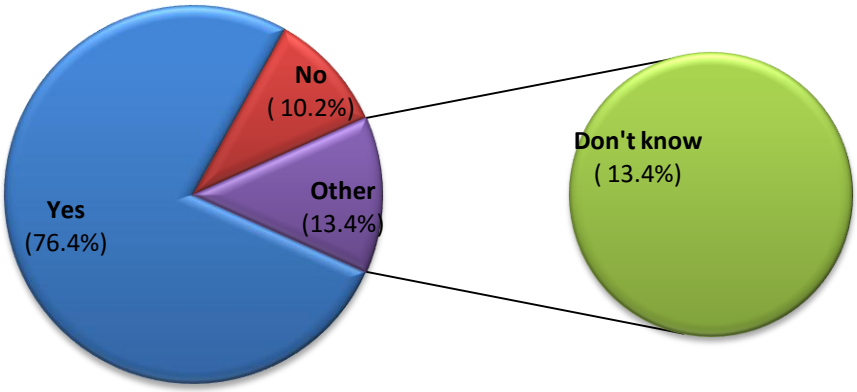
PHE program reduced	Respondents					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Infant mortality	351	78.5	96	21.5	447	100
Child mortality	334	74.7	113	25.3	447	100
Demand for child labor	196	43.8	251	56.2	447	100
Demand for old age support	211	47.2	236	52.8	447	100
The belief that children are gifts of God	170	38.0	277	62.0	447	100

Furthermore, the age at first birth was found to be 18.72 years on average and 19 years of age is both a mode and median age, and 14 years being the minimum age at first birth observed which possibly confirms the low age at first marriage or age at first sex (13 years) noted earlier. After the introduction of PHE program and carrying out education on youth sexual and reproductive health, large size of youth respondents (88.2%) perceived the significance of increased age at first birth though it was found out that more than a quarter of the respondents has already given birth at below the age of 18 years (Table 3.16). Likewise, education provided to create awareness and knowledge on the problems of abortion by the PHE program resulted in increased awareness of the consequences of abortion for more than three quarter of the respondents despite a few (13.4%) respondents who don't know about PHE program related to abortion (Figure 3.6).

Table 3.16: Distribution of respondents by whether age at first birth has increased or not at present as a result of the PHE program, SNNPRS, 2016

PHE program has increased the age at first birth	Respondents	
	N0.	%
Yes	383	88.2
No	51	11.8
Total	**434**	**100**
Distribution of respondents by age at first birth		
age at first birth	**No.**	**%**
14-17	29	26.1
18-20	65	58.6
21-24	17	15.3
Total	**111**	**100**

Figure 3.6 Distribution of respondents by recalling whether the PHE approach has given education on abortion (%), SNNPRS, 2016



It is also observed that about 67.9% of the respondents thought the PHE approach has contributed to making partners approve family planning practices, and not surprisingly almost all (97.5%) of the respondents have appreciated education provided through the PHE approach for its contribution to increased understanding on health matters (balanced food, clean water, clean environment, keeping clean and hygiene, etc.) (Table 3.17).

Table 3.17: Distribution of respondents by the knowledge of the contributions of PHE program to family planning and health matters, SNNPRS, 2016

PHE program		Respondents	
		No.	%
PHE program contributions to the approval of family planning services by husband/wife/partner	Yes	286	67.9
	No	135	32.1
Total		**421**	**100**
PHE program on education of health matters (balanced food, clean water, clean environment, keeping clean and hygiene, etc.)	Yes	436	97.5
	No	11	2.5
Total		**447**	**100**

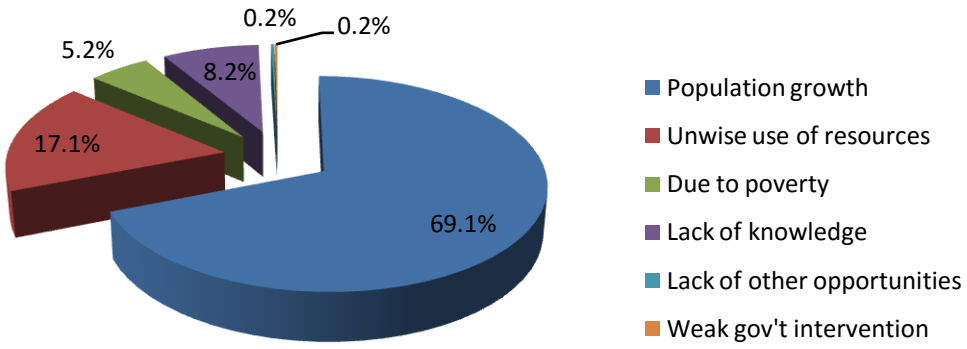
3.4 Respondents Concerns about Natural Resources and Environment

In their attempts to survive, people often depend on natural resources and are consequentially forced to disregard the long-term well-being of the environment when there is mismatch between the carrying capacity of the resource base and the demand on resources engendered by increasing population and related forces. The PHE approach is intrinsically meant to address such a mismatch. Opinions on the use of natural resources or the environment as a concern in the study areas have been solicited from the respondents. Accordingly, about 91% of the(see table 3.18) respondents underlined that there is a real concern about natural resources and the environment emanating mainly from population growth (69.1%) followed by unwise use of natural resources (17.1%) (Figure 3.7). It is underlined that the introduction of PHE program that provided education related to the use and misuse of natural resources and the environment helped the respondents to clearly understand the concern and the causes of the concern and the ways through which the causes can be addressed fully (76.6%) and to some extent(18.9%) (Table 3.18).

Table 3.18: Distribution of respondents on the use of natural resources or environment as a concern, SNNPRS, 2016

Use of natural resources or environment is a concern	**Respondents**	
	No.	**%**
Yes	405	90.6
No	42	9.4
Total	**447**	**100**
Distribution of respondents by perception of PHE approach on natural resource and environment		
PHE program helped to overcome natural resource and environmental concern	**No.**	**%**
Yes	340	76.6
To some extent	84	18.9
No	20	4.5
Total	**444**	**100**

Figure 3.7: Percentage distribution of respondents by knowledge of the causes of problems related to natural resources and environment, SNNPRS, 2016



Moreover, results of the assessment in the study areas show that about 85.7% (see figure 3.8) of the respondents have attended education on the management of natural resource and the environment provided by the PHE program. From those who attended education, most (90.7%) indicate the main focus of education to be on soil erosion, and forest destruction while about 4% of them suggest that education focused mainly on problems of water contamination. This doesn't however mean that education was not given on important issues such as climate change, drought/shortage of rain and shortage of fuel wood/gas/electricity as respondents who gave recognition to that sorts of education constitute about half of the total respondents (see table 3.19).

Figure 3.8: Distribution of respondents by natural resources and environmental management education organized by PHE projects (%), SNNPRS, 2016

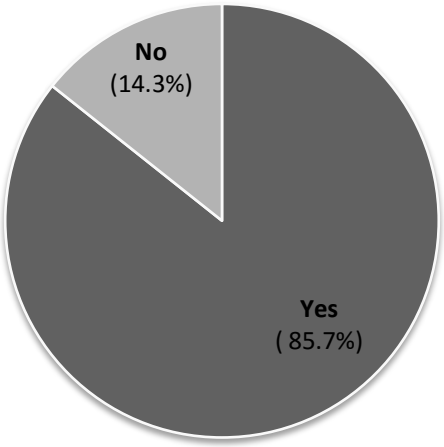


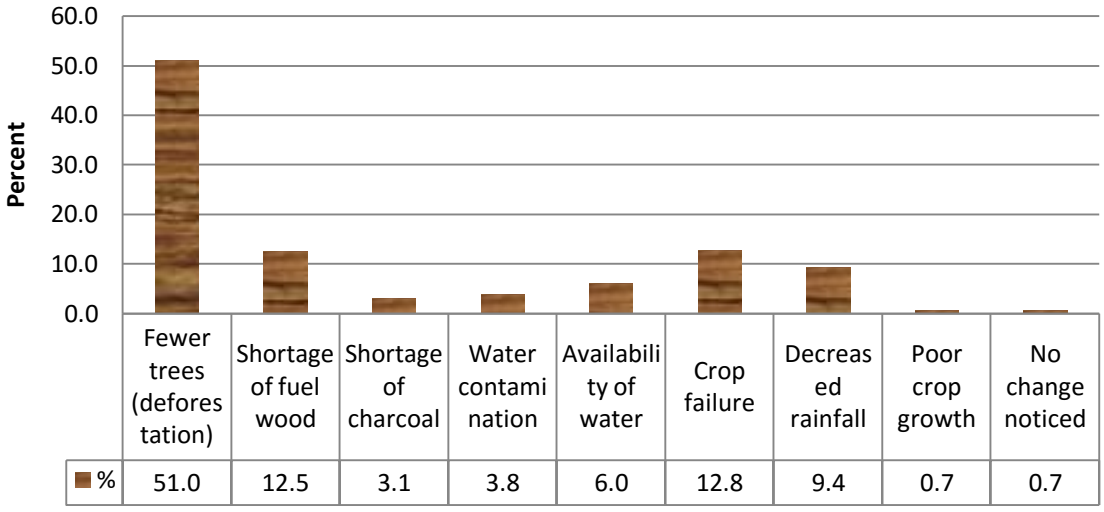
Table 3.19: Distribution of respondents by knowledge of environmental education offered by the PHE approach, SNNPRS, 2016

Topic of the education on environment/natural resource management	Respondents (n=405)	
	No.	%
Forest destruction	291	71.9
Soil erosion	76	18.8
Water contamination	16	4.0
Drought/shortage of rain	18	4.4
Shortage of fuel wood/gas/electricity	3	0.7
Climate change	1	0.2
Total	**405**	100

On the other hand, as depicted in figure 3.9, a little higher than half (51%) of the respondents have of the opinion that the most important changes taking place noticed in their environment was that trees have become fewer mainly due to deforestation followed by fewer respondents (nearly 13% each) who observed crop failure and shortage of fuel wood as changes observed triggered by the changing environment. This indicates that the level of awareness on the changes taking place in the environment has not been improved by the PHE program intervention among

the youth population as much as it should be given the seriousness of deforestation, the degradation of soil and the resulting livelihood challenges that includes a decline in crop harvest and related food shortages caused partly by high fertility and population pressure.

Figure 3.9: Distribution of respondents by knowledge of the most important environmental changes noticed in recent years (%), SNNPRS, 2016



Based on their perceptions and understandings, which is more likely elevated by the PHE program, many respondents have nevertheless proposed solutions to overcome the problems of natural resources and environmental management. In this regard, since the conditions of natural resources and/or environment were almost identical in the study areas, the top three and most frequently suggested solutions by the respondents include awareness creation in the course of educating the community through community conversations/discussions and the provision of support by the government (35.9%), afforestation/reforestation/planting trees (32.3%) and proper resource management by giving attention to natural resource management/environmental protection (14.6%) (see table 3.20).

Table 3.20: Distribution of respondents by perceptions of suggested solutions to natural resources and environmental problems, SNNPRS, 2016

Suggested solutions for recent environmental change	Respondents	
	No.	%

Awareness creation/educate the community/discussion and support by government	141	32.3
Afforestation/reforestation/planting trees	157	35.9
Proper resource management/giving attention to Natural resources/environmental protection	64	14.6
Crop rotation/use of improved and/or drought resistant seed varieties	6	1.4
Use of electrical machines/solar	3	0.7
Soil & water conservation	19	4.3
Use of irrigation	15	3.4
Using biogas	5	1.1
Additional job opportunities like petty trade, etc	7	1.6
Pure (piped) water supply	6	1.4
Water harvesting	14	3.2
Total	**437**	100

The presence of conservation/enclosures sites in the study areas and the extent of benefit obtained from these sites were acknowledged as very important by about three quarters of the respondents (Table 3.21). The results further demonstrate that conservation/enclosure sites generate benefits including serving as a means of job opportunities (35.9%) and other services (33.8%) for the respondents. Very few (4.2%) of the respondents indicate the non-existence of any benefits while the rest gave different reasons as benefits. Such observed beneficial experiences would have positive implications for the implementation of conservation/enclosure sites and provide leverage for the PHE project activities. However, the capacity of the conservation sites and/or enclosures to generate employment opportunities at this time is an untenable since most sites/enclosures are at the very early stage (See plate 1, Plate 2, Plate 3, and Plate 4 taken from different PHE project areas).

Plate 1: Silti District, Silte Zone, 2016

Plate 2: Sodo Zuria District, Wollaita Zone, 2016.

Plate 3: Sodo Zuria District, Wollaita Zone, 2016

Plate 3: East Badawacho District, Hadiya Zone, 2016

Plate 4: Hulbareg District, Silte Zone, 2016

Table 3.21: Distribution of respondents by knowledge of the existence of conservation/enclosures sites and benefits of these sites to community members, SNNPRS, 2016

Distribution of responses		Respondents	
		No.	%
The presence of conservation or enclosures close to your home	Yes	342	76.5
	No	105	23.5
	Total	**447**	**100**
Extent of the benefit from conservation or enclosures sites to you	Very important	327	73.2
	Somewhat important	74	16.6
	Not important	15	3.4
	Don't know	31	6.9
	Total	**447**	**100**
Benefits of the community from conservation or enclosure sites	Provide employment	155	35.9
	Provide services	146	33.8
	Increase tourism	30	6.9
	Help keep water clean	32	7.4
	Protect animals	9	2.1
	Protect wilderness	23	5.3
	No benefits	18	4.2
	Others	19	4.4
	Total	**432**	**100**

Issues like addressing natural resource and environmental problems through awareness creation in the PHE approach have been given reasonable recognition by the respondents. The establishment of natural resource/environmental management committee at the local level by way of individual and community participation and, in this regard, the perception of respondents about these is presented in table 3.22. High level of awareness (95.2%) is observed among respondents concerning the fact that PHE program initiated community based natural resource management committee although individual participation in the committee was not as high (63.8%).

Table 3.22: Awareness of the respondents about community-based natural resource management committee, whether it is initiated by the PHE approach, SNNPRS, 2016

Ever heard of a community based natural resource management committee	PHE program initiated natural resource management committee					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Yes	336	95.2	17	4.8	353	100
No	8	10.3	70	89.7	78	100
Total	**344**	**79.8**	**87**	**20.2**	**431**	**100**
Whether respondents in the community have the resource management committee and participation in the committee						
Existence of community based natural resource management committee	**Participation in the community based natural resource management committee**					
	Yes		**No**		**Total**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Yes	213	63.8	121	36.2	334	100
No	6	6.4	88	93.6	94	100
Total	**219**	**51.2**	**209**	**48.8**	**428**	**100**

In general, survey results indicate that the vast majority (96%) of the respondents perceived the fact that the PHE approach has addressed problems of natural resource/environment in the study areas, with almost equal proportion of the male (50.1%) and the female (45.9%) respondents (Table 3.23).One can thus assert that the PHE approach has coincided with the needs of the local communities when it comes to the conservation of and management of natural resources and the environment.

Table 3.23: Distribution of respondents by the perception that PHE approach addressed natural resources and environmental problems in the area, SNNPRS, 2016

PHE program addressed problems of natural resource and environment	Respondents					
	Male		Female		Total	
	No.	%	No.	%	No.	%
Yes	224	50.1	205	45.9	429	96
No	7	1.6	11	2.5	18	4
Total	**231**	**51.7**	**216**	**48.3**	**447**	**100**

3.5 Linking Respondents Concerns about Population, Health and Environment

By bringing together respondents' knowledge on the links between population growth and size health on one hand, and population growth and size and the use of natural resources and the environment on the other, some enlightening lessons are observed as shown in the sections that follow hereunder.

3.5.1 Respondents knowledge on the Links between Population Growth and Size, and Health Matters

When population and health are considered together, it is observed that about 83.9% of the respondents responded 'yes' to the questions whether population and health issues are concerns in their communities due to the various reasons discussing earlier separately for both population and health. In the same way, when population along with natural resources and the environment are considered, the proportion of respondents who replied 'yes' to the questions whether population and natural resources and the environment issues are concerns is even higher (92.1%) revealing the fact that both are understood as serious matters of concerns on the one hand, and on the other the role being played by the PHE program interventions to raise the level of awareness of the respondents on the relationship between population and health, population and use of natural resources and the environment as well as the use of natural resources and the environment and health as obvious concerns in the study areas (see tables 3.24, 3.25, and 3.26).

Table 3.24: Distribution of respondents by whether population and health are together concerns in the study areas, SNNPRS, 2016

Population is a concern	Health is a concern					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Yes	350	83.9	67	16.1	417	100
No	8	26.7	22	73.3	30	100
Total	**358**	**80.1**	**89**	**19.9**	**447**	**100**

Table 3.25: Distribution of respondents by whether population and natural resources and the environment are together concerns in the study areas, SNNPRS, 2016

Population is a concern	Use of natural resources and the environment is a concern					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Yes	384	92.1	33	7.9	417	100
No	21	70	9	30	30	100
Total	**405**	**90.6**	**42**	**9.4**	**447**	**100**

Table 3.26: Distribution of respondents by whether health and natural resources and the environment are together concerns in the study areas, SNNPRS, 2016

Use of natural resources and environment is a concern	Health is a concern					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Yes	350	86.4	55	13.6	405	100
No	8	19	34	81	42	100
Total	**358**	**80.1**	**89**	**19.9**	**447**	**100**

Again when looking at the three sectors (population, health and environment) together as one in an integrated form, respondents consideration of these as concerns is high (89.3%) (see table 3.27) alluding the fact that the integration of the three pillars makes sense for the respondents in appreciating the prevailing problems instead of seeing each sector separately.

Table 3.27: Distribution of respondents by whether population, health and natural resources and the environment all concerns in the study areas, SNNPRS, 2016

Use of natural resources and	Health is a concern

			Yes		No		Total	
			No.	%	No.	%	No.	%
Yes	Population is a concern	Yes	343	89.3	41	10.7	384	100
		No	7	33.3	14	66.7	21	100
		Total	**350**	**86.4**	**55**	**13.6**	**405**	**100**
No	Population is a concern	Yes	7	21.2	26	78.8	33	100
		No	1	11.1	8	88.9	9	100
		Total	**8**	**19.0**	**34**	**81.0**	**42**	**100**

3.5.2 Respondents Knowledge on the Links between Livelihood Issues and the Population, Health and Environment Approach

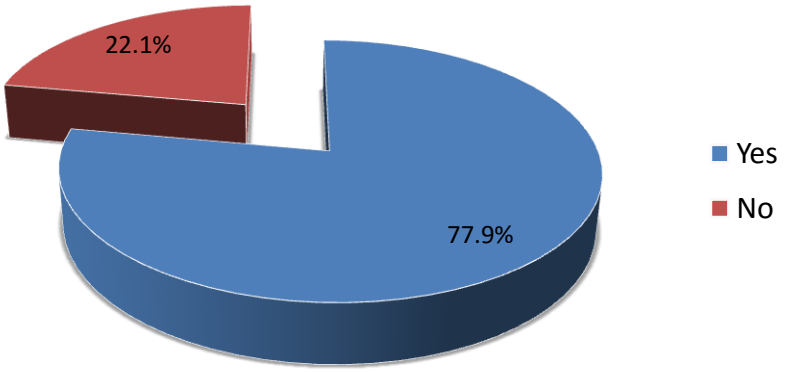
An enquiry into the livelihoods of the respondents with a special focus on income and its main sources depicts the extent to which respondents knew the contributions of the PHE approach to their incomes (79.9%) where agriculture plays quite a significant role. The remaining is shared among small business (12.3%) and wage/salary employment (5.6%). As can be observed, though agriculture dominates the whole sources of income in both rural and urban areas, small businesses and paid works are featured more in urban areas (Table 3.28).

Table 3.28: Distribution of respondents by the main source of family income, SNNPRS, 2016

	Respondents					
	Rural		Urban		Total	
Main source of income	**No.**	**%**	**No.**	**%**	**No.**	**%**
Agriculture	239	53.5	118	26.4	357	79.9
Small business	15	3.4	40	8.9	55	12.3
Factory work	1	0.2	1	0.2	2	0.4
Salary/Wage employment	5	1.1	20	4.5	25	5.6
No income	5	1.1	2	0.4	7	1.6
Others	1	0.2	-	-	1	0.2
Total	**266**	**59.5**	**181**	**40.5**	**447**	**100**

Generally, the perception of respondents on the improvement of income is ascribed to the introduction of the PHE program (77.9%) (see figure 3.10). In fact, this ascription could be real since the PHE approach attempts to help communities solve some of the pathetic problems in the major livelihood areas (related to population, health and natural resources and the environment), which are in turn important to shape and improve other livelihood portfolios.

Figure 3.10 Distribution of respondents by the understanding of the contributions of PHE approach in improving income (%), SNNPRS, 2016



It remains to be a common knowledge that access to clean and safe drinking (potable) water is among the basic needs of life. A large size of the respondents (85.9%) noted to have been using piped water as their main source for drinking. Surface water like river, pond, lake, etc., and dug well or spring were not so much used in the study areas (5%) since, most probably, they are not protected (Table 3.29).

Table 3.29: Distribution of respondents by the main sources of drinking water, SNNPRS, 2016

Main source of drinking water	Respondents	
	No.	%
Piped water	384	85.9
Dug well	22	4.9
Spring	14	3.1
Rain	1	0.2

Surface (river, pond, lake, etc.)	23	5.1
Hand/Motor pumped water	3	0.7
Total	**447**	**100**

Improvement in income is associated with various livelihood issues; from what and how income is obtained and of course to be spent for. PHE related education was provided to the community on alternative income generating activities for the purpose of improving income. In this regard, respondents' were asked whether they have attended the education sessions or not and further asked the education session/s organized by the PHE program. Slightly higher than six in ten of the respondents (61.1%) have attended the session/s while 73% have replied that the education session/s have been organized by the PHE program(see table 3.30).

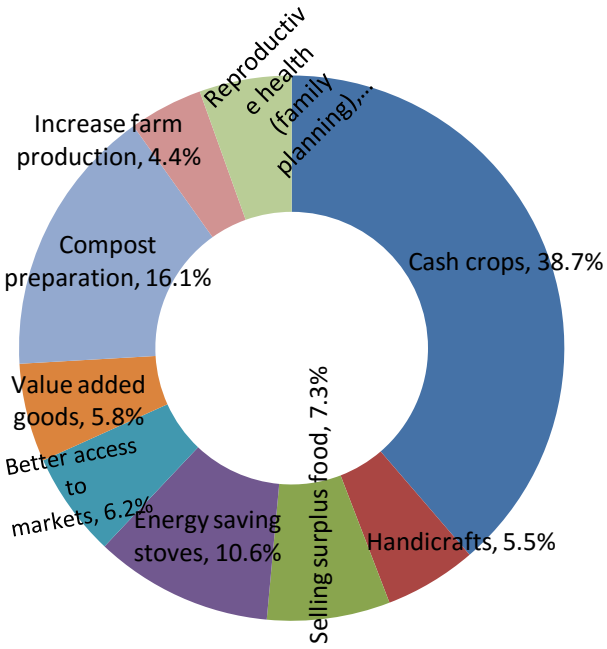
Table 3.30: Knowledge of the respondents by attendance of education session on alternative income generating activities and whether the sessions were organized by the PHE program, SNNPRS, 2016

Attendance on education session of alternative income generating activities	**Respondents**	
	No.	**%**
Yes	273	61.1
No	174	38.9
Total	**447**	**100**
Whether education sessions were organized by the PHE approach		
Education session was organized by PHE program	**No.**	**%**
Yes	281	73
No	104	27
Total	**385**	**100**

From those who have attended education session/s on income generating activities organized by the PHE program about 59.2% have attended session/s related to agriculture; i.e., cash crop production (38.7%), compost preparation (16.1%) and on activities related to an in increase farm

production (4.4%). The shares of energy saving stoves (10.6%), selling surplus food (7.3%) and others account for a two-fifth of the responses (see figure 3.11).

Figure 4.11: Distribution of respondents by recalling attended education session/s (%), SNNPRS, 2016



Another important PHE approach meant for improvement of livelihoods was offering training in any type of entrepreneurial activity since trainees can have enormous benefits from such training. Even though youth respondents obtained the training and aware of the importance of any entrepreneurial activity experience has shown that they may not be in a position to establish one by themselves due to shortage of resources especially the financial one. Credit facilities made available by the PHE approach itself are not big enough to bring on board all youth demanding loan. The actual practice is that those youth who have the capacity or support to prepare acceptable proposals often prevail in securing the limited loan opportunities while the rest are left out. As a result, those youth who obtained both entrepreneurial training and credit are limited to less than half (47.2%) of the respondents (see table 3.31). This quite fairly shows the need for bigger intervention with emphasis on both frontiers (entrepreneurial training and making

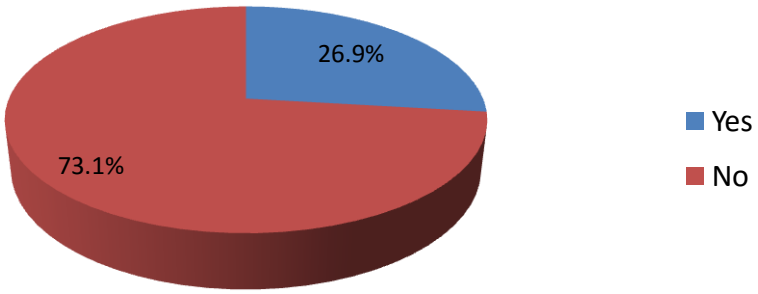
available adequate financial resources) that may together help the youth take tasks to heart and move forward in keeping livelihoods improved.

Table 3.31: Distribution of respondents by whether the PHE approach has delivered training on any entrepreneurial activity and given credit, SNNPRS, 2016

Training provided by the PHE approach on any entrepreneurial activities	Credit obtained as part of the PHE approach					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Yes	83	47.2	93	52.8	176	100
No	16	6.5	229	93.5	245	100
Total	**99**	**23.5**	**322**	**76.5**	**421**	**100**

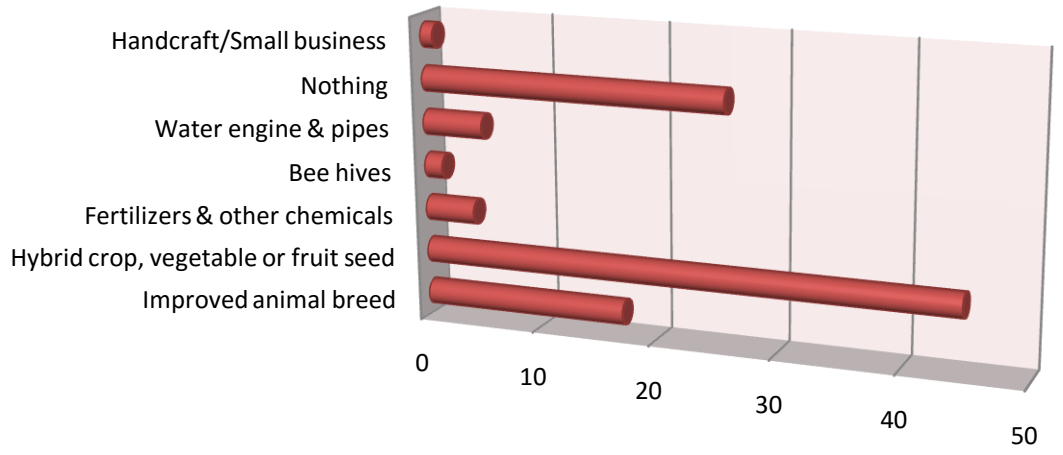
Another intervention mechanism put in place as part of the PHE approach was a visit to other communities who have accumulated best practices in livelihood improvements. This is tailored to make visitors learn about and develop acquaintance with the best practices so that they both become hard workers and competitive. In the first place, the very nature of getting the chance to visit other communities rests upon some kind of set criteria the disposition of which is the recognition of individual's better performance. Whatever the case maybe, only a little higher than a quarter (26.9%) of the respondents had the opportunity to visit other communities to learn best practice (see figure 3.12).

Figure 3.12: Distribution of respondents by selection to visit other communities to observe best practices in livelihoods improvement as part of the PHE approach (%), SNNPRS, 2016



It has already been observed from responses of the respondents that agriculture is the main source of income, and in this regard training related to agriculture obtained by the respondents makes significant impacts on the improvement of livelihoods. The PHE approach has then carried out various kinds of trainings of which about 44.8% of the respondents took part in the modern ways of cultivating hybrid crop, vegetable or fruits. However, a quarter of the respondents have never received any training while 17.2% have received training in the management of improved animal breeds (see figure 3.13). These evidences indicate that a lot of training is required in the time ahead based on the needs of local communities and the prevailing market conditions.

Figure 3.13 Distribbution of respondents by the training received to improve livelihood as part of the PHE approach (%), SNNPRS, 2016



3.5.3 Summary

Survey results presented demonstrate the experiences accumulated so far in the PHE approach in the selected study areas (zones, *woredas* or *kebele* administrations) of the SNNPRS. A lot of lesson has been learned that will be some use in expanding knowledge on how PHE programs faire across space and overtime. One of the major lessons has to do with the very nature of

integrating population, health and environment sectors into one organic whole in which activities undertaken to accomplish one purpose effects positive changes in the other one. Such synergetic development approach (PHE) is proved to be, as evidences attest to, valid in shaking the livelihood communities which has always been integrated. Once the integration is strengthened and taken to heart by those critical stakeholders, including the government, communities most likely reap the benefits of the integration of the three pillars of PHE (population, health and environment) approach.

One of the most serious impediments to sustainable poverty reduction in rural Ethiopia, as elsewhere in the developing world, is the strong nexus between a growing population, land degradation, low agricultural productivity and rural poverty. The lack of improved agricultural production technologies and land use planning has combined with deforestation, soil erosion, overgrazing, perceived land tenure insecurity, drought and population pressure to contribute to severe environmental deterioration, often known as vicious cycle of poverty and underdevelopment. Therefore, to break this vicious cycle, there is an urgent need to integrate population, health and environmental issues along with introducing and/or strengthening sustainable agricultural and land management practices into farming systems. Improvement of individuals' livelihoods would mean that the wise use of natural resource and environmental management, better health delivery and reduction of population pressure are dealt with at the same time and place with a close collaboration of all stakeholders, the local communities playing center roles. This integrated-cohesive-participatory approach meant to improve the livelihoods of communities at local levels most likely may engender the basis of sustainable development.

4. Linking Experiential Records and Present Assessment - based Empirical Evidences: the synthesis

The purpose of this section is, by the way of synthesis, to make a review of some outstanding experiences of the implementation of the PHE projects elsewhere in the world and establish links between these experiences and the evidences generated from the present assessment study. This is meant to create some level of consensus between the two such that the Ethiopian case is given credence within the knowledge platform of the PHE approach as a whole. Topics covered include effectiveness of population, health and environment programs, strengths and challenges of the PHE approach, drivers and constraints to PHE sustainability and scaling-up subjects to potential opportunities and challenges, and the future of PHE in the framework of sustainable development and improved livelihoods.

4.1. Effectiveness of Population, Health and Environment Programs

The PHE programs are increasingly popular strategies meant to address population growth, adverse health outcomes, and threats to biodiversity through integrated service delivery. Although the approach has existed for nearly 15 years, only few studies have been published in academic journals concerning its effectiveness (Sellers, nd). PHE models assume that a *synergy* between population, health, and environment exists and that addressing all of these factors together are believed to improve human and environmental health outcomes more than if these issues were addressed separately. However, Sellers argues that PHE programs are instituted in open systems and typically at a small scale, which makes understanding the nature of this synergy, and in turn, the effectiveness of PHE projects, challenging. In line with this observed broader challenge, one of the leading stakeholders in the Ethiopian PHE approach holds that the effectiveness of PHE project can be masked if it is implemented for a short time period since many of its benefits cannot be easily seen (Key Informant A).

The Integration of Population and Coastal Resource Management (IPOPCORM) intervention in the Philippines has served as one of the key test grounds for PHE evaluation. Led by PATH

Foundation Philippines (PFPI), and set in Palawan in the southwest of the country, IPOPCORM began in 2001, seeking to reverse the deterioration of fragile coral ecosystems while providing reproductive and other health services to communities in need (D'Agnes *et al*. 2010). Researchers utilized a quasi-experimental design and gathered baseline data in 2001 on health and socio-demographic indicators, following up in 2004 and 2007, and gathered data on coastal management annually beginning in 2002, to evaluate the effectiveness of the integrated approach. The evaluation showed that between 2001 and 2007, the integrated approach largely outperformed communities where only the health or conservation part of the program was delivered. For example, the condition of coral reef has significantly improved in the integrated site, but not in the sites with nonintegrated interventions. However, despite IPOPCORM, being one of the most extensive PHE evaluation efforts to date, the study encountered problems due to a number of outside interferences that hindered the researchers' ability to assess the relative impact of the integrated approach as compared to the nonintegrated sites (discussed further below).

While the IPOPCORM evaluation provides evidence of the potential of PHE to improve both human and environmental outcomes (Castro and D'Agnes, 2008), it also highlights the challenges of conducting effective demographic and environmental research in open systems. It is also noted in the case of the SNNPRS that the delineation of improvements in human and the environmental outcomes made by the PHE approach, given various kinds of interventions to improve the same, is indeed a difficult task and as a result evaluators refrain from undertaking such a duty and hence resort to a qualitative judgment (Key Informant A).

Furthermore, starting in 2006, USAID and a group of Nepali NGOs began a pilot PHE project addressing the relationship between fuel wood use for heating, adverse health outcomes due to acute respiratory infections, and population pressure on local forests (Hahn,*et al*. 2011). The project used community education activities that promoted the use of family planning and clean energy, and provided training to local men and women to construct more energy-efficient stoves. In a short project lifespan (30 months), the contraceptive prevalence rate in project

communities rose by more than 50%, the number of acute respiratory infections was cut in half, and the proportion of households using improved cook stoves or biogas nearly doubled. These results suggest that the program is serving its intended purposes. However, the project's short time span evaluation, and also the evaluation, leaves open the question of whether or not these outcomes will be sustained in the future (Seller, nd). Time is obviously quite important in showing the effective performance of the PHE projects, and one need not expect big outcomes in a short period of time.

In 2007, Blue Ventures, a UK-based conservation charity, began a reproductive health project in Velondriake, southwest Madagascar, to complement their existing marine conservation work (Harris,*et al*. 2012). Blue Ventures created a clinic that within two years provided services to three areas of Velondriake, allowing women from even the most remote villages in the region to access services within a day's journey by public transport. The results are positive, with steady increases in the number of services provided and couple years protection of contraception, though the sustainability of these gains remains unclear (Mohan and Shellard 2014). As lucidly noted by the women FGD in the present study, the PHE project, in particular, the reproductive health and family planning aspects should continue since it would be hard for other stakeholders or the beneficiary women to sustain the benefits put in place by the project (FGD A).

There has been only one substantial evaluation of a PHE project in Ethiopia- the 2012 evaluation of the GPSDO project (Belachew, *et al.*, 2012). The evaluation was a post-test comparative design, comparing outcomes in one of GPSDO's integrated PHE sites with the outcomes in one of its sites where it only implemented reproductive health (RH) activities. Women were interviewed about their knowledge, attitudes and practices related to PHE topics. The researchers also conducted key informant interviews to better understand the dynamics of integration. The outcome of the study was quite positive towards the PHE approach. Women in the PHE *woredas* (districts)who wanted and had fewer children had greater access to cash through alternative livelihood activities and were more likely to use energy saving stoves than

their counterparts in the RH only site. Their husbands were also more likely to support the use of family planning. This is true in the present PHE assessment study in the sense that almost all members of the community are involved and thus sensitized in the three pillars (population health and environment) of the PHE which brings on board both women and men whether it is in relation to the RH or family planning as well as other activities like income generation or personal/environmental health matters (FGD A).

Likewise, many PHE programs have been evaluated elsewhere in the world (E.g. Carr 2008; Gaffikin and Kalema-Zikusoka 2010; Pollnac and Dacanay 2011; Belachew, *et al*. 2013), and these evaluations have largely succeeded in attaining their objectives, i.e., providing timely and accurate information to practitioners and funders on program outcomes. However, many evaluations have not, or could not, utilize rigorous research methodologies (Sellers, nd), which might have reduced the internal and external validity of the evaluations, and ultimately made them less informative for scholars seeking to conduct research on PHE programs. This may in part explain why little research has so far been conducted on PHE linkages. The challenges faced in using available research tools should be considered by scholars while conducting research on PHE programs. These challenges may be surmountable with sufficient time and financing, strong partnerships between researchers, practitioners, and other stakeholders, as well as with a focus first on improving evaluations, which can then provide support for causal hypotheses that can be tested with more directed research.

On the other hand, the success of PHE interventions rests on a high level of integration among program components. However, funding for PHE programs comes largely from donors who operate with sector-specific funding models. Most of the key governmental and non-governmental funding partners that PHE providers rely upon keep their population and health grant making structure distinct from their conservation programs. An integrated intervention like the PHE approach does not fit well into this structure, placing PHE programs at a disadvantage when applying for funds (Stelljes, 2013). In this regard, a stakeholder noted,

> … donors are as yet not sure of the potential of the PHE programs in addressing fundamental development challenges which partly has to do with the lack of strong

> evidences that could convince donors. Such evidences can only be generated if and when PHE projects are implemented for a reasonable period of time over a larger area of land covering diverse communities (Key Informant B).

Notwithstanding the above, the first 15 years of the PHE initiatives have demonstrated that the approach has much to offer to family planning, health, and conservation practitioners. However, more work is required to help ensure that the integrated principles behind PHE programs become a larger part of development strategies. Without strengthening the theory of integrated PHE approaches and broadening the use of evaluation methodologies to fully establish knowledge on how PHE interventions create change, the PHE approaches may seem to cast risks in the development and conservation communities as another ineffective approach because of the lack of supporting evidence. The PHE community would benefit from partnerships with the academic community in increasing the use of research tools in program evaluations. Improved collaboration between practitioners and academics will help ensure that PHE is valued within the academic community and that future knowledge about the PHE approach is developed through rigorous evaluations and research techniques (Sellers, nd). It may be appealing to generalize issues of the PHE effectiveness, on the basis of both experiential records reviewed and evidences collected in the present assessment, by underling the fact that time is a crucial factor so that all concerned will have to see to it that it is premature to make a final verdict on whatever shape the outcomes of the PHE approach might take.

4.2. Strengths and Challenges of the Population, Health, and Environment Approach

4.2.1. Strengths

Quite clearly, there are philosophical and practical rationales for cross-sectoral collaboration. It has been argued that there is a natural alliance between conservation, development, and public health, based on the idea that human and ecosystem health are integrally linked (Table 4.1). Although single-sector approaches may achieve a specific outcome in their field, it may be to the detriment of other measures of ecosystem or human health. For example, conservation initiatives that do not take into account the well-being of local people may end up harming communities (like by obstructing their use of natural resources on which they depend for

sustenance). In contrast, combined programs have the potential to positively impact multiple sectors at once, and ideally can provide 'value added' or synergy when linked, resulting in greater community buy-in and intervention uptake. A corollary to this is the observation made by the PHE project implementer who held that when communities realize that the PHE projects are benefitting better than other single-sector approaches, there is a certainty that community members more fully involve in project implementation and go as far as sustaining project gains (Key Informant C).

Conservation and public health organizations can mutually benefit from the trust and relationships they have built within the community. Integrating population, health, and environment activities may improve program efficiency and effectiveness. For instance, creating a successful conservation program may build trust among community members and improve cooperation with future initiatives, such as a health program (see Table 4.1). Cooperation can also be promoted in other ways. For example, recent evidence from Ethiopia suggests that village leaders appreciate the time savings associated with PHE programs. Instead of meeting separately with both conservation and health NGOs if each have programs in the area, leaders in communities with PHE only need to meet with a single person, which has improved receptiveness to program activities (Stelljes, 2013). Not surprisingly, questions of accountability can also be laid down under the condition that community members know and work with a single person who also would assure them of the time when a given activity is going to be carried out in accordance with the seasonal schedule which is often dictated by local circumstances (FGD B).

Figure 4.1: Potential Strengths and Weaknesses of the PHE Approach

Strengths
- Holistic approach based on the link between healthy people and healthy ecosystems - Public health and conservation organizations may capitalize on each other's connections and goodwill within the community - Information, education, and communication programs can be integrated, and synergistic health and conservation solutions may be identified - Can be cost-effective when NGOs are able to combine resources for additional benefit
Challenges

- Cross-sectoral nature of work does not fit within traditional funding models
- May be a lack of a common terminology or vocabulary across disciplines
- Differing research approaches across disciplines
- Public health and conservation specialists may have differing priorities
- Complex, cross-sectoral programs and long-term indicators make gathering impact data difficult
- If too broad the PHE approach can dilute interventions and impacts

Source: Hahan, *et al*. (2007)

4.2.2. Challenges

There are several challenges associated with using the PHE approach (Figure 4.1). The cross-sectoral structure of the PHE programs can make funding difficult to secure, because most grants are given within specific fields. Other challenges associated with cross-sectoral work include lack of a common terminology across disciplines, differing research and programmatic approaches, and most importantly, differing outcome priorities. Regarding the family planning aspect of PHE, some have made ethical arguments against the PHE approach because of the concern that it tends to blame environmental degradation on poor communities, and specifically on poor women's fertility (Anderson, 2010). This is particularly notable given that funding agencies are generally from northern countries, where there is the belief that an unsustainable consumption is responsible for so much environmental degradation.

There is, however, a well-documented need for family planning, with an estimated 215 million women in the developing world preferring to avoid a pregnancy yet not having access to modern contraceptives (Hahan, *et al*. 2007). According to this source, the Demographic and Health Surveys (and the earlier World Fertility Surveys) have demonstrated that in nearly all developing countries, couples are having more children than they intended. Since the Cairo International Conference on Population and Development in 1994, family-planning initiatives have been rooted in a needs-based and client-centered approach, with the goal of providing comprehensive reproductive health services, and have moved away from the older concept of 'population control.' Finally, many PHE programs have not published quantitative impact data, and indicators documenting the added benefit of the integrated approach. Because the PHE

approach is cross-sectoral, impact measures are often more difficult and expensive to track than for single-sector programs.

In addition, many of the family planning and environmental indicators are long-term, and do not fall within the shorter funding terms and life spans of PHE projects. The IPOPCORM research project mentioned elsewhere, however, does show that it is possible to measure such data with long-term support from sponsors. In an attempt to address the limitations of monitoring and evaluating PHE programs, the MEASURE (Monitoring and Evaluation to Assess and Use Results) Evaluation and USAID published a manual outlining recommended indicators that are grouped into five categories: population, health, environment, integration, and value-added, and based on actual indicators that have been tested and used in PHE projects in the Philippines, Madagascar, and other countries.

Therefore, the PHE literature makes many claims, as mentioned above, about the links between population, health, and the environment and the need to use integrated interventions or projects to achieve better conservation and/or health-related outcomes. Despite these claims, there is little evidence of impact from PHE projects (Stem and Margoulis, 2004). These authors consider that those working in PHE have generally not clearly developed or documented how their PHE interventions will lead to conservation or health outcomes (impacts). As a result, they are not collecting the right type of information that would provide evidence of impact.

Moreover, if practitioners do consider how their PHE intervention should lead to conservation or health outcomes, they usually do so after the intervention is fully underway rather than before implementing an intervention. Due to this, their intervention is not always the most appropriate for what they are trying to affect. Most evidence of impacts thought to be created by PHE projects is still anecdotal, and few projects look beyond traditional, sectoral indicators to measure their initiative's success. As one report on a project in Madagascar states, 'Evaluations have been more qualitative than quantitative and have produced equivocal results, sometimes showing that vertical programs are more effective. It appears that neither

organizations dealing specifically with natural resource management nor those implementing health and population programs have taken a leadership role in addressing this knowledge gap' (Stem and Margoulis,2004:2). As a fairly remedial action to this gap, it is suggested that

> There has to be a system upon which stakeholders get involved in the PHE projects where baseline indicators are established and monitoring works are conducted in planned ways in order to measure the impacts of PHE projects at fixed time intervals. It is upon these impacts that donors would be convinced to grant supports and issues of the continuity of the projects are to be decided and/or assured (Key Informant C).

4.3. Drivers and Constraints to Population, Health and Environment Sustainability and Scaling-Up

The scaling-up of integrated PHE approaches in Philippines that started implementing PHE project in small scale through the support of the government and NGOs was well studied (De Souza2008). De Souza defined scaling-up as the diffusion of innovation theory, recognizing the importance of sharing the successes of early adopters and getting others to adapt the PHE approach as an innovative solution to pressing problems. A number of forces boosted scaling-up efforts: diffusing PHE approach as an innovation; using PHE approach as a multifaceted advocacy tool; donors' investing in Philippines PHE; and working with intermediary actors who, collectively, documented PHE approaches, sparked interest around issues of the PHE approaches, and ultimately helped garner international recognition of the Philippines as a center of excellence for PHE integration.

In addition, efforts to scale-up programs in the Philippines and also Madagascar has been relatively successful due to the following factors (De Souza, 2008; Gaffikin, 2007): early and continued recognition by the conservation community of how family planning contributes to environmental goals; recognition by family-planning advocates and other health partners of the benefits of partnering with conservation organizations; well-developed public-private partnerships among government agencies, NGOs, and local communities; uneducated women and girls learn about family planning and PHE connections in non-formal education classes,

supportive national policies that advocates of the PHE approaches can use as platforms to drive integration at the local level; and devolution of power to local government (particularly in the Philippines), which allowed for community action. Experiences observed in the SNNPRS reveal quite interesting opportunity factors for sustaining the PHE approach into the future (Figure 4.2). Besides these factors, the PHE execution committee structure laid down from district/*woreda* down to *kebele* and then the community teams would have a pronounced effect on the sustainability of the gains/outcomes of the PHE projects (Key Informant G).

Figure 4.2: Opportunities observed to sustaining the PHE approach, SNNPRS, 2016

- The PHE Consortium in Ethiopia and its strong visibility
- The global and national development policies including SDGs, GTP II, HSTP seem to favor integrated approach versus single-sector approach
- Well documented and evaluated large scale, PHE experiences in other countries can contribute to the knowledge gap
- Multi-sectoral approaches, especially in youth development are getting popular.
- They can be a good avenue for PHE
- The demographic dividend and AUC's decision to name 2017 as the year of the demographic dividend

(Key Informant D)

- PHE approach
  - brings observable change if well-coordinated
  - can easily take government and donor interest
  - is scalable
  - is cost effective
  - can contribute to the GTP and SDGs if well sensitized
  - is liked by the community as it affects their livelihoods
  - has become a global issue particularly with regard to environment

(Key Informant E)

- Agenda 2030 calls upon the world leaders to work for the implementation of sustainable development goals (SDGs), and the 17 goals and 169 targets of SDGs were golden opportunities for PHE approach since several goals and targets can be achieved through integrated PHE approach.
- Nowadays, the need for integration is becoming important as development by any means requires it.
- The practical life of the community that needs a multi–sectoral engagement.
- Several pilot projects around the world have proved the possibility of practical implementation.

(Key Informant F)

Even though the Philippines case provides a good opportunity to scale-up PHE projects, there is a long path ahead. Some constraints to additional scaling-up include insufficient funding due to the lack of effective and proven models that can be replicated easily; need for clarity on the definition of scaling-up among implementing organizations; and a lack of solid scientifically-based evidence to prove to government and other organizations that the PHE approach is a viable method of achieving development goals (De Souza, 2008). De Souza further argued that despite the successes of PHE programming, several obstacles exist to further scaling-up and the refinement of PHE programming in the Philippines. These include monitoring and evaluation challenges, gaps in technical knowledge, absence of user friendly tools, difficulties in sustaining momentum and challenges of coordinating impact at different scales.

Figure 4.3: Challenges observed to sustaining the PHE approach, SNNPRS, 2016

- Although everyone agrees on the benefits of integration, people are not clear on the modalities of integration and associated costs.
- There is a need to convince donors and policy makers.
- PHE programs are small and fragmented.
- Lack of concrete evidence and proper documentation about PHE may affect scaling and decision making
- The term 'PHE' looks like another program. Perhaps, this term requires revisiting to describe it well and know what it means.
- The notion of 'PHE' being everything needs specific and targeted approach

(Key Informant D)

- It is not well popularized/familiarized at all levels
- It doesn't have strong ownership
- It is still in piloting phase
- Donors don't show interest to scale-up PHE projects, which shows that the knowledge of the donor is low on the advantage of PHE
- Government couldn't take as its own agenda as it was not sensitized at the national level
- Good practices of PHE approach are not well documented and disseminated that could show its advantages, and if so, it is only circulated in the NGO sector
- There is still limited number of PHE implementers.

(Key Informant E)

- Skeptics - most donors and development actors are very suspicious of the practical field-based implementation of the PHE and questioning on how on earth could it be possible to implement these three (Population, Health, and Environment) at single project level.
- The entrenched sector mentality, which holds that PHE weakens sector specialization and phobia developed for multi-sectoral engagement.
- Limited or no willingness of donors in funding integrated PHE projects.

(Key Informant F)

In the case of SNNPRS, a list of factors has been mentioned as challenges related to sustaining the PHE projects (Figure 4.3).

In the same reckoning, various factors have been enumerated regarding the opportunities and challenges related to the scaling-up of the PHE projects (Figure 4.4 and Figure 4.5). Nevertheless, scaling-up of the PHE approach demands resources, particularly the financial ones, related to actual project activities (Key Informant I) as well as indirectly to other activities such as survey to establish baseline database (indicators), subsequent monitoring and evaluation studies to see whether projects objectives have been attained or not, and eventually to generate build knowledge on the PHE approach.

Figure 4.4: Opportunities observed to scaling-up the PHE approach, SNNPRS, 2016

- Key Informant D repeated the same factors mentioned under opportunities observed to sustaining the PHE approach (Figure 4.2).

- Addresses the problem of population, health and environment at one time
- Balances the implementation of the three sectors (population, health and environment)
- Population, health and environment are all high government agenda separately
- It is easy to generate evidences on population, health and environment from implemented projects

(Key Informant E)

- PHE as a development approach works more at grassroots level.
- The sense of ownership created at community level leverage the scalability of PHE projects.
- The current development agenda at National and International levels (e.g. GTP and SDGs).
- The integrated multi-sectoral approach called by the PHE approach for its implementation.

(Key Informant F)

Figure 4.5: Challenges observed to scaling-up the PHE approach, SNNPRS, 2016

- Key Informant D repeated the same factors mentioned under opportunities observed to sustaining the PHE approach (Figure 4.3).

- Low donor interest in funding PHE approach
- Difficult to show the comparative advantage of PHE as the project period is too short
- Time taking to show the impact
- Hard to bring all sectors in one table as there is no system from the government side

(Key Informant E)

- As PHE is new in the development arena, it is not well popularized.
- The pilot project were small and limited in certain areas even the results of these projects weren't well documented and disseminated.
- PHE practitioners lack continuous evidence generation and dissemination of the results of their projects achievements.
- Shortage of budget particularly core funding in scaling-up the existing PHE projects.

(Key Informant F)

4.4 The Future of Population, Health and Environment in the Framework of Sustainable Development and Improved Livelihoods

The meeting of the heads of state and government and high level representatives at the United Nations Headquarters in New York from 25 to 27 September 2015 made decision on new global Sustainable Development Goals (SDGs), that replaced MDGs,and ratified a document entitled 'Transforming our World: the 2030 Agenda for Sustainable Development' (UN, 2015). The 17 Sustainable Development Goals and 169 targets which were agreed upon demonstrate the scale and ambition of this new universal Agenda, a plan of action for the next 15 years.

The SDGs and targets are integrated and indivisible, global in nature and universally applicable, taking into account different national realities, capacities and levels of development. The achievement of the SDGs will demand interdisciplinary, practical, locally relevant, and long-lasting solutions.

In regards to the above, the PHE approach can be an effective long-term strategy for alleviating poverty, managing natural resources, improving health, and supporting gender equality, which are actually the focus of SDGs. The PHE projects often explore opportunities and offer steps in the right direction in a flexible, participatory and innovative ways for policies and programs to keep pace with today's rapidly changing world and expected to provide the foundation for empowering young generation to manage these changes in the time ahead. One, thus, can see the resonance and/or intersection between the intents of the SDGs and the PHE approach.

A study made by the Champions of Global Reproductive Rights and others (2015) has outlined the fact that PHE is a good example of how models of integrated development provide a strong reference point for achieving the SDGs. The study revealed how PHE integrated programs contribute to several proposed SDGs. For instance, SDG1 is about ending poverty in all forms everywhere. To achieve this goal PHE programs focus on the needs of impoverished and isolated communities that are increasingly being forced to survive on dwindling natural resources. SDG 5 is about achieving gender equality and empowering all women and girls. In this regard, the focus of PHE projects is notable in Ethiopia where husbands in a PHE project were found providing support to the wives on the use of family planning four times more likely than their counterparts in a reproductive health-only program.

Furthermore, ensuring universal access to sexual and reproductive health and reproductive rights is fundamental to achieving gender equality. SDG 10 about reduction of inequality within and among countries. In this regard PHE is effective in serving the multi-dimensional needs of remote, highly marginalized, traditional populations where other single-sector approaches have not succeeded. Using PHE programs to reach underserved populations leads to improved access to health care, uptake of services, and increased engagement in natural resources management. The PHE projects are now showing early successes in the focus areas of the SDGs and given time might institutionalize changes on a broader scale. Therefore, one can offer a reasonable argument that, if the required attention is given by all concerned to the now emerging dynamics of the PHE approach, there appears a potential in PHE approach that allows

it to stand the test of time and prove to be a new integrated development model in otherwise the era where development challenges are naturally integrated.

4.4.1 Renaming the Term 'PHE'

As eloquently presented, 'The term 'PHE' looks like another program. Perhaps, this term requires revisiting to describe it well and know what it means' (Key Informant D). The wisdom of this point drives one towards having a serious look at what the term PHE contains and what the PHE approach delivers in the actual world. In all PHE projects assessed in the present study, the implementation of the PHE contained various sectors that transcend population, health, environment, agriculture, education, children and youth, gender, food security, energy, water supply, housing, and others. At the concurrence of all these sectors is placed improvements in the livelihoods of the communities. Putting these sectors in the portfolio of only population, health and environment sectors is entirely tantamount to squeezing the bigger accomplishments of the PHE and undermining its contributions. This squeezing tendency will certainly have a blurring impact on the significance of the PHE programs and minimizes its image on the eyes of the donors and other stakeholders with eventual expounding of the challenges of the PHE approach in terms of both sustainability and scaling-up.

Thus, it is paramount important to give the term an equivalent naming that reveals what it delivers. Accordingly, on the basis of the note made by the Key Informant mentioned above and the observations made in the present assessment study (literature and field-based), it is suggested that the term PHE be renamed (elevated to) the term IPHEOSD approach which means Integrated Population, Health, Environment and Other Sectors Development approach. To be sure, this term is equivalent to the Integrated Development Approach which existed in the distant past. Nevertheless, the term IPHEOSD captures the flavors of the present world in terms of dynamics and applications.

4.4.2 Future Support Expected by PHE Approach from the Government

Based on the key informant guideline, an interview question was raised as 'What does the government need to do in support of the PHE approach in the future?' Responses obtained

include strong expectations from the stakeholders that went further as to provide justifications for the government. For instance, it is held by the key informant that

> It has become a reality that single-sector based interventions couldn't bring about sustainable change in the life of the community as often expected. As is obvious, the life of the community by itself is interconnected and hence needs comprehensive integrated intervention if we are looking for sustainable change in social, economic and environmental aspects. Our intention in this regard is to advocate to the government to own the idea of integrated PHE multi-sectoral approach as a means to end poverty in this country and bring about sustainable change in the life of the community (Key Informant F).

In a similar manner, another key informant claimed that

> First and foremost, the advantages of the PHE approach have to be sensitized in all government sectors using appropriate methods along with offering relevant trainings related to the concept of PHE approach. This will bring the government on board and make the PHE approach its agenda. After going through these processes, the government needs to establish a separate PHE coordination unit which follows and supervises the execution of the PHE approach. The government also needs to lead the program for the sake of scaling-up the approach at national level as this will make a national agenda of the country. Furthermore, the government needs to craft a guideline/policy with high involvement of CSOs and donors in such a way that it creates a sense of ownership among all development partners (Key Informant E).

From these responses, one can deduce that the expectations of the stakeholders from the government is so big such that the government has to take a leading role in expanding the fabric of PHE approach, and in this regard an acceptable concluding response is that the government has to 'own, sustain, and scale-up the PHE approach' on the one hand, and 'integrate the PHE approach with the national and regional plans' on the other (Key Informant D).

4.4.3 Coordination and Implementation Issues of the PHE Projects

Since the PHE approach by its nature and content is multi-sectoral and calls for the involvement of various stakeholders in its implementation, questions of coordination require proper answers at the very initial stage of the PHE project design. Continuous coordination works are necessary

which are attainable through the participation of the leading PHE implementers. To fairly easily win the minds of stakeholders and get them participate in all facets of coordination, there is a need to create a space for negotiation and conviction. Within this broad understanding, key informants reported some critical issues as to the challenges faced regarding the coordinated spirit of work in the implementation of PHE projects in the SNNPRS. Specifically, it is noted that the PHE projects themselves have made efforts to establish good grounds for coordination by providing training to the leaders and experts of relevant stakeholders, sector offices, in order to fully grasp the ideals of the PHE approach. One of the ideals PHE approach focused upon in the training is the fact that it is possible to observe the results of the PHE projects in relatively short period of time and that in the face of limited human financial resources that prevail in almost all government sectors, creating unity means that effective works are carried out within the existing limitations. The sharing of knowledge and practical exercises in this unity is another additional benefit secured by participating stakeholders (Key Informant G).

Notwithstanding the above notable benefits, there were recurring problems when it comes to coordination and coordinated participation in the implementation of the PHE projects in the SNNPRS. For instance, government sector offices have shown adamant tendencies to issues that actually deserve quick responses, lack of the requisite attention from sector leaders, seeing the PHE projects as temporary works, and the fact that farmers displayed extraordinary zeal to obtain the results of the PHE projects in a very short period of time, which was untenable. In the same parlance, implementation of the PHE projects encountered problems arising from the rent seeking behaviors individuals which was beyond the gamut of the PHE projects, holding back farmers in the name of meetings that frustrated the execution of PHE project activities on time as planned (Key Informant H). These observed coordination and implementation related impediments require redressing once they are known so publicly.

4.4.4 The PHE Approach as a New ‘Paradigm’ and Its Strategic Direction

As the PHE approach is a new development ‘paradigm’ just not older than two decades, there is a pervasive need to chart out its future strategic journey. Such a journey could be predicated

upon definable roadmap attuned to the demands established at the grassroots level. In line with this, a key informant drew the following strategic direction of the PHE approach:

> The PHE movement needs to redefine (reshape, refocus, and targeted) its purpose and mission within the new global and national development frameworks; PHE programs need to be innovative and use technology. Inter-sectoral collaborations need to be identified carefully and selectively; the PHE movement also needs to identify champions/leaders at various levels; and PHE program needs to create strong alliance with regional and global institutions like the AU, UN and other regional platforms (Key Informant D)

> The PHE approach has to be scaled up and expanded to other parts of the country based on the evidence generated by PHE implementers. Moreover, PHE approach needs concerted efforts to be exerted form development partners in terms of building the capacities of national governments so as to ensure sustainability of the program (Key Informant E).

Other strategic suggestion is that PHE needs its own activist that can promote the advantages of PHE approach through various media outlets. Accordingly, the following strategic ideas appear to be very important:

> Continuous sensitization and evidence-based advocacy at local, national and international levels; scaling-up the existing PHE projects so as to harvest as much evidence as possible; working closely with universities and research institutes to generate research based evidence; and organize local and international conferences on PHE as a means of research based evidence dissemination and experience sharing (Key Informant F).

These kinds of strategic directions are overly important in pinpointing issues that abound what and how questions of the PHE 'paradigm' in the lens of the future. These questions need thorough discussions by and consensus building among the dominant stakeholders of development undertakings related to grassroots communities who are engulfed with complex and also integrated problems that have hitherto appealed for an integrated approach to solving these entrenched problems.

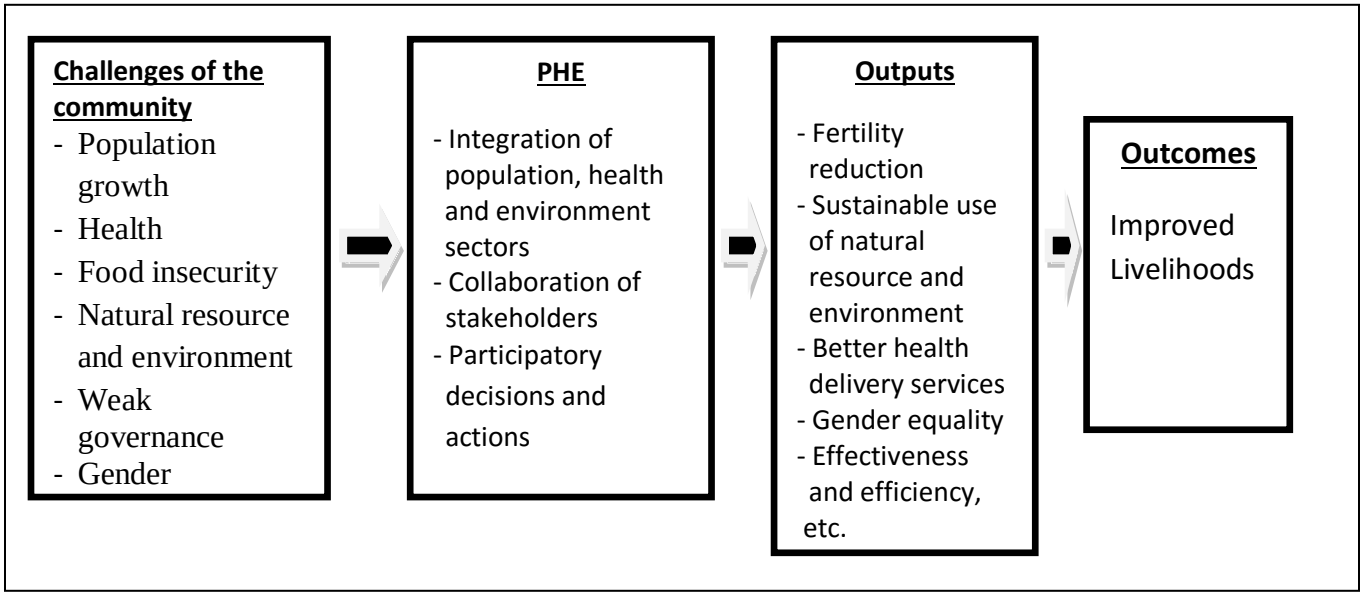
4.5 Summary: The Conceptual Model of the PHE Approach

The following PHE conceptual model (Figure 4.6) shows the summary and the extent to which and how the PHE approach works in achieving the SDGs outcomes. As noted elsewhere, the era

of SDGs demands inter-disciplinary, practical, locally relevant and long-lasting solutions. The PHE strategies, parallel to the SDGs agenda, emphasize integration, human rights, climate change adaptation, women's and youth empowerment, and sustainable livelihoods. Stepping out of the usual sectoral approach and forming cross-sectoral integration and partnerships is the recommendation of the day to make sure that both people and environmental resource base benefit together.

This PHE conceptual model reflects the integration of sectors (population, health and environment), the collaboration of various stakeholders, and the participation of all concerned bodies and individuals in the process of decision-making and related implementation actions. The framework takes into account the major challenges of the local communities as its point of departure and then attempts to build the integration paradigm on the basis of which the outputs (fertility reduction, sustainable use of natural resource and environment, better health delivery services, gender equality and others)are expected to be produced. The ultimate outcomes in the form of improved livelihoods are what communities garner from the PHE integrated approach. Since the focus of the present assessment study is the generation of knowledge from the experiences of the PHE approach implementation in the SNNPRs during the past years, data/information were collected mainly in relation to PHE integration, the outputs and outcomes.

Figure 4.6: **Conceptual Model of the PHE Approach (Own construction)**



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