

# **Developing Tools for Impact: Sanitation Behavior Change among Women in Awassa, Ethiopia**



*Meeting with focus group participants from a Sustainable Livelihood Group in Awassa*

## **Stephenie Chatfield**

*A Field Practicum Report submitted in partial fulfillment of the requirements for a  
Master of Sustainable Development Practice Degree at the University of Florida,  
in Gainesville, FL USA  
March 2013*

Supervisory Committee:  
Dr. Richard Rheingans, Chair  
Dr. Sarah McKune, Member  
Mrs. Marit Ostebo, Member

## Table of Contents

Acknowledgements	1
Abstract	3
Introduction	4
Background	5
Ethiopia	5
Water and Sanitation	7
Water is Life International	10
Sustainable Livelihood Groups	12
Monitoring and Evaluation Systems	14
Problem Statement and Objectives	16
Contextual/Conceptual Framework	16
Challenges and Objectives	22
Evaluation Methodology	24
FOAM Framework	24
Focus Groups	27
Design	27
Implementation	27
Analysis	28
Surveys	29
Design	29
Implementation	30
Analysis	30
Methodological Considerations	31
Results	32
Analytic Results	32
Process Results	50
Conclusions and Recommendations	51
Behavioral	51
Sustainable Livelihood Groups	53
Institutional	55
Looking Forward	57
References	59
Annex A: Focus Group Discussion Guide	65
Annex B: Preliminary In-Country Report to Kale Heywot Church	67
Annex C: Sanitation Behavior Survey	74
Annex D: Enumerator Training Agenda	82
Annex E: Underlying Behavioral Determinant Levels	83

## Acknowledgements

I would first like to thank the individuals and organizations that made my field practicum in Ethiopia possible. My deepest gratitude goes to Water is Life International for their support and willingness to accommodate me and incorporate my practicum within the organization. Special thanks to Executive Director David Harding for communicating with me on the development and implementation of my practicum, and also to Ben and Kelly Taylor for hosting me in Ethiopia, answering so many of my questions, and welcoming me so warmly in their lives. Also, I would like to extend my thanks to Kale Heywot Church and staff for collaborating with me, and also specifically to my translator and friend Wongel for her invaluable help. Lastly I would like to thank the Awassa community and SLGs for sharing their thoughts and lives with me, and truly making my practicum an enjoyable and rewarding experience.

Next I would like to thank the University of Florida programs and staff for allowing me this amazing opportunity. Thank you to the Master of Sustainable Development Practice (MDP) Program, Director Dr. Glenn Galloway, and also Ms. Cindy Tarter for all of your support and guidance. Deep thanks also to my colleagues in the MDP program for challenging me and also teaching me so much. Special thanks to my committee chair, Dr. Rick Rheingans, without which whose help I wouldn't be where I am today. Thank you for all that you have taught me and showed me in regards to development and particularly the water and sanitation sector. Also, deep gratitude to my supporting committee members, Dr. Sarah McKune and Marit Ostebo. Finally, I would also like to thank The John D. and Catherine T. MacArthur Foundation for providing funding for my field practicum.

I also want to use this opportunity to extend deep and sincere gratitude to my personal support system, my friends and family. A huge thank you to my mom Ms. Sue Amole and my step-dad Dr. Jack Amole, for your never-failing support and belief in me. I'd like to also thank my sisters, Christy and Kara, for always being here for me and for being such amazing sources of encouragement and love. I can honestly say that without my family I wouldn't have dreamed so big, and I wouldn't have thought I could make it this far. I also owe deep gratitude to my great friends Shelby, Katy, Taylor, Keri, Ariel, Cami, and Erin (to name a few) for their patience, encouragement, and support. Finally, my biggest thanks goes to my God, Jesus Christ, for blessing me with this experience and education, for instilling in me the passion to do this, and allowing me the opportunity to work in His kingdom. He is the living water that I so hope to drink and to share.

**Abstract**

This report examines the effect of Sustainable Livelihood Groups on individual women's sanitation behaviors in Awassa, Ethiopia through the lens of monitoring and evaluation. The evaluation uses the FOAM Framework to examine underlying behavioral determinants of sanitation behaviors, so that the sanitation and hygiene context in the community can be understood. This evaluation examines sanitation issues at the behavioral, group, and institutional level. Primary field data were collected by conducting focus group discussions and administering individual surveys. The purpose of these activities was twofold: to produce data and develop understanding of current sanitation practices and the effect of Sustainable Livelihood Groups on individual women, and also to practically implement a monitoring and evaluation process in order to contribute to the discourse on institutionalizing monitoring and evaluation within development organizations. Key findings that emerge from this evaluation are that the FOAM Framework is a useful tool in designing an evaluation of sanitation behaviors, Sustainable Livelihood Groups are effective in promoting knowledge transfer, social norms, and other sanitation behavior determinants, and that Sustainable Livelihood Group members are more likely to practice proper sanitation behaviors.

## Introduction

I conducted my field practicum in Awassa, Ethiopia by implementing an evaluation with Water is Life International (WiLi), an international nongovernmental organization. The purpose of the practicum was to conduct an evaluation of one of WiLi's program areas that focuses on sanitation education and behavior change. WiLi facilitates Sustainable Livelihood Groups (SLGs) as a means of affecting sanitation behavior change in the lives of the participants, as well as affecting a number of other positive outcomes. The practicum aimed to determine the functioning of SLGs, assess the effect they have on personal sanitation behaviors, and establish a practical monitoring and evaluation system within WiLi for SLGs.

In order to understand the complexity of these issues it is imperative to have a full understanding of the background of the issues, and the context of the setting. For this reason, this report includes a background on water and sanitation and system approaches to monitoring and evaluation. Also included is a description of the context detailing Ethiopia, the organization WiLi, and the history of SLGs. This background information is meant to set the stage not only for the importance of this work, but also for the relevance of this work in light of the greater development framework.

Following this discussion the specific challenges in the current situation in Awassa and the objectives of the practicum are presented. In the implementation of the practicum focus groups were conducted and surveys administered, and so the design, implementation, and analysis of these methodologies are also presented. Results from the behavioral, group, and institutional levels are presented. Then, recommendations and conclusions are drawn from the

results. The purpose of this report is not only to share this experience and the practicum that I conducted, but also to further the discourse on systems of monitoring and evaluation, and to present new ideas about the practical implementation of water and sanitation programs.

## **Background**

### **Ethiopia**

Ethiopia is a large country, with a diverse culture, and a rich historical heritage. Located in the Horn of Africa, Ethiopia is a completely land-locked country with a climate that varies greatly dependent on topography (Purdy, 2007). It is the most mountainous country in Africa and most of the country is dominated by highlands which are separated by the East African Rift Valley (Department of Immigration and Multicultural Affairs (DIMA, 2006). The majority of the year is dry, with a rainy season running from about June to September depending on the location in country. Ethiopia has experienced at least ten major droughts in the past 40 years, the most recent of which was in 2011 (DIMA, 2006).

Despite being occupied by the Italians for five years, Ethiopia is the only African country that was never colonized by Europeans, a fact which gives much pride to Ethiopians for their national heritage (Michon, 2008). The last emperor of Ethiopia, Haile Selassie, was overthrown in 1974 by the Derg, a communistic ruling party which held power in Ethiopia until 1991 (The World Bank Group, 2012a). The Derg regime was a highly centralized government that embraced a strong control of the state with firm social and political hierarchies, the legacy of which still underpins Ethiopian society today. The current government, led by the Ethiopian

People's Revolutionary Democratic Front (EPRDF), overthrew the Derg regime and began many political reforms to the government of Ethiopia (The World Bank Group, 2012b).

The general elections of 2005 were hoped to lead towards an increase of democracy in Ethiopia. However, due to severe political control of the elections rather than a step towards democracy, the elections led to an increase in authoritarianism (Aalen & Tronvoll, 2009). Since that time, new oppressive laws have been instated and local structures have been extended to be used as a means of political control and coercion at local levels (Aalen & Tronvoll, 2009). This political climate has created a distrust and paranoia among individuals in Ethiopia towards the government and the ruling party the EPRDF.

Ethiopia is the second most populous nation in Sub-Saharan Africa, with a population of more than 84 million people and an annual population growth rate of 2.36 percent (The World Bank Group, 2012b). However, it is challenging to make generalizations about the Ethiopian population because it is extremely diverse ethnically, religiously, and socio-economically (DIMA, 2006). Ethiopia embraced Christianity in the fourth century AD, and currently approximately half of the population identifies with the Ethiopian Orthodox Church (DIMA, 2006). Forty percent of the population identifies with Islam, and the remaining ten percent either with protestant or animist practices (DIMA, 2006).

Although it is one of the fastest growing countries in Sub-Saharan Africa, Ethiopia is still one of the poorest and least developed countries in the world. From 2004 to 2011 Ethiopia experienced a real GDP growth rate of 11 percent, and yet still ranks as the sixth poorest country in the world, based on Gross National Income (GNI) (The World Bank Group, 2012b).

Socioeconomic factors reveal the clear dichotomy between growth and development. Average per capita income is less than \$390 a year, and over half of the population works in the informal sector (The World Bank Group, 2012b). The average life expectancy is 55 years, and currently 46 percent of the population is severely undernourished (Purdy, 2007).

Despite the challenges that Ethiopia is presently facing, the country has made significant gains towards the achievement of the Millennium Development Goals (MDGs). Ethiopia's approach to achieving the MDGs has benefited from the government's commitment to devote significant portions of the national budget to fighting poverty and achieving the MDGs (United Nations Development Programme (UNDP), 2010). Over the past two decades Ethiopia has made progress in many key areas such that child mortality has decreased by 50 percent, primary school enrollment rates have increased four-fold, and the number of people with access to clean water has doubled (The World Bank Group, 2012b). Ethiopia is on track to reach five of the eight MDGs by 2015, and the challenge now is to sustain the achievements that are already being made, and press forward in the areas where improvement is still needed (UNDP, 2010).

### **Water and Sanitation**

Access to clean water sources, and proper sanitation behaviors and facilities, are important development factors that are linked to infrastructure, health outcomes, and the burden of poverty. Water and sanitation is incorporated into the MDGs under MDG 7 which strives to ensure environmental sustainability (UNDP, 2010). The specific target for water and sanitation is to halve, by 2015, the proportion of the population without sustainable access to

safe drinking water and basic sanitation (UNDP, 2010). According to the Water and Sanitation Program, a program administered by the World Bank, approximately 2.5 billion people worldwide still do not have access to basic sanitation, 20 percent of which live in Sub-Saharan Africa (The Water and Sanitation Program (WSP), 2008). This population remains extremely vulnerable to water-borne diseases such as bacterial and protozoal diarrhea, hepatitis A, and typhoid fever (Michon, 2008). Diarrheal disease alone places the greatest health burden on children, and is the number one cause for under-five mortality worldwide (WSP, 2008). Additionally, due to lack of access to basic sanitation and clean water, approximately 3,900 children die every day worldwide (WSP, 2008). Water and sanitation are vital areas for human development, and still need much improvement globally.

Due to the emphasis on the MDGs, access to clean water has risen dramatically in Ethiopia over the past two decades. Currently, close to five percent of Ethiopia's population gains access to clean water every year (The World Bank Group, 2012a). An improved water source is defined as one that "by nature of its construction or through active intervention, is likely to be protected from outside contamination, in particular contamination with fecal matter" (African Ministers Council on Water (AMCOW), 2010). An improved water source could be a protected spring or dug well, rainwater collection, a public tap, piped water into a dwelling or yard, or other special cases. Traditionally Ethiopians rely on surface water (such as ponds) for all their water needs, but now more and more individuals and communities are relying on wells and other improved water sources as their main water source.

The percentage of the population in Ethiopia that has access to clean water has improved from just 14 percent in 1990 to 44 percent in 2010 (Unicef and World Health Organization (Unicef/WHO), 2012a). This is a major achievement, and also indicates that Ethiopia is on track to achieve the MDG of halving the amount of the population without access to clean water by 2015. There is however still a discrepancy in access between rural and urban populations, with only 34 percent of the rural population having access to clean water while 97 percent of the urban population has access (Unicef/WHO, 2012a). To ensure the health and future development of Ethiopia, it is vitally important that Ethiopia continues to improve access to clean water for the entire population.

The current situation and trends for Ethiopia for improved sanitation are not as promising as they are for improved water sources. An improved sanitation facility is defined as “one that hygienically separates human excreta from human contact” (AMCOW, 2010). An improved sanitation facility could be a flush toilet, a connection to a piped sewer system or septic system, a ventilated improved pit latrine, a pit latrine with a slab, or some other special cases. From a baseline of 3 percent in 1990, there has been an increase in coverage to 21 percent of the population of Ethiopia in 2010 (Unicef/WHO, 2012b). The improvements in Ethiopia have come not only from the development of infrastructure and the construction of improved sanitation facilities, but also from efforts made in sanitation education and social marketing (UNDP, 2010). The government’s health extension program has deployed more than 34,000 health extension workers to educate and train individuals in regards to health and sanitation (The World Bank Group, 2012a). Consequently, sanitation is not only a matter of access to facilities, but also very much dependent on individual beliefs, attitudes, and behaviors

towards sanitation and hygiene. Despite improvements, Ethiopia is still in drastic need of improved sanitation coverage.

### **Water is Life International**

The field practicum was conducted in partnership with Water is Life International (WiLi), a non-governmental organization (NGO) started in 2007 that works exclusively in Ethiopia. WiLi's mission is to "provide access to safe and sufficient water sources to impoverished communities throughout Ethiopia" (About WiLi, 2009). WiLi is a small organization that is able to achieve a vast reach due to strong local partnerships and being the in-country implementer for many larger aid organizations and NGOs, e.g., Samaritan's Purse, Tearfund, and The Development Emergency Committee (B. Taylor, personal communication, May, 2012). WiLi is committed to bringing immediate, affordable, and sustainable access to safe water to impoverished communities and believes that access to safe water is the first step to individual and community wholeness (About WiLi, 2009). Since 2006 WiLi has drilled over 300 wells serving more than 150,000 people (D. Harding, personal communication, January, 2013).

WiLi has three major programmatic areas, which have specific objectives that lead to the achievement of WiLi's mission. The first major area of WiLi's activities in Ethiopia is well drilling, which provides access to improved water sources to communities and individuals. WiLi partners with Selam Awassa Water Drilling Works and Sanitation (SAWDWS), an Ethiopian business, to do the well drilling. In this phase of the project WiLi drills the well, installs casing, establishes water use committees, and provides maintenance to the wells. WiLi seeks to address water access and quality issues, and aims to put systems in place that can be sustained

by ordinary people with the resources they already have (B. Taylor, personal communication, May, 2012).

The second major area of WiLi's activities is the formation of Sustainable Livelihood Groups (SLGs). SLGs are based on the model of self help groups, and are generally composed of 15 to 20 people who meet weekly to save their own money together, discuss their lives, and present new ideas to each other (B. Taylor, personal communication, May, 2012). It is important to note that WiLi's SLGs do not receive any startup capital and that the money that members save together is completely their own. WiLi utilizes SLGs as a mechanism to affect positive sanitation behavior change in the lives of individual women. WiLi partners with local institutions, e.g., Kale Heywot Church and Mekone Yesus Church, to initiate and organize SLGs within the communities that they work. The third major area of WiLi's activities that is closely related to the SLGs is the provision of water, sanitation, and hygiene (WASH) education and training to communities and individuals. WiLi also partners with local institutions to provide the WASH education and training. The objective of providing WASH education and training is to give communities knowledge and technical training to be able to adopt good sanitation behaviors. The combination of these three major programmatic areas allows WiLi to provide communities with a holistic water and sanitation service so that communities have the resources to fully benefit from access to improved water.

WiLi has made a concerted effort to establish a monitoring and evaluation system within their organization so that they can ensure the provision of quality services, and also so they can learn and grow from their past projects. In the past, WiLi has conducted baseline

surveys in new areas externally through Copernicus Development & Management Consultancy. These evaluative surveys have mostly been conducted for the water drilling projects. At this time there is not an established monitoring and evaluation system for WiLi's SLGs. Much of WiLi's evaluative methods are informal, based on community feedback and program success.

### **Sustainable Livelihood Groups**

SLGs, as stated earlier, are generally composed of 15 to 20 people who meet weekly to save their own money together, discuss their lives, and present new ideas to each other (B. Taylor, personal communication, May, 2012). SLGs are composed primarily of women who, despite living in extremely close proximity to each other, often did not know each other before joining the SLG. Key individuals in communities are identified as potential facilitators of SLGs and then these individuals are responsible for gathering members and starting the groups. The groups are not given any money to start; they simply begin saving their own money. The SLGs are completely self organized; the groups establish regulations governing savings and attendance, individual members take turns leading weekly meetings, and all decisions are decided by discussion and group majority.

SLGs are based on the self help group model that originated in India in the 1970s. The self help group model gained international significance specifically after 1976 when Professor Mohammed Yunus of Bangladesh began experimenting with women and micro-credit and self help groups (Tolosa, 2007). This model started to have an impact in Bangladesh by empowering women through efforts to accomplish poverty eradication. According to Tolosa (2007), at the root of the self help model is the idea of "enabling members to reap economic

benefit out of mutual help, solidarity, and joint responsibility” (p. 8). Specific characteristics of self help groups are that members are from similar socio-economic categories, are voluntarily involved, and that the groups utilize a participatory decision-making process. Self help groups have been found to increase individual women’s levels of self-efficacy, and give women a strong belief in their own agency.

SLGs organize around the main function of saving their own money together. Once a SLG accumulates enough group savings, individual members can then begin taking out small loans from the group for individual use. Savings are collected at weekly meetings, and deposited into the group’s bank account. Another major function of SLGs is group discussion and social support. Because of the participatory nature of SLGs, weekly group meetings involve extensive discussions not only of group matters, but also of the women’s individual lives. The social support aspect of SLGs seems to be one of the greatest benefits to members of SLGs, and has the ability to bring change in varied dimensions of the women’s lives.

One reason for the effectiveness of SLGs is that they are culturally relevant in Ethiopia because they model similar historically established institutions. There are numerous other indigenous socio-economic institutions within Ethiopia that have many of the same characteristics of SLGs, but have a different focus and purpose (Teshome, Zenebe, Metaferia, & Biadgilign, 2012). The most enduring of these is the iddir, a voluntary burial association in which women save money together to provide for the cost of their burial, and also provide social support to one another (Teshome et al., 2012). The iddir is another social structure that provides women with a critical opportunity for community development, economic opportunity

and independence, and social well-being (Teshome et al., 2012). Because SLGs utilize a culturally familiar institutional model, these groups are inherently grounded in Ethiopian culture and therefore a more viable mechanism with which to introduce water and sanitation education.

### **Monitoring and Evaluation Systems**

Monitoring and evaluation (M&E) is an important facet of development programs, and is necessary for the development of best practices and generating new knowledge and understanding. Within the development field there is a strong emphasis on results generated from M&E, but there is often a lack of understanding about successful M&E systems (The World Bank, 2004). Monitoring systems provide a continuous assessment of what is happening within an organization and within programs (World Health Organization (WHO), 2005). Evaluation provides a more systematic approach to determine whether objectives and goals are being met in the best way possible (WHO, 2005). A useful and effective M&E system should be simple, responsive to program and community needs, transparent at all levels, and relevant to the objectives of the program (WHO, 2005).

There are many reasons for an organization to conduct M&E, some of which are to conduct basic research, to assess the status of a particular variable or variables, to measure effectiveness, and for accounting and certification (Stem, Margoluis, Salafsky, & Brown, 2003). A robust M&E system that is institutionalized within an organization is essential for any organization that wants to effectively reach their objectives, and best serve their beneficiaries. Ultimately, the goal is that a well designed M&E system will function as a feedback loop; taking

lessons learned from projects and programs and utilizing that information in the implementation of future interventions. This transforms organizations into learning organizations which are flexible, open to new opportunities and ideas, and responsive to the reality of their work.

There has been a recent trend shifting from indicators-focused M&E to more comprehensive and systematic approaches to M&E that allow for the measurement of impact and outcomes from specific interventions (Stem et al., 2003). Indicators are still necessary and utilized, however this new approach allows for the incorporation of project cycle management, results-based assessment, and learning networks into more development organizations (Stem et al., 2003). M&E is more likely to be effective if there is an underlying structural model within the organization that explicitly maps the M&E pathway (Newman, Velasco, Martin, & Fantini, 2003). When M&E becomes linked with planning, and these relationships are integrated within the organization, the value of M&E greatly increases and doors are opened to new learning opportunities.

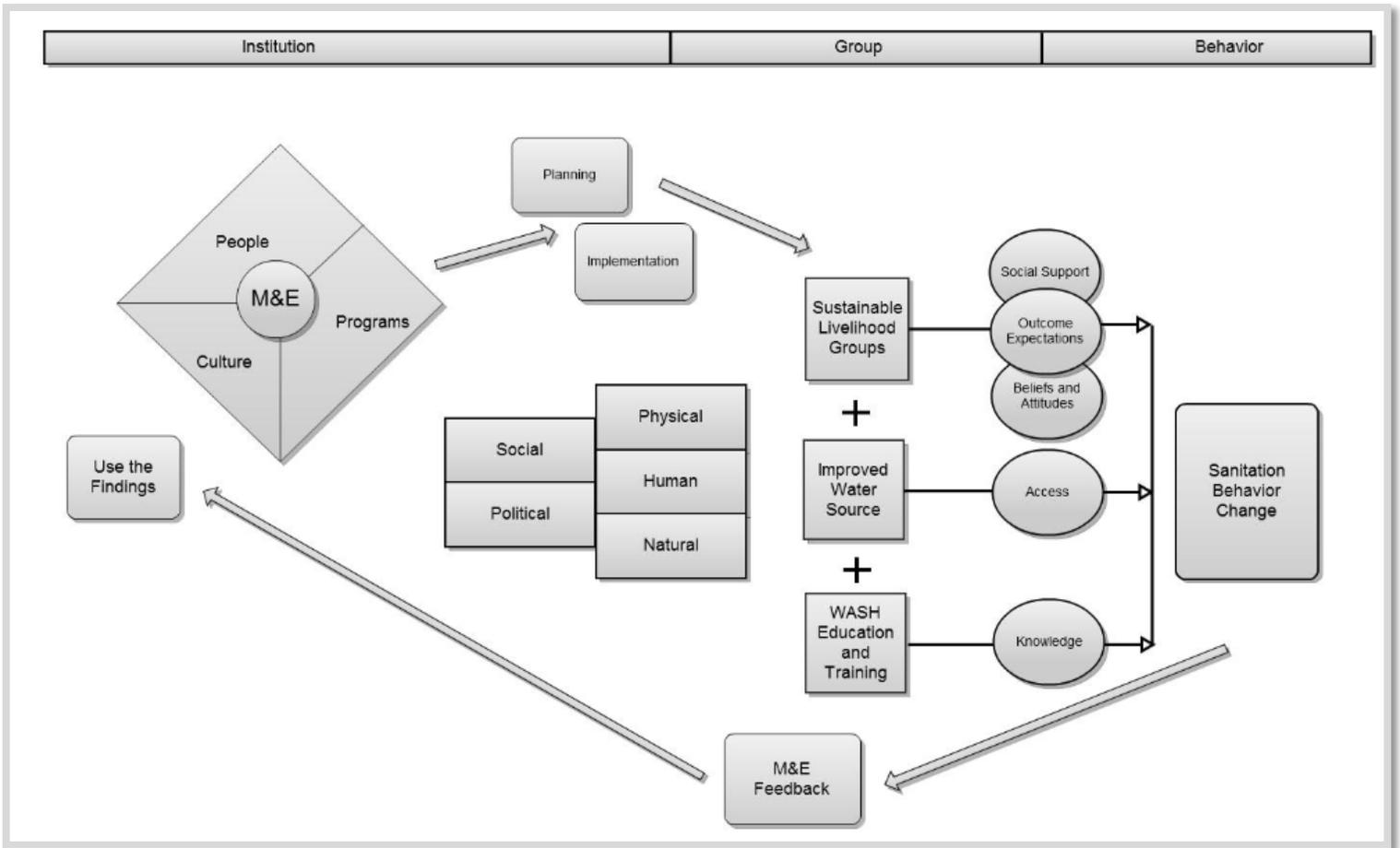
A unique set of challenges is presented when attempting to monitor and evaluate water and sanitation programs. Measuring sustainability and scalability of water and sanitation interventions is extremely difficult, and there is a long history of failure in this regard. Ned Breslin, the CEO of Water for People, states that “one of the core challenges to measuring efforts is in shifting the dialogue and encouraging organizations...to rethink and rework how they operate to focus on longer-term results” (Kanani, 2012). As a leader in the field of M&E for water and sanitation programs, Breslin believes that the key is to focus on outcomes, to use

emergent technologies, and to use local institutions to encourage participation in M&E (Kanani, 2012). Applying a systems and outcome oriented approach to M&E for water and sanitation programs presents many challenges but is vitally important to the growth of development.

### **Problem Statement and Objectives**

### **Contextual/Conceptual Framework**

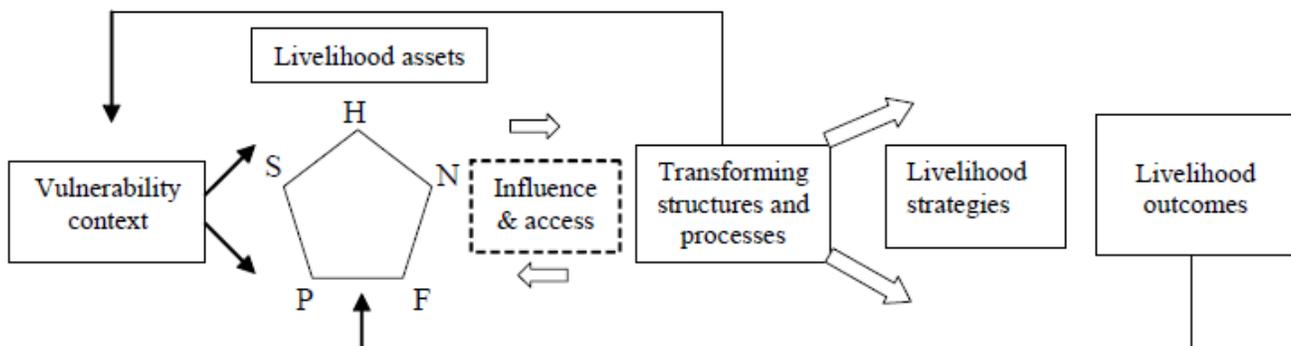
The Contextual/Conceptual Framework (C/C Framework) presents the specific context in which the field practicum was conducted, in regards to the practicum activities and layers of consideration in Ethiopia, as well as the theoretical concept of the implementation of the practicum. It is important to understand the context in which the field practicum was undertaken, and also to grasp the importance of the overall picture so that the relevance and significance of this work can be fully realized. The image below displays the C/C Framework which will be explained in detail below.



In the middle of the framework are three main programmatic activities that WiLi performs: establishing SLGs, providing access to improved water sources by drilling wells, and providing water, sanitation, and hygiene (WASH) education and training to the communities. This is a simplified summary of WiLi’s main activities in Ethiopia that contribute toward their mission to “provide access to safe and sufficient water sources to impoverished communities throughout Ethiopia” (About WiLi, 2009). All of these activities are implemented through their local partners including SAWDWS, Kale Heywot, and Mekone Yesus Church. The involvement of the field practicum with WiLi and the evaluation that was conducted focused on one part of WiLi’s program: the SLGs.

To the left of the three squares representing WiLi's activities is a cluster of five rectangles which represent the five livelihood assets from the Sustainable Livelihoods Framework. The Sustainable Livelihoods Approach is an approach born out of Robert Chambers work in the mid-1980s to enhance the efficiency of development processes, and this concept was later developed by the British Department for International Development (DFID) (Kollmair & St. Gamper, 2002). The Sustainable Livelihoods Framework, which is illustrated below in Figure 1, is a tool that can be used to understand poverty and to investigate peoples' livelihoods and the main factors that influence it (Kollmair & St. Gamper, 2002).

**Figure 1: Sustainable Livelihood Framework**



The livelihood assets are central to the Sustainable Livelihoods Framework and represent the different strengths that an individual has, which they can leverage for positive livelihood outcomes. Social capital represents the social resources that an individual has, such as networks, relationships, and membership in formal groups (Kollmair & St. Gamper, 2002). Financial capital includes regular flows of money, such as income or remittances, and available stocks such as bank deposits or liquid assets such as jewelry or livestock (Kollmair & St. Gamper, 2002). Physical capital is the basic goods that an individual needs to sustain their livelihood,

such as transportation, shelter, water, and electricity (Kollmair & St. Gamper, 2002). Human capital is the knowledge, skills, good health, and ability to work that allows a person to pursue their livelihood objectives (Kollmair & St. Gamper, 2002). Natural capital refers to the natural resources from which livelihoods are derived, such as land, forests, water, and protection against climate change (Kollmair & St. Gamper, 2002).

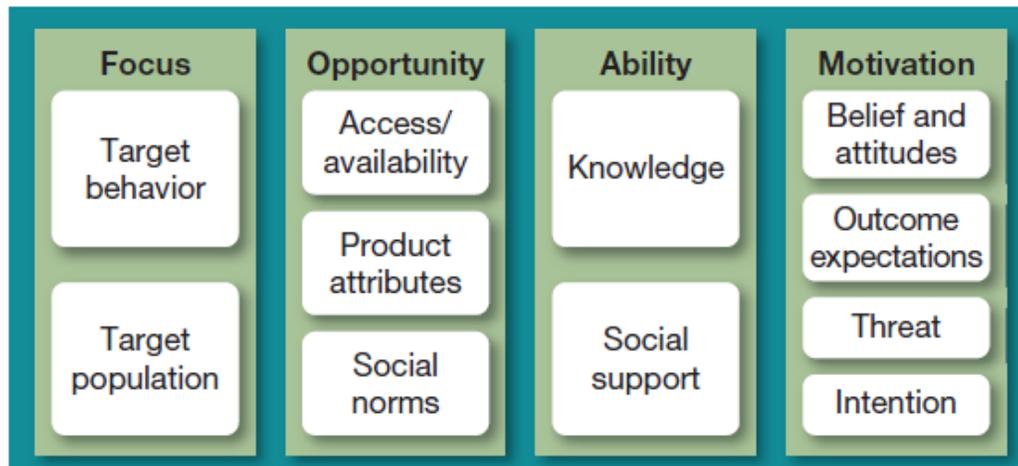
The livelihood assets have been included in the C/C Framework because it is important to consider the livelihood strategies of the individuals involved with SLGs, and also to consider the available assets within the communities. The consideration of people's livelihood assets is crucial in the stage of program planning and design to ensure that activities are meeting the local need, and also building on the available livelihood assets within the community. By building on available livelihood assets, program activities are more likely to be internalized within the community and promote full participation and engagement.

As we see, to the right of the three main WiLi activities is the outcome of sanitation behavior change. This is obviously not the only outcome from WiLi's work, but it is the outcome that was targeted to measure and achieve. Between the activities of WiLi and the desired outcome of personal sanitation behavior change, are the factors that are affected by WiLi's work. This is where the work truly shifts things in individual's lives, and this area of the framework represents the change that is affected.

The ovals in the framework represent barriers to individual behavior change, which are lack of social support, false outcome expectations, lack of access to soap, etc. The reason why WiLi's activities are effective and bring change is because they effectively remove those barriers

to behavior change by providing the deficit factors. These barriers to behavior change come from the FOAM Framework, illustrated in Figure 2 below, which was created by and is used by the Water and Sanitation Program of the World Bank. FOAM stands for Focus, Opportunity, Ability, and Motivation and is a framework that is designed to aid in the design, monitoring, and evaluation of hand washing behavior change programs (Water and Sanitation Program (WSP), 2010). By identifying specific factors that may constrain, or promote, behavior change we are able to better understand not only whether or not a sanitation behavior is being adopted, but beyond that why or why not it is adopted (WSP, 2010). The FOAM Framework will be discussed more in the discussion of the methodologies utilized during the field practicum.

**Figure 2: The FOAM Framework**



Within the C/C Framework is a feedback loop that circles from the results of the activities (the sanitation behavior change), back to the institution, to the planning and implementation of programs, and then again back into the program activities. This feedback loop is representative of the cycle of M&E. M&E findings that are produced from program activities feedback are analyzed so that the findings of the program results can be internalized

within the institution, and then utilized to create programs that will be more successful and suitable for the context. The power and value of M&E is that results promote internal learning in an institution, and this information is invaluable in the subsequent program planning stage. This practicum was attempting to create this feedback loop within WiLi so that knowledge could be utilized in the future to ensure that WiLi's activities best serve community members.

The institution has been broken down into three combining parts: the culture, the people, and the programs. It is vitally important that if M&E is to be successful, it must be internalized within each part of the institution. The culture of the institution is composed of the vision and objectives, and the values and practices of the institution. These are the sometimes established and documented characteristics of the institution as a mechanism for change, but this also is expressed in intangible ways as well. In order for M&E to be valued and internalized by the institution, M&E must be integrated into the institution's culture. The people of the institution are the staff, and it is important that all the way from the director to the field staff people understand and buy in to the importance of M&E. Through M&E training, and also the influence of the culture of the institution, it is vitally important to foster buy in with everyone involved with the institution. There can be many barriers to this that must be overcome. And then finally, it is important to internalize M&E within program planning and implementation. Monitoring should be a constant process that is imbedded in program implementation, and results from M&E should always be incorporated into planning.

Finally, at the top of the C/C Framework are the layers of consideration for the field practicum, the objectives of the practicum, and the analysis. It is important to view the M&E

process at the different levels of the institution, group, and behaviors. There are interconnections between these three layers which affect the effectiveness of program activities, the functioning of SLGs, and ultimately the behaviors and livelihoods of individuals.

### **Challenges and Objectives**

The field practicum design was directly guided by challenges in the field that were identified by WiLi. This communication ensured that the evaluation would provide valuable information to WiLi and contribute to the discourse on SLGs and personal sanitation behavior change. Through pre-planning with WiLi staff major challenges in the field were identified, as well as objectives that could remove those challenges and provide pathways forward. In this way the field practicum can contribute in practical ways to the development process in Ethiopia.

One current major challenge is the lack of knowledge about the functioning of SLGs, and their effect on sanitation behavior change. Despite the self help group model being a prevalent model in Ethiopia there is a lack of consensus on the essential elements of these groups and what characteristics best promote group and individual success. Because WiLi establishes SLGs through local partner organizations there has been shown to be some inconsistency in the groups in regards to the way they are organized, their activities, and the regulations that govern the groups. Also, WiLi has hypothesized that SLGs will be effective in creating sanitation behavior change in the lives of the individual members. However, so far WiLi has not taken any steps to determine or formally measure whether this is happening or not.

In response to this challenge, the practicum targeted two different objectives.

*Objective 1: Assess the functioning and operation of SLGs to determine essential characteristics for effectiveness*

This objective examines the group layer of consideration and raises numerous questions including: What are the essential shared components of SLGs operationally and organizationally? Why is the SLG model powerful and effective? What are the benefits of membership to SLG members?

*Objective 2: Determine the effect of SLGs on individual sanitation behaviors and underlying behavioral determinants*

This objective regards the behavior layer of consideration and also raises a set of questions including: What barriers prevent individuals from adopting sanitation behaviors? How do SLGs affect barriers to sanitation behavior change? Have SLGs caused sanitation behavior change in the lives of individual members?

Another major challenge that was identified by WiLi is that they currently do not have an established and consistent monitoring and evaluation system for SLGs. WiLi regularly conducts baseline surveys before the implementation of their drilling projects, and they also conduct monitoring within these but because the formation of SLGs is a new program area for WiLi they have not yet established a monitoring system. This is one reason why WiLi currently lacks information about their SLGs, because they have not been monitoring their progress. The absence of a monitoring system for the SLGs is a need that WiLi self-identified and desired to address. This challenge led to the third objective of the practicum:

*Objective 3: Conduct an evaluation that can be utilized by WiLi and used to establish a practical monitoring system*

This objective examines the institution layer of consideration and also raises numerous questions including: Can the evaluation conducted during the practicum be duplicated by WiLi? Can the survey designed be used as a pre- and post- survey for SLG members? What are the barriers within WiLi to establishing a monitoring system? How can M&E be institutionalized?

The activities conducted during the field practicum directly correspond to addressing these three main objectives, and looking within the different layers of consideration. As a part of the evaluation both focus groups and surveys were conducted, and a detailed discussion of these activities is to follow.

## **Evaluation Methodology**

### **FOAM Framework**

The FOAM Framework is an extremely helpful tool in the framing of sanitation and hygiene projects because it deconstructs behavior change into specific barriers and promoters. By doing this practitioners can not only determine whether behaviors are present, but also examine one layer further to understand the reason(s) why a behavior is adopted or not. Individual decision-making can be affected by a plethora of different variables, whether internal or external, which can be related to socio-economic status, family dynamics, resource availability, and social norms among other things. The FOAM Framework is effective because it

groups these underlying behavioral determinants into logical categories so that programmatic actions can be appropriately focused.

The first determinant category in the FOAM Framework is Opportunity, which asks the question: Does the individual have the chance to perform a behavior? (Water and Sanitation Program (WSP), 2009). Opportunity determinants are often the most external behavioral determinants and can be completely out of the control of the individual. There are three opportunity determinants that are specific to handwashing: access/availability, product attributes, and social norms (WSP, 2010). Access/availability refers to access to soap and water for handwashing, which is especially relevant in a resource-poor setting (WSP, 2010). Social norms are the rules that govern how individuals in a group behave, and these can be implicit or explicit. Addressing the issue of access/availability or social norms would require very different interventions, so it is imperative that these determinants be defined and identified within a community.

The second behavioral determinant category in the FOAM Framework is Ability, which seeks to answer the question: Is the individual capable of performing the behavior? (WSP, 2009). This reflects the individual's actual, or perceived, capacity to perform a specific behavior. It is important to recognize here that the individual's perception of their capacity is equally as important as their actual capacity. There are two ability determinants specific to handwashing with soap which are knowledge and social support (WSP, 2010). Knowledge is acquired through learning and it is important to remember that this is a necessary determinant for behavior change, but it is not sufficient to ensure it. Social support is the physical and

emotional assistance given to an individual by those in their community such as family, neighbors, relatives, and peers, and often takes the form of practical advice giving, praising/encouraging, and physical assistance with tasks (WSP, 2010).

The last behavioral determinant category in the FOAM Framework is Motivation, which asks the question: Does the individual want to perform a behavior? (WSP, 2009). Motivation assesses whether a given behavior is in the individual's best self-interest (WSP, 2010). This is moderated by opportunity and ability, because even if the motivation is there without the other two determinants adopting a behavior still may not be possible. There are four motivation determinants that relate to handwashing with soap: attitudes and beliefs, expectations, threat, and intention (WSP, 2010). These determinants are related to an individual's perception. Attitudes and beliefs represent perceptions about the causes of events, expectations are the perceptions of the consequences of handwashing with soap, threat is the perceived risk or danger linked to handwashing with soap, and intention is an individual's perceived plan to enact handwashing with soap (WSP, 2010).

The FOAM Framework is a dynamic and practical tool that sheds light on the reasons why an individual washes their hands with soap or not. The FOAM Framework was utilized in the design of the evaluation as a guide for how to organize questions and concepts in the focus groups and surveys. By identifying specific barriers to behavior change in the determinant categories of opportunity, ability, and motivation, impact pathways are made clear, and future interventions can be focused on areas of particular need. It is hoped that the results found

here will be useful in the future design of more effective and targeted interventions for sanitation and hygiene behaviors.

## **Focus Groups**

### **Design**

In order to address Objective 1 and Objective 2, focus groups were conducted. The focus group discussion guide includes 13 questions, the first seven of which focus on the functioning and effectiveness of the SLG, which relates to Objective 1. The remaining six questions focus on the individual's personal sanitation behaviors and perceptions and social norms in the community, which relates to Objective 2 (See Annex A).

The focus group discussion guide was designed with the intention of collecting new information on the functioning and organization of the SLGs, which has not previously been documented. Also, it was hoped that the discussion on handwashing would generate a consensus on different behaviors and attitudes regarding handwashing in the community. This information, which would contribute to the evaluation, was also intended to be used in-country in the finalization of the questionnaire. The questions in the focus group discussion guide regarding handwashing were adapted from a study conducted by PSI in Ethiopia in 2010 regarding household water treatment (PSI, 2010).

### **Implementation**

Focus groups were conducted in Awassa in coordination with Kale Heywot Church, which is one of the local institutions which WiLi partners with to organize and establish SLGs.

Through coordination with Kale Heywot Church staff and SLG facilitators, four different focus group discussions were conducted with four different SLGs. Two of the groups are located in neighborhoods in the heart of the town of Awassa, while the other two groups are located in Dato, a district of Awassa that is more rural. These groups were randomly selected based on their schedule of availability, and members within each group were also randomly selected by the facilitator to participate in the focus groups. The focus groups ranged in size from nine to fifteen participants, and were almost exclusively comprised of women.

Due to the language barrier, all of the focus groups were conducted in Amharic by a translator. I worked extensively with the translator prior to the focus groups, reviewing the discussion guide and techniques for conducting focus group discussions. She provided invaluable information on the relevance of the topic to the audience, and also provided input on some rephrasing of the questions. The translator conducted all the focus groups, which were voice recorded, and I took observation notes during the discussion. We translated and transcribed the voice recording of the discussion on the day of, and the day following the focus groups. As a sign of appreciation, all SLGs were given 300 birr (approximately US\$16.50) to be contributed to their groups' savings.

## **Analysis**

A preliminary analysis was conducted in-country in order to prepare a cursory report to provide immediate feedback to Kale Heywot Church and the SLGs that participated (See Annex B). However, full analysis was not conducted until fall 2012. The 'cut and paste' method was used to analyze focus group data (Stewart & Shamdasani, 1990). A transcript of each of the

focus groups was printed out, and text from all of the transcripts was coded to the four relevant questions. This was done by reading through the transcript, and highlighting in different colors the parts of the discussion that related to each question, with the same color correlating to the same question in all of the transcripts. Then, key words, ideas, and themes were extracted from the highlighted text. The extracted findings were then organized into categories and themes, with the use of the FOAM Framework where applicable. Lastly, representative quotes were selected.

## **Surveys**

### **Design**

In order to address Objective 2 and Objective 3 surveys were administered. The sanitation behavior survey that was developed includes a total of 86 questions and includes demographic questions, questions regarding household water sources and use, handwashing behaviors, and also different determinants of handwashing behavior (See Annex C). The survey was adapted from a number of established questionnaires and surveys. Demographic questions were adapted from the Ethiopia Demographic Health Survey 2011, and the questions regarding household water sources and handwashing behaviors were adapted from PSI studies conducted in Angola in 2007 and Malawi in 2008 (PSI, 2007) (PSI, 2008). The section surrounding the FOAM Framework and the different determinants of handwashing behavior was adopted from a study conducted by the Water and Sanitation Program with results from Senegal and Peru (Water and Sanitation Program, 2012).

The survey was designed and coded before arrival in Ethiopia, and pre-tested and edited in country. The survey was pre-tested with the interpreter, a community member, and also an Ethiopian WiLi staff member. Edits were made to ensure that questions were feasible and culturally relevant. The survey was then professionally translated into Amharic.

## **Implementation**

A team of four experienced survey enumerators was hired to administer the surveys in Amharic in the communities. I conducted a day of training with one of the WiLi staff members who has extensive experience in conducting baseline surveys. During the training we familiarized the enumerators with the survey, presented an overview of surveying methods and techniques, established clear guidelines for the administration of the survey, and conducted pre-testing in a nearby community (See Annex D).

A total of 104 surveys were administered over the course of three days, including 56 SLG members and 48 non-members. SLG members were met through coordination with Kale Heywot Church, and non-members were randomly selected in the communities. The majority of participants were women; non-members were purposively selected to be mostly women to match the gender of the SLG members. Survey sampling was conducted in two different areas within Awassa, Community 1 being a more rural community, and Community 2 being more urban in the heart of the town of Awassa.

## **Analysis**

Survey analysis was conducted using STATA version 12 (StataCorp, 2011). Demographic characteristics were determined by calculating means and standard deviations, and also creating frequency tables. To calculate the levels of the behavioral determinants principal component analysis was utilized (Abdi & Williams, 2010). This method allows you to compile a single value that is representative of many contributing components. For example, for each question relating to social support the mean score was calculated. These questions were then weighted for their importance and combined into one value. This value was used to determine a threshold for a high and low score for social support. In this way high and low values were categorized for all of the behavioral determinants using principal component analysis. Principal component analysis was also utilized to calculate representative values for the three key sanitation behaviors that are analyzed. Univariate and bivariate comparisons with chi square tests have been utilized to compare demographic characteristics to behaviors, behaviors to behavioral determinants, and demographic characteristics to behavioral determinants.

### **Methodological Considerations**

It is important to consider the unavoidable barriers that were present during the implementation of these methodologies, which may have an impact on results drawn from this work. As an evaluation team, and particularly as a foreigner, there were immediate barriers between the local community and evaluators. At times there was a language barrier, the effect of the team's association with Water is Life International, and the sensitive nature of the questions that were being asked. It is impossible to know the implications of these barriers, however it is worthwhile to consider. Especially within a political climate that is distrusting and

wary towards outsiders, it is necessary to consider the effect that this distrust may have on people's transparency and the truthfulness of their answers.

## Results

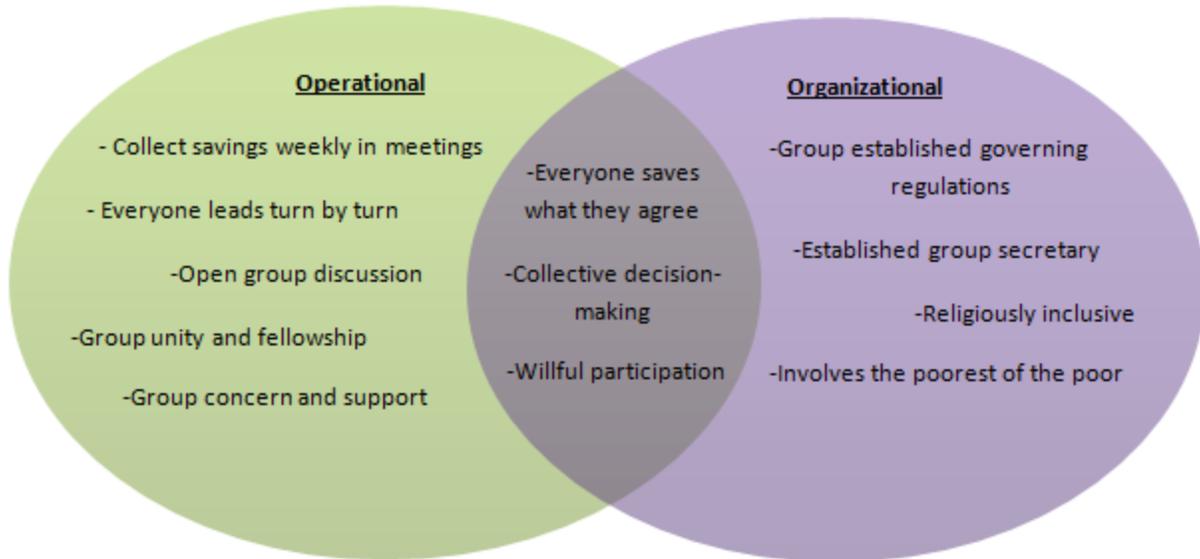
### Analytic Results

*Objective 1: Assess the functioning and operation of SLGs to determine essential characteristics for effectiveness*

Objective 1 examines the group layer of consideration for the evaluation conducted of the SLGs. In order to address this objective, quantitative data from the focus groups were analyzed. The SLGs that participated in the focus groups all displayed robust and engaged participants and appeared to be very successful both on the individual and community level. Across the four different focus groups themes have emerged through analyses that indicate the essential characteristics of SLGs and why this model is effective.

In Figure 3 below, the essential operational and organizational characteristics that emerged during the focus groups are summarized in a Venn diagram. Repeatedly these characteristics were mentioned by individuals in all of the focus groups. Some of these characteristics are clearly operational or organizational, but a few of them fall into both of these categories.

**Figure 3: Operational and Organizational Characteristics of Sustainable Livelihood Groups**



Some of these characteristics were mentioned more than others and some of them stood out as especially essential to the success of the SLGs. The operational characteristics about open group discussion, group unity and fellowship, and the group concern and support were especially passionate points made by individuals. The voluntary and participatory nature of SLGs is similar to iddirs and other traditional social groups, and this is one reason why SLGs are so successful. The organization of SLGs is similar to other traditional institutions, and therefore these groups are accepted and able to be more effective. The intangible aspects of the SLGs, such as group support and love, are also essential. One individual stated:

“But the most important thing for me is not saving the money, it is the group. I want the people, the fellowship, and to be with them. If some problem happens among us we discuss freely and talk freely, after that we solve the problem and go peacefully to our home.”

Organizationally within the groups individuals repeatedly came back to the idea of the importance of the group's governing regulations. These were rules that were established by the individuals within the SLG regarding savings, borrowing, and participation, and were consistently enforced in varying ways by the SLG members. These governing regulations manifested as an important mechanism for the women to avoid conflict with one another, and also as a consistent way to decide amounts of borrowing. It is a very important fact that in all of the SLGs women save the amount of money that they agree to, whether it is the same for everyone or established on an individual basis. These organizational structures contribute to the harmony and cohesiveness within the SLGs and allow the women to judiciously support one another. One individual stated:

“If we want to collect 50 birr we agree together by that idea because we have the regulations to do so in our groups. How can we help each other? According to that regulation it allows us to help each other.”

There appears to be numerous unique characteristics that have enabled the SLG model to be powerful and effective in the lives of women in Awassa. Because there are many other similar models to the SLG model that are also based on the self help group model, it is important to note these unique characteristics that may differ from other models. These characteristics, which participants in the focus groups repeatedly cited as important, include:

- SLGs and individual members are not given any starting capital
- Members have complete ownership over the group's regulations, positions, and decision-making
- Strong regulations and structure in place

- SLGs create access to credit that was previously unavailable
- A social structure for women to gather together
- Members love and care for each other
- Accountability between members for financial saving
- Open group discussion
- Women have roles, responsibilities, and a voice

As examples of the success of the SLG model many benefits of membership were cited by individual members. These benefits range in scale from the personal to the community level, and also from the tangible to the intangible. As we can see, these benefits relate to the different capitals from the Sustainable Livelihoods Framework. The benefits mentioned, which relate to different capitals, are categorized below in Table 1.

<b>Financial</b>	<b>Human</b>	<b>Social</b>
Paid for my child to go to school	Learned how to lead others	Time for discussion
Purchased livestock (cow, calf, sheep, chickens, goat)	Learned how to start a business	Understanding of the social life
Saved my money	Learned how to communicate with others	The “burden” is lifted
Started a business	Received trainings	Discuss problems and share solutions
Improved my house	Learned how to share my own ideas	Fellowship with other women
Traveled to visit my family	Learned how to save money	Experience tolerance, unity, peace, and love
Paid to finish my education and earn my diploma	Learned about health and cleanliness	Opens opportunities outside of homes
Installed a pipe tap in my compound		Help each other
Built a roadside shop		Share new information
Bought shoes and clothes for my family		
Bought medicine for my children		
Bought food and supplies to celebrate festivals		

The social capital that is formed within the SLGs is especially powerful and relevant for individual women. The love and support between members of the SLGs was continually what

individuals cited as the most important and life-changing aspects of participation in the group.

The following quotes illustrate how the social ties between SLG members are valued.

“When I face some problem, I don’t go to my neighbors or relatives to discuss with them, but I come to this group and I tell my problem...So it is very near for me, this group is very important and helpful for me.”

“As for me, I will pay whatever sacrifice for this group because it is a very strong group.”

“I love this group because of its love and unity. We have strong fellowship and when we face problems we visit each other, we discuss with each other. Unless we have love we cannot do that. The most important thing in our group is our strong love for each other.”

*Objective 2: Determine the effect of SLGs on individual sanitation behaviors and underlying behavioral determinants*

Objective 2 examines the individual layer of consideration for the evaluation. In order to address this objective, quantitative data from the focus groups and qualitative data from the surveys were analyzed. The data from the focus groups portray the perception of SLG members of common barriers to sanitation behavior change present in their community in Awassa.

Social norms and social support were barriers that consistently surfaced during focus group discussions. It is a common practice in Awassa to use ash to wash hands, rather than soap, or to simply use water. Not using soap when washing hands is a social norm that is widely accepted in Awassa. Also, it was stated that people do not commonly discuss with each

other the issue of handwashing with soap. There is a lack of discourse and social support on this issue. One individual, in recognition of the need for discussion and support, stated:

“If we are not talking with each other about the health issue, we cannot practice handwashing. The discussion is necessary, if one person has the knowledge they can tell to another person.”

Another barrier to sanitation behavior change that was identified within focus groups is threat. Many individuals within the community are reported to not make a connection between sanitation and health issues, and often do not view poor sanitation as a danger for themselves or their family. An illustrative example of this common perception is explained in this quote:

“There is a saying in our area, ‘Germs will not kill Abasha [Ethiopian person]’. Some people say that and that saying comes from the habit of not washing hands and not having cleanliness. That is a common idea here.”

Other barriers that were mentioned in the focus groups are access and availability (specifically that individuals lack the money to buy soap), knowledge (especially among more rural populations), and attitudes and beliefs that soap is not always necessary when handwashing.

Data from the survey analysis are very useful in addressing Objective 2. Data are used to analyze the levels of behavioral determinants present in the participatory population, draw out the relationship between different sub-groups of the population and the behavioral

determinants, and identify the relationship between the behavioral determinants and proxies for different sanitation behaviors. Table 2 below summarizes the characteristics of the participatory population.

	n=	Frequency	Percent
<b>Individual Characteristics</b>			
<b>Gender of the respondent</b>	105		
<b>Male</b>		10	9.5%
<b>Female</b>		95	90.5%
<b>SLG status</b>	105		
<b>Member</b>		56	53.3%
<b>Non-member</b>		49	46.7%
<b>Marital status</b>	105		
<b>Single</b>		19	18.1%
<b>Married/cohabitating</b>		72	68.6%
<b>Divorced/separated</b>		6	5.7%
<b>Widowed</b>		8	7.6%
<b>Education level</b>	105		
<b>Illiterate</b>		28	26.7%
<b>Read and write</b>		9	8.6%
<b>Grade 1-6</b>		20	19.1%
<b>Grade 7-8</b>		21	20.0%
<b>Grade 9-10</b>		17	16.2%
<b>Grade 11-12</b>		2	1.9%
<b>Above Grade 12</b>		8	7.6%
<b>WASH Behaviors</b>			
<b>Main source of drinking water</b>	105		
<b>House tap</b>		29	27.2%
<b>Public tap</b>		67	63.8%
<b>Shared tank</b>		5	4.8%
<b>Location of water source</b>	100		
<b>In own dwelling</b>		21	21.0%
<b>In own yard/plot</b>		16	16.0%
<b>Elsewhere</b>		63	63.0%

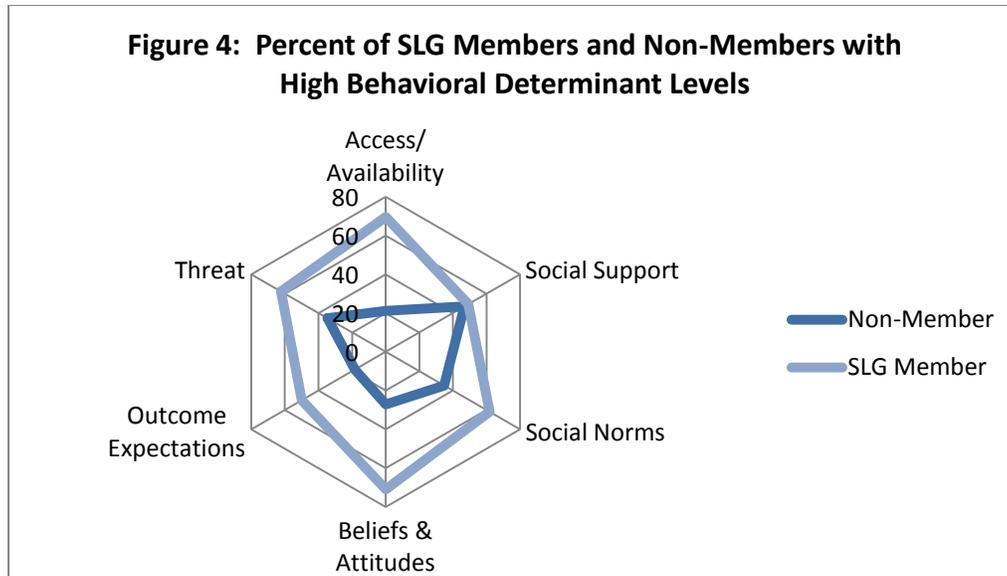
<b>Who fetches water in the household</b>	104		
Adult woman		62	59.6%
Adult man		2	1.9%
Female child		36	34.6%
Male child		3	2.9%
<b>Treats drinking water</b>	95	31	29.8%
<b>Drinking water treatment method</b>	40		
Chemicals in tank		3	7.5%
Chemicals in household container		1	2.5%
Filters		5	12.5%
Stand and settle		26	65.0%
<b>Has handwashing station in home</b>	105	32	30.5%
<b>Type of toilet facility</b>	105		
Flush toilet		7	6.7%
VIP latrine		4	3.8%
Pit latrine with covering		40	38.1%
Pit latrine without covering		53	50.5%
No facility/bush/field		1	1.0%
<b>Shares toilet facility with other households</b>	105	84	80.0%
<b>Number of households that share toilet facility</b>	92		
2 to 4 households		23	25.0%
5 to 7 households		30	32.6%
More than 7 households		39	42.4%

The first important relationship that can be analyzed is between different sub-groups of the participatory population and the high and low levels of the behavioral determinants. By doing this we can see whether certain groups of the population with similar characteristics, such as level of education, are associated with high or low levels of the behavioral determinants. A high level of the behavioral determinants would imply a more positive situation for the individual and has proven to be correlated with proper sanitation behaviors. Table 3 below shows the percent of different sub-groups of the population that presented with

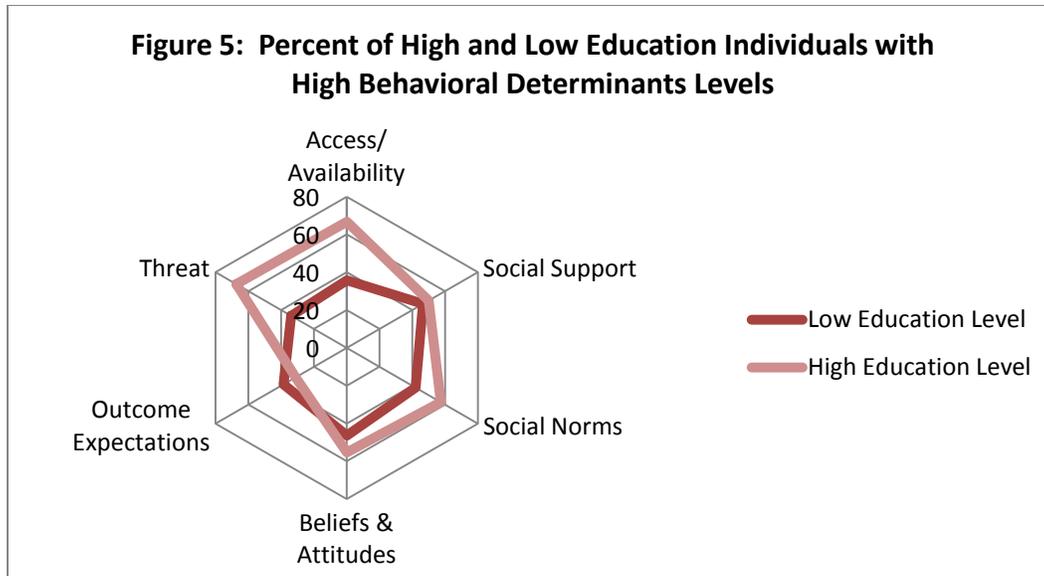
high levels of each of the six behavioral determinants. Also, Annex E is a table of the average scores for each underlying behavioral determinant which was used to calculate the low and high levels.

	Percent (%) High					
	Access/Availability	Social Support	Social Norms	Beliefs & Attitudes	Outcome Expectations	Threat
<b>SLG Member</b>						
<b>No</b>	21.1*	46.9	34.7*	27.1*	18.4*	34.7*
<b>Yes</b>	69.6*	49.1	61.8*	70.9*	50.0*	62.3*
<b>Education</b>						
<b>Low</b>	35.7*	46.4	42.1	46.4	38.6	33.9
<b>High</b>	66.7*	50.0	57.5	55.3	31.3	67.4
<b>Age</b>						
<b>Young</b>	58.3	58.3	55.3	45.7	35.4	56.5
<b>Old</b>	41.3	41.3	51.1	53.2	40.4	43.5
<b>Community</b>						
<b>1</b>	36.4*	43.6	47.3	36.4*	33.9	43.6
<b>2</b>	65.3*	53.1	51.0	66.7*	36.7	55.3
<b>Statistically significant variables (p&lt;0.05) are marked with an asterisk (*)</b>						

SLG members differed from non-members in several key determinants. They have higher levels of access and availability, social norms, and beliefs and attitudes. Figure 4 below more clearly displays these relationships.

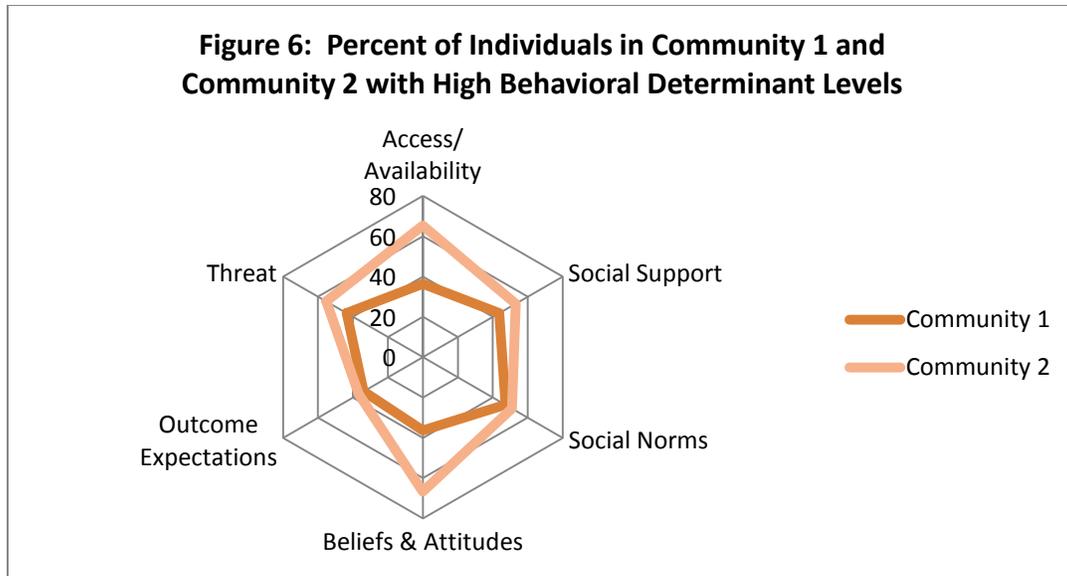


SLG members are significantly more likely than non-members to have high levels of certain behavioral determinants. High levels of behavioral determinants indicate that an individual will be more likely to have proper sanitation behaviors. As we can see from the data, SLG members' levels of access and availability, threat, outcome expectations, beliefs and attitudes, and social norms are all significantly much higher than levels of non-members. The only determinant where there is not a significant difference is social support. This result is surprising as it seems that SLGs are a social mechanism that should affect social support. This may suggest that levels of social support within the population are either too high or too low to differentiate between members and non-members. It may also be that when it comes to the role of SLGs and sanitation behaviors, the functional activities of sharing knowledge and changing norms is more relevant. Overall, the data display a significant trend that membership in a SLG promotes determinants of sanitation behavior change.



Individuals with a higher level of education are more likely to have high levels of access and availability, social norms, beliefs and attitudes, and threat. As seen in Figure 5 above, the only statistically significant relationship here is that individuals with a higher level of education are more likely to have high levels of access and availability. High levels of access and availability mean that an individual has relatively easy access to soap, clean water, and a place to wash hands within their household. The data does show that individuals with a higher level of education actually have lower levels of outcome expectations. This however is not a surprising relationship. Outcome expectations often capture an element of optimism, and it is not surprising that individuals with a higher level of education would display a lower level of optimism (Miguel & Kremer, 2003). The overall trend here, that individuals with a higher level of education also have higher levels of behavioral determinants, is not surprising and is consistent with other studies.

The last specific relationship is the different levels of behavioral determinants between individuals in Community 1 and Community 2.



The trend in Figure 6 shows that individuals in Community 2 are more likely than individuals in Community 1 to have high levels of behavioral determinants. It is interesting to note that based on the survey sampling individuals in a more rural community have consistently lower levels of behavioral determinants than individuals in a more urban community. This bivariate analysis does not account for correlation among individual characteristics, so it may be that Community 2 is relatively more educated or less poor than Community 1, which could then drive the associations.

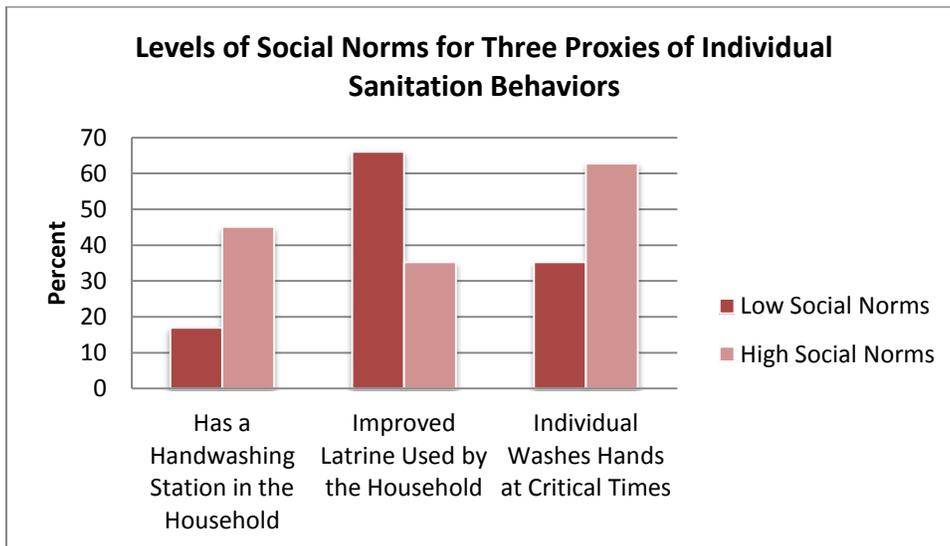
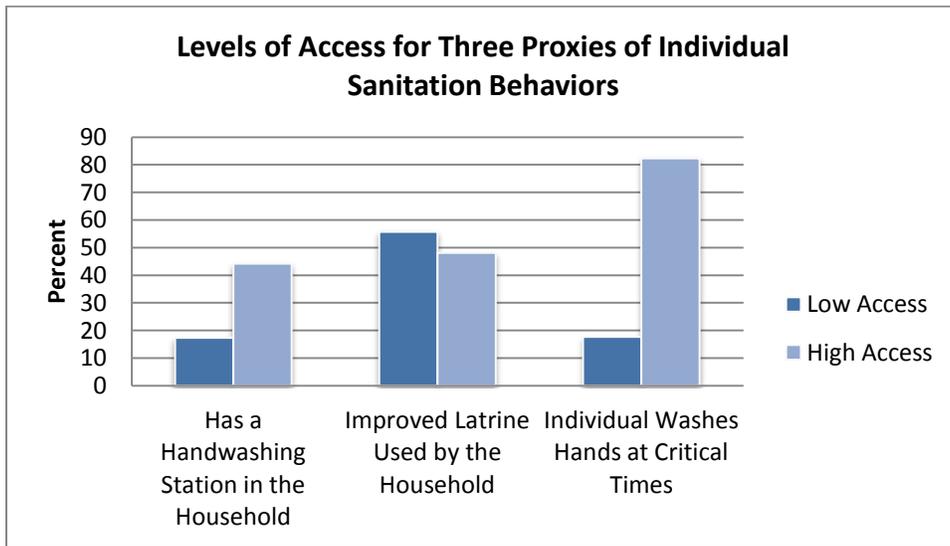
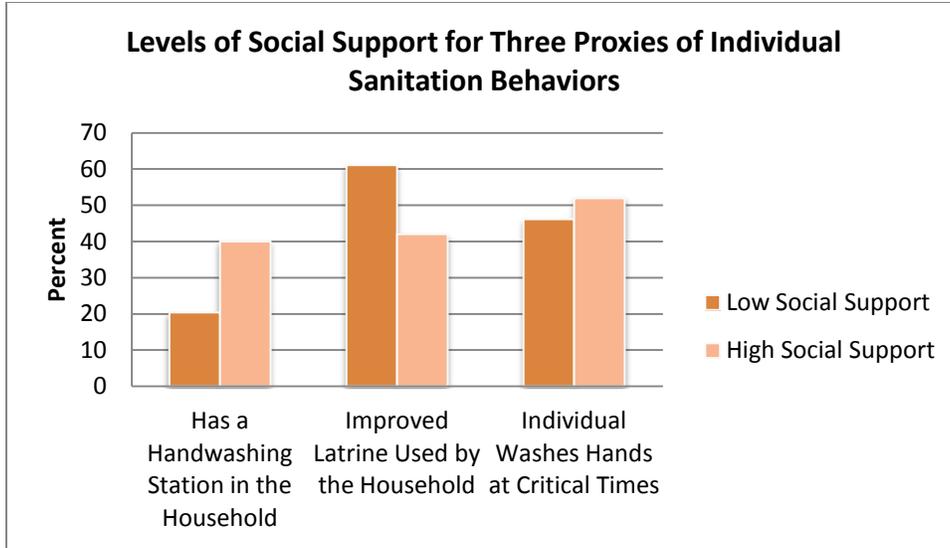
The second main use of the survey data was to assess the association between high levels of behavioral determinants and targeted sanitation behaviors. This was done by comparing the frequency of three sanitation behaviors among individuals with high and low levels of the behavioral determinants. Table 4 shows these results.

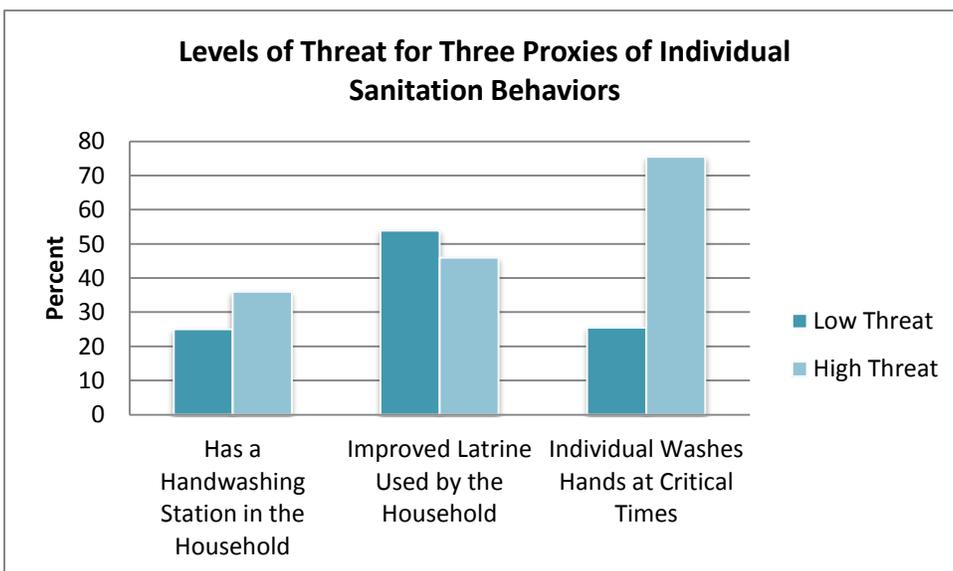
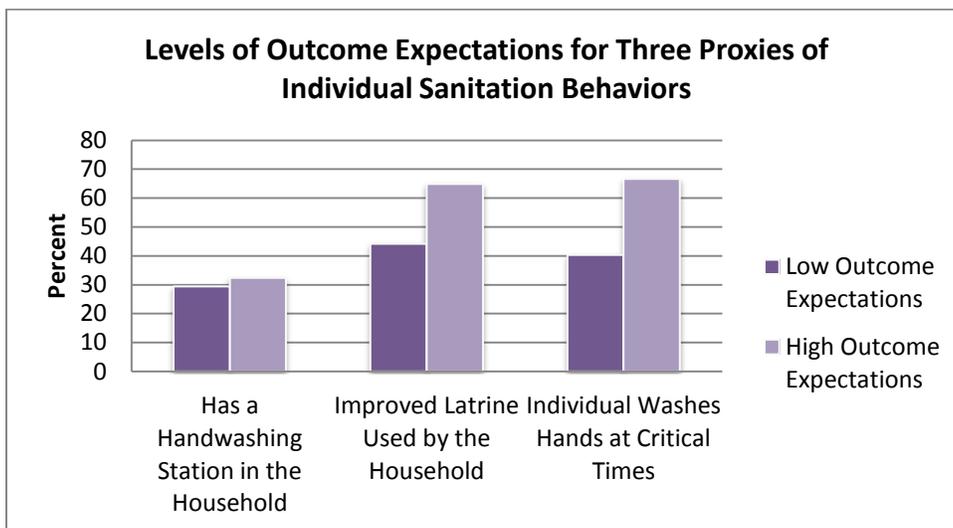
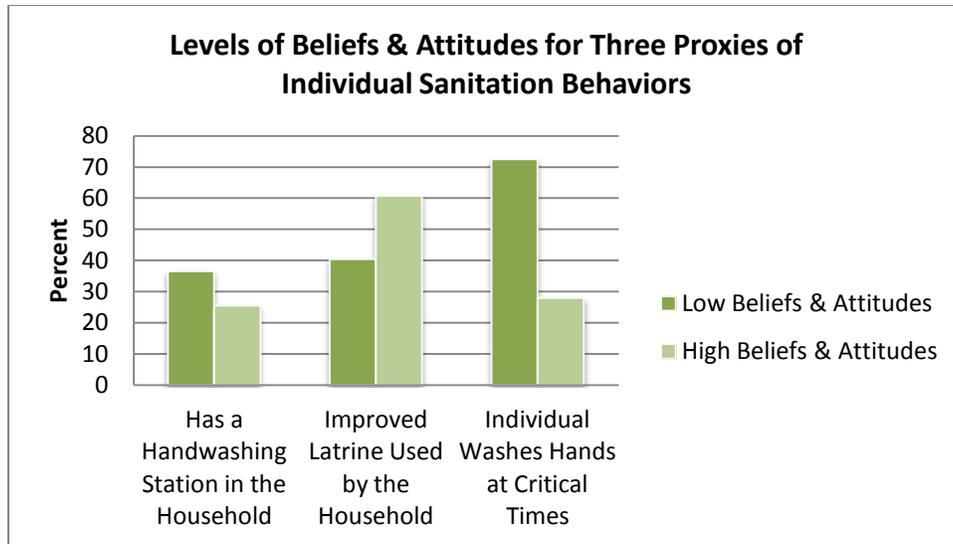
<b>Table 4: Comparison of Behavioral Determinant Levels with Sanitation Behaviors</b>	
	Percent (%) with behavior

	Has a Handwashing Station in the Household	Improved Latrine Used by the Household	Individual Washes Hands at Critical Times
<b>Social Support</b>			
Low	20.4*	61.1	46.2
High	40.0*	42.0	52.0
<b>Access</b>			
Low	17.3*	55.8	17.7*
High	44.2*	48.1	82.4*
<b>Social Norms</b>			
Low	17.0*	66.0*	35.3*
High	45.1*	35.3*	62.8*
<b>Beliefs</b>			
Low	36.5	40.4*	72.6*
High	25.5	60.8*	28.0*
<b>Outcome Expectations</b>			
Low	29.4	44.1*	40.3*
High	32.4	64.9*	66.7*
<b>Threat</b>			
Low	25.0	53.9	25.5*
High	36.0	46.0	75.5*
<b>Statistically significant variables (<math>p &lt; 0.05</math>) are marked with an asterisk (*)</b>			

In Figure 7 below, each of these relationships is illustrated in a bar graph.

**Figure 7: Graphical Representations of Different Behavioral Determinant Levels to Sanitation Behaviors**





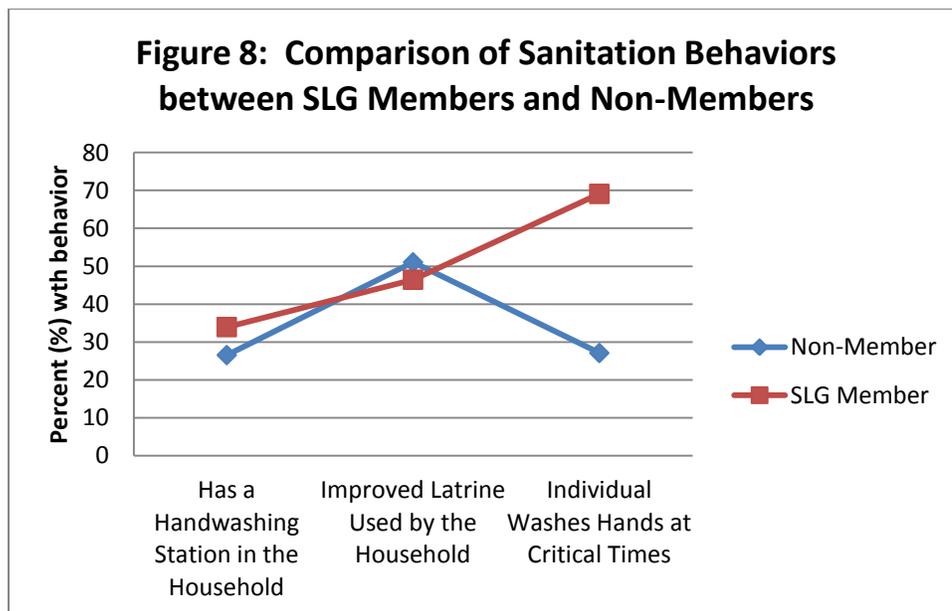
The relationships among the behavioral determinants and the sanitation behaviors vary in direction and significance. For outcome expectations, there is a statistically significant trend expressed in all of the sanitation behaviors that high levels of outcome expectations promote sanitation behaviors. For most of the relationships between the behavioral determinants and the presence of a handwashing station in the household and that the individual washes hands at critical times, there is a positive correlation. This trend shows that these two behaviors can be predicted by the behavioral determinants. However, for the sanitation behavior proxy of an improved latrine being used by the household, this relationship is often reversed. It is important to consider how different of a behavior this is. Making the change of having a handwashing station in the household or washing hands at critical times does not require much money, physical resources, or investment. However, to change the type of latrine used by a household could require extensive resources and time. This is one factor that could contribute to the fact that the behavioral determinants do not correlate as well with the proxy for improved latrine use.

The last important relationship that can be analyzed from the survey data is between the population sub-groups and the proxies for specific sanitation behaviors. These relationships are illustrated in Table 5 below.

	Percent (%) with the Behavior		
	Has a Handwashing Station in the Household	Improved Latrine Used by the Household	Individual Washes Hands at Critical Times
<b>SLG Member</b>			
<b>Non-Member</b>	26.5	51.0	27.1*
<b>Member</b>	33.9	46.4	69.1*

<b>Education</b>			
Low	24.6	46.5	37.5*
High	37.5	52.1	63.8*
<b>Age</b>			
Young	25.0	37.5	50.0
Old	31.9	55.3	52.2
<b>Community</b>			
1	23.2	39.3	35.2*
2	38.8	59.2	65.3*
<b>Statistically significant variables (<math>p &lt; 0.05</math>) are marked with an asterisk (*)</b>			

Data shows that SLG members are significantly more likely than non-members to wash their hands at critical times. Also, individuals with higher levels of education and individuals living in more urban areas are more likely to wash their hands at critical times as well. It seems that the proxy used in the survey for hand washing at critical times best captured the relationship between population sub-groups and sanitation behaviors.



Despite somewhat higher determinants, SLG members are only slightly more likely to have a handwashing station in their household and no more likely to have an improved latrine in their household. Both of these sanitation behaviors take more pre-thought and pre-planning to implement, as opposed to handwashing at critical times, so that could be one reason these two behaviors are not as prevalent as handwashing. Also, it seems that handwashing with soap at critical times is something that is discussed in SLGs and is a common topic in the public health dialogue in the area. There is not as much information and discussion about handwashing stations or improved latrines, so this could be acting as a barrier and explain the discrepancies in results with those two sanitation behaviors.

### **Process Results**

*Objective 3: Conduct an evaluation that can be utilized by Water is Life International and used to establish a practical monitoring system*

The results for this objective come from the experience during the field practicum of applying the FOAM Framework, conducting an evaluation, and attempting to establish a monitoring system of SLGs for WiLi. During the field practicum the FOAM Framework was successfully applied as a guiding structure for the evaluation materials and analysis. The FOAM Framework directed the design of the survey questions and the focus group discussion guide, and also the comparisons and calculations done during analysis. The use of this framework provided a logical flow to the practicum and analysis, and also was a practical theoretical foundation upon which to draw conclusions.

Through the activities that were conducted and the analysis explained here a successful evaluation of the structure and functioning of the SLGs was implemented, and the effect that

they are having on individual women's sanitation behaviors was examined. This is a positive result that has potential to be incorporated in the future by WiLi as they establish an M&E system. The challenge that was faced with the field practicum, which is faced by so many development organizations, is that of systematizing the evaluation that was conducted. In order for this evaluation to be duplicated by WiLi there has to be an internal force that prioritizes M&E and is proactive about utilizing the M&E system that has been piloted. Since leaving the field there has been ongoing communication with WiLi in regards to evaluation results and possible future projects for SLGs.

## **Conclusions and Recommendations**

### **Behavioral**

Numerous conclusions can be drawn at the behavioral level in regards to sanitation behavior change. Based on the data, social support is at a relatively low level for the majority of the participatory population in Awassa, regardless of SLG member status, education, or any other factor. This indicates that social support is currently one of the greatest barriers to sanitation behavior change in the lives of individuals in Awassa. The survey questions that pertained to social support asked whether the individual had been advised or taught by neighbors or anyone else to wash their hands with soap. We can conclude from this that the lack of social support in regards to sanitation is due to the fact that sanitation is currently not a topic that community members discuss or advise each other on. Social support will need to be targeted specifically in order to eliminate this barrier to sanitation behavior change.

Results show that certain sub-groups of the population are more likely than others to have high levels of the behavioral determinants. SLG members, more educated individuals, and individuals living in more urban areas are all significantly more likely to have high levels of the behavioral determinants. Due to the design of the evaluation causation cannot be determined and it cannot be tested whether behavioral differences are attributable to SLG membership or educational level. However, there is a definite association between sub-groups of the population and high levels of behavioral determinants and these linkages are valuable indicators of the pathway of progress for sanitation behaviors.

The same relationships that are displayed between population sub-groups and behavioral determinants are evident in the link between population sub-groups and behaviors. SLG members, more educated individuals, and individuals living in more urban areas are all significantly more likely than other individuals to wash their hands at critical times. This finding supports the validity of the FOAM Framework, and of these behavioral determinants being accurate indicators of sanitation behaviors. We can conclude from this that targeting these underlying behavioral determinants for sanitation behaviors may be an effective way of changing personal sanitation behaviors.

Based on these conclusions, I would make the following recommendations in order to be the most effective in promoting improved sanitation behaviors in the community:

- Target improvement in social support in the community by increasing the dialogue on sanitation and hygiene issues, particularly through peer relationships

- Focus on providing more sanitation information and education to older members of the community, and also individuals who live in rural areas
- Provide educational materials and training on water treatment methods (the most common method currently used is to allow the water to stand and settle)
- Target access and availability issues, particularly in regards to access to soap and the knowledge and materials necessary to have a handwashing station and improved latrine

### **Sustainable Livelihood Groups**

SLG members are significantly more likely than non-members to have high levels of sanitation behavior determinants. From this we know that SLGs promote individual levels of access/availability, social norms, beliefs and attitudes, outcome expectations, and threat. SLGs do this by providing a unique combination of services including sanitation education and training which can affect knowledge, beliefs and attitudes, and outcome expectations, group fellowship which can affect social norms and social support, and access to loans which can affect access and availability.

Discussions during focus groups revealed many benefits of SLG membership to the women involved. Beyond the realm of sanitation issues, SLGs provide benefits to members that affect their social lives and relationships, their family financial situation, and numerous other areas. As a structure, SLGs provide numerous development benefits in the lives of individuals, and also in the surrounding community. From this know that SLGs could potentially have a positive effect overall within the community.

From survey analysis we know that SLG members are significantly more likely to wash their hands at critical times, and we know that SLGs overall are associated with higher levels of determinants of sanitation behavior change. SLGs do not seem to have a consistent effect on the likelihood of people have handwashing stations in their household, or for having an improved latrine within the household. Despite the fact that SLGs provide an opportunity for individuals to save money and to therefore have more financial ability, this does not translate to an increase in handwashing stations or improved latrines. SLGs do not currently remove the barrier of access and availability and financial cost, and this presents an opportunity where SLGs could be leveraged this way in the future.

The data show that there is a correlation between SLGs and handwashing behaviors and also higher levels of sanitation behavioral determinants, however further evaluation would have to be conducted to draw concrete conclusions of causation. From focus group discussion data we can see that SLGs promote communication between individuals, which leads to a transfer in knowledge and evolving social norms. It is hoped that the presence of SLGs in the community has a positive effect not only on the lives of the women involved, but also their families, neighbors, and surrounding communities, and this evaluation is the first step in verifying this. More specifically to this practicum, results show that SLGs are a potentially promising avenue for intervention for individual sanitation behavior change, and certainly worthy of further evaluation.

Based on these conclusions, my recommendations in regards to SLGs are:

- Continue monitoring the SLGs so that more conclusions can be drawn and causation determined
- Due to the strong social nature of SLGs, leverage SLGs to target social support issues within the community and use them as a setting for dialogue about sanitation issues
- Utilize SLG saving mechanisms to support community built latrine projects and the construction of handwashing stations
- Continue to use SLGs as an avenue to educate and encourage the community about sanitation behaviors

### **Institutional**

From the experience of the field practicum we can conclude that the application of the FOAM Framework as a structure for the evaluation was very useful. The FOAM Framework gave structure and consistency to the evaluation activities and methodologies. Also, analyzing behavioral determinants of sanitation behaviors is useful because it lends another layer of understanding to the development practitioner. By examining different behavioral determinants not only was the presence of behaviors determined, but also why they were present or not. This further layer of understanding is extremely valuable and much more useful in the process of planning for further interventions and is one of the major advantages of using the FOAM Framework.

The question of whether this application and evaluation is practical is also very important when considering future M&E that WiLi may undertake for SLGs. The results from

this evaluation have been positive in that an accurate body of knowledge has been generated on a topic that was before not completely understood (that is the effect of SLGs on individual sanitation behaviors). In this way we can conclude that this evaluation has been useful not only for WiLi, but also for the knowledge and practices of the greater development field. It is certainly worthwhile for WiLi to continue monitoring SLGs to see the continued effect they have and also to know when new opportunities for program planning or intervention arise. However, the exact methodologies used here may not be the most practical for WiLi to continue using in the future.

This evaluation has set forth a useful framework and methodologies that should be utilized by WiLi in the future, but the process can perhaps be simplified in order to maximize efficiency. The survey used here was long in length, and it may be that a shortened survey, focusing on the FOAM Framework and household sanitation behaviors, may be more practical for repeated use. The combination of utilizing focus group discussions and surveys proved to be quite beneficial during the evaluation as both methods lend a different data perspective. These technical considerations are overshadowed by the continuing need of WiLi to establish a consistent monitoring plan of the SLGs. Based on the usefulness and practicality of this evaluation, it can be concluded that some modification of this evaluation would be useful to WiLi in the future and should be internalized within the institution.

Based on these conclusions, my recommendations in regards to the institution and internalizing M&E within WiLi are:

- Continue using the FOAM Framework as a guiding structure in M&E of the SLGs

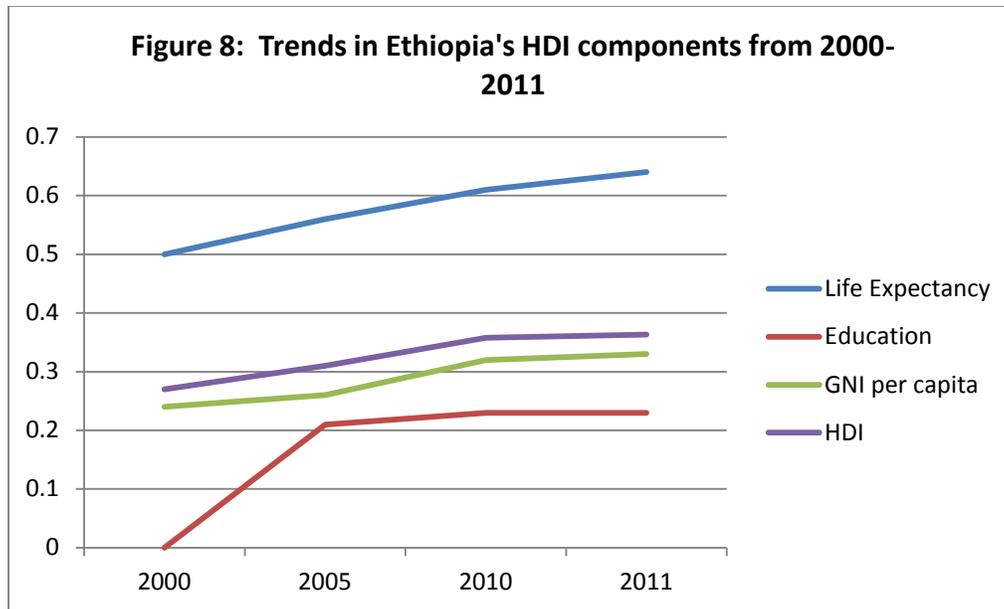
- Continue to track changes in the sanitation behavioral determinants and behaviors, so that stronger conclusions can be drawn over time
- Utilize this evaluation, with some modification for brevity and usability, within WiLi to perform systematic monitoring of SLGs, including pre- and post- surveys
- Provide M&E training to WiLi staff members to ensure a consistent M&E plan

### **Looking Forward**

Ethiopia is a beautiful country with a rich cultural heritage and what I believe is a promising future. In conversations in villages in the south and on the streets of Awassa, underlying the harsh realities of everyday life there is an undeniable spirit of pride and determination that carries on. This spirit is the intangible driving force that will compel Ethiopia's development onward. Though Ethiopia is still a developing country, advancements can be seen not only in the water and sanitation sector but also in many other human development sectors.

The Human Development Index (HDI) is a composite measure used widely by development practitioners to assess long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living (United Nations Development Programme (UNDP), 2011). For 2011 Ethiopia's HDI value was 0.363, ranking Ethiopia 174 out of 187 countries (UNDP, 2011). Despite Ethiopia being in the low human development category, we can see that over the years Ethiopia has made strides forward for human development. There has been a 32% increase in Ethiopia's HDI value since 2000 when the country's HDI was 0.274 (UNDP, 2011). Ethiopia has made major improvements

in all aspects of human development, which is displayed in the data in Figure 8 below (UNDP 2011).



Ethiopia has been steadily improving in all aspects of human development, and these trends are likely to continue into the future. The water and sanitation lessons and advancements that are presented here fit into this overarching trajectory of development for Ethiopia. As more individuals gain access to clean water, and gain the tools necessary to give their family good health through proper sanitation, so do others gain a longer life, more economic freedom, and the opportunity for their children to attend school. As development practitioners we strive to not only be a part of this life changing improvement in Ethiopia, but also to contribute to the holistic growth and learning of the development process.

## References

- Aalen, L. & Tronvoll, K. (2009). The end of democracy? Curtailing political and civil rights in Ethiopia. *Review of African Political Economy*, 36 (120), 193-207.
- Abdi, H. & Williams, L. J. (2010). Principal component analysis. *Wiley Interdisciplinary Reviews: Computational Statistics*, 2(4), 433-459.
- African Ministers Council on Water. (2010). *Water supply and sanitation in Ethiopia: Turning finance into services for 2015 and beyond*. Retrieved from <http://www.wsp.org/wsp/sites/wsp.org/files/publications/CSO-Ethiopia.pdf>
- Department of Immigration and Multicultural Affairs. (2006). *Ethiopian community profile*. Commonwealth of Australia. Retrieved from [http://www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/\\_pdf/community-profile-ethiopia.pdf](http://www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/_pdf/community-profile-ethiopia.pdf)
- Kanani, R. (2012, September 18<sup>th</sup>). Water for people ceo: We need to focus on outcomes, not inputs. *Forbes*. Retrieved from <http://www.forbes.com/sites/rahimkanani/2012/09/18/water-for-people-ceo-we-need-to-focus-on-outcomes-not-inputs/>
- Kollmair, M., St. Gamper. (2002). *The sustainable livelihoods approach*. Development Study Group, University of Zurich. Aeschiried, Switzerland.

Michon, H. (2008). Ethiopia. In Y. Zhang (Ed.), *Encyclopedia of global health*. (pp. 628-629).

Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412963855.n429

Miguel, E., & Kremer, M. (2003). *Networks, social learning, and technology adoption: The case of deworming drugs in kenya*. Center for Labor Economics, University of California, Berkeley.

Newman, J., Velasco, M. A., Martin, L., Fantini, A. M. (2003). *A system dynamics approach to monitoring and evaluation at the country level: An application to the evaluation of malaria-control programs in Bolivia*. The World Bank. Retrieved from <http://csdnet.dyson.cornell.edu/papers/newman.pdf>

PSI. (2007). *Angola maternal and child health trac study evaluating water treatment and hygiene for the prevention of diarrhea and cholera among caregivers of children under five in Luanda Province*. Retrieved from [http://www.psi.org/sites/default/files/publication\\_files/712-angola\\_mch.pdf](http://www.psi.org/sites/default/files/publication_files/712-angola_mch.pdf)

PSI. (2008). *Malawi maternal and child health trac study evaluating oral rehydration salts (ors) and hygiene for the prevention of diarrhea and cholera among caregivers of Children under five*. Retrieved from [http://www.psi.org/sites/default/files/publication\\_files/830-](http://www.psi.org/sites/default/files/publication_files/830-)

malawi\_trac\_mch\_ors\_smrs.pdf

PSI. (2010). *Qualitative research on household water treatment “whuaagar tellel”*. Retrieved from [http://www.psi.org/sites/default/files/publication\\_files/Study%20Design%20-%20Ethiopia,%20Safe%20Water.pdf](http://www.psi.org/sites/default/files/publication_files/Study%20Design%20-%20Ethiopia,%20Safe%20Water.pdf)

Purdy, E. (2007). Ethiopia. In P. Robbins (Ed.), *Encyclopedia of environment and society*. (pp. 613-615). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412953924.n378

StataCorp. 2011. *Stata Statistical Software: Release 12*. College Station, TX: StataCorp LP.

Stem, C., Margoluis, R., Salafsky, N., Brown, M. (2003). *A review of monitoring and evaluation approaches and lessons learned in conservation*. Wildlife Conservation Society. Retrieved from <http://portals.wi.wur.nl/files/docs/ppme/FOSWPCsubmission.pdf>

Stewart, D. W., & Shamdasani, P. N. (1990). *Focus groups: Theory and practice*. Washington, DC: Sage Publications, Inc.

Teshome, E., Zenebe, M., Metaferia, H., Biadgilign, S. (2012). The role of self-help voluntary associations for women empowerment and social capital: The experience of women’s iddirs (burial societies) in Ethiopia. *Community Health, 37*, 706-714. doi: 10.1007/s10900-011-9503-2

The World Bank. (2004). *Monitoring & evaluation: Some tools, methods & approaches*.

Retrieved from [http://siteresources.worldbank.org/EXTEVACAPDEV/Resources/4585672-1251481378590/MandE\\_tools\\_methods\\_approaches.pdf](http://siteresources.worldbank.org/EXTEVACAPDEV/Resources/4585672-1251481378590/MandE_tools_methods_approaches.pdf)

The World Bank Group. (2012a). *Country partnership strategy for the democratic republic of*

*Ethiopia*. Ethiopia Country Management Unit. Retrieved from

[http://siteresources.worldbank.org/INTAFRICA/Resources/257994-1337109990438/Ethiopia\\_CPS\\_SECPO\\_31Aug2012\\_CLEAN.pdf](http://siteresources.worldbank.org/INTAFRICA/Resources/257994-1337109990438/Ethiopia_CPS_SECPO_31Aug2012_CLEAN.pdf)

The World Bank Group. (2012b). *Ethiopia overview*. Retrieved from

<http://www.worldbank.org/en/country/ethiopia/overview>

Tolosa, B. (2007). *Assessing the socio-economic impact of self help groups: A case to Ethiopian*

*kale heywet church*. Addis Ababa University. Retrieved from

<http://etd.aau.edu.et/dspace/bitstream/123456789/1960/1/Bezabih%20Tolosa.pdf>

Unicef and World Health Organization. (2012a). *Estimates for the use of improved drinking-*

*water sources*. Joint Monitoring Program. Retrieved from <http://www.wssinfo.org/>

[documents-links/documents/?tx\\_displaycontroller\[category\]=&tx\\_displaycontroller](http://www.wssinfo.org/documents-links/documents/?tx_displaycontroller[category]=&tx_displaycontroller)

[\[year\]=&tx\\_displaycontroller\[region\]=&tx\\_displaycontroller\[search\\_word\]=ethiopia&tx\\_](http://www.wssinfo.org/documents-links/documents/?tx_displaycontroller[category]=&tx_displaycontroller)

[displaycontroller\[type\]=country\\_files](http://www.wssinfo.org/documents-links/documents/?tx_displaycontroller[category]=&tx_displaycontroller)

Unicef and World Health Organization. (2012b). *Estimates for the use of improved sanitation facilities*. Joint Monitoring Program. Retrieved from [http://www.wssinfo.org/documents-links/documents/?tx\\_displaycontroller\[category\]=&tx\\_displaycontroller\[year\]=&tx\\_displaycontroller\[region\]=&tx\\_displaycontroller\[search\\_word\]=ethiopia&tx\\_displaycontroller\[type\]=country\\_files](http://www.wssinfo.org/documents-links/documents/?tx_displaycontroller[category]=&tx_displaycontroller[year]=&tx_displaycontroller[region]=&tx_displaycontroller[search_word]=ethiopia&tx_displaycontroller[type]=country_files)

United Nations Development Programme. (2011). *Sustainability and equity: A better future for all*. Retrieved from <http://hdrstats.undp.org/images/explanations/ETH.pdf>

United Nations Development Programme. (2010). *Ethiopia: 2010 mdgs report trends and prospects for meeting mdgs by 2015*. Retrieved from [http://www.et.undp.org/index.php?option=com\\_mdg&Itemid=152](http://www.et.undp.org/index.php?option=com_mdg&Itemid=152)

Water and Sanitation Program. (2008). *Medium-term strategic framework on sanitation*. Retrieved from [www.ehproject.org/PDF/ehkm/wsp-san\\_strategy.pdf](http://www.ehproject.org/PDF/ehkm/wsp-san_strategy.pdf)

Water and Sanitation Program. (2009). *Introducing SaniFOAM: A framework to analyze sanitation behaviors to design effective sanitation programs*: Devine, J.

Water and Sanitation Program. (2010). *Introducing FOAM: A framework to analyze handwashing behaviors to design effective handwashing programs*: Coombes, Y., and Devine, J.

Water and Sanitation Program. (2012). *Behavioral determinants of handwashing with soap*

*Among mothers and caretakers: Emergent learning from Senegal and Peru.* Retrieved

from <http://www.wsp.org/sites/wsp.org/files/publications/WSP-Behavioral->

[Determinants-Handwashing-With-Soap.pdf](http://www.wsp.org/sites/wsp.org/files/publications/WSP-Behavioral-Determinants-Handwashing-With-Soap.pdf)

World Health Organization. (2005). *Sanitation and hygiene promotion: Programming guidance.*

Retrieved from

[http://www.who.int/water\\_sanitation\\_health/hygiene/sanhygpromo.pdf](http://www.who.int/water_sanitation_health/hygiene/sanhygpromo.pdf)

2009. About WiLi. Retrieved from

[http://www.waterislifeinternational.com/Water\\_Is\\_Life/Home.html](http://www.waterislifeinternational.com/Water_Is_Life/Home.html)

## **Annex A: Focus Group Discussion Guide**

### **Introduction**

Good Morning. I would like to thank everyone for attending and participating in our focus group. The goal of this session is to receive feedback and to get your ideas, whether positive or negative, focusing on your Self Help group and also the aspects of your life that involve water and handwashing. Our discussions today will be focused on your lives and experiences, and the realities of your Self Help Group and your personal lives. Your responses will not be used in anything else but for our study's purposes (evaluation for Water is Life International and University of Florida field practicum). By participating in this focus group, you are consenting to allowing us to document your discussions. No names will be included in the final report. All comments are appreciated and valuable to the purpose of our study.

### **Directions**

In the next 1 to 2 hours, we will be taking notes and observing your discussion and recording the discussion. Everyone's comments are welcome and we would like everyone to speak as much as possible, as it will help us gain a better understanding of the ideas we are studying. The discussion might end before the 2 hours are up, but the discussion will not go longer than 2 hours.

### **Topics and Questions**

#### **General Topic 1: Self Help Group functioning and effectiveness**

1. How has participation in your SLG affected your life?
2. How is your SLG organized?

Is there a leader? Do you have positions? How do you make decisions? How often do you meet?

3. What does your SLG do in meetings and the community?
4. What have you learned from your SLG?
5. What do you like most about your SLG?
6. If you could change anything about your SLG what would it be? Why?
7. In your SLG have you learned about handwashing with soap or other sanitation behaviors? What specifically have you learned?

General Topic 2: Handwashing with soap

1. How do you know when your hands are dirty?
2. When do you think it is most important to wash your hands (if at all)? Why?
3. How and where do you wash your hands?

Source of water, soap, ash, treated water, washing station, in a bucket, in a sink,  
vigorous rubbing, for how long

4. Do you use soap to wash your/your children's hands? Why/why not?
5. How common is it for people in your community to wash hands with soap?
6. Why don't some people wash their hands with soap (or at certain times)?

Do they not believe it's important? Do they not know when to or how important it is?

Do people not have money or access to soap? Is it too time consuming or impractical?

Are people not encouraged to?

**Annex B: Preliminary In-Country Report to Kale Heywot Church**

**Preliminary Report on Sustainable Livelihood Groups  
and Personal Sanitation Behaviors**

Presented to:

**Kale Heywot Church**

Presented by:

**Stephenie Chatfield  
of Water is Life International  
and The University of Florida**

**July 2012**

## Introduction

Sustainable Livelihood Groups are a common societal structure found in Ethiopia, with a large part of the population (specifically women) participating in these groups. Sustainable Livelihood Groups are seen as a powerful tool for individuals to save money, to build social capital, and to bring change in their own lives. This project was conducted in order to determine the effect that Sustainable Livelihood Group participation may have on individual sanitation behaviors, with a specific focus on handwashing with soap. It is known that Sustainable Livelihood Groups can powerfully affect individuals' lives; however the specific effect on individual self efficacy and behavior change remains largely unmeasured. This research was conducted in partnership with Water is Life International and the Kale Heywot Church in Awassa, Ethiopia.

## Methodology

The first phase of the project was to conduct focus group discussions with different Sustainable Livelihood Groups in the Awassa area. Through coordination with Kale Heywot Church staff and Sustainable Livelihood Group facilitators, four different focus group discussions were conducted with four different Sustainable Livelihood Groups. These groups were randomly selected based off of their schedule of availability, and members of each group were also randomly selected. The focus group discussions ranged in size from nine to fifteen participants, and were almost exclusively comprised of women. The discussion topics were focused around the groups' organization and activities, the benefits that the members received from the group, and also the individuals' knowledge and practices regarding handwashing with soap. The purpose of these discussions was to generate ideas and develop an understanding of group activities and individual knowledge and behaviors. The discussions were conducted in Amharic by a translator, voice recorded, and later translated into English and transcribed. As a sign of appreciation, all groups were given 300 birr to be contributed to their groups' savings.

The second phase of the project was to administer surveys to Sustainable Livelihood Group members and non-members in the community. A survey team of four experienced enumerators was hired to administer the surveys. The survey enumerators participated in a one day training and then went into the field to administer surveys. A total of 105 surveys were completed. Sustainable Livelihood Group members were met with through coordination with Kale Heywot Church, and non-members were randomly selected in the community. The majority of the participants were women, representing the poorest of the poor in the Awassa area. The survey

included demographic questions, questions about household water sources and use, handwashing behaviors, and also different determinants of handwashing behaviors. A small section on self-efficacy was also included. The purpose of the survey was to gather information on water use and handwashing behaviors, and also to evaluate the effect of Sustainable Livelihood Groups on individual sanitation behaviors. The surveys were administered in Amharic and coded for analysis. Individual participants did not receive any compensation for their participation in the surveys, but Sustainable Livelihood Groups were given 300 birr to be contributed to their groups' savings.

### Focus Group Findings

Focus group discussions revealed that the reported benefits of Sustainable Livelihood Group membership can be categorized into two broad categories: physical and social. Physical benefits centered on opportunities that were given to the individual once they could borrow money from the group. These are opportunities that have greatly improved individuals lives and would not be available without participation in the Sustainable Livelihood Groups. Specific physical benefits mentioned are:

- Purchased livestock (a cow, a calf, chickens, a goat, sheep)
- Started a small business
- Opened a small shop to sell items
- Paid my children's school fees
- Bought my children's school supplies and uniforms
- Paid back debt
- Built on my home
- Paid to visit my family far away
- Installed a pipe tap in my compound
- Bought a pair of shoes
- Bought food for my household
- Bought clothes for my family
- Bought a bicycle for my husband
- Bought medicine for my children
- Paid my own school fees to earn my diploma

The second group of benefits most often mentioned in the focus group discussions was social benefits. These are the benefits that are a result of the community building and fellowship characteristics of Sustainable Livelihood Groups. Despite living close to one another in the same neighborhood, many of the women did not know each other before the formation of their Sustainable Livelihood Group. Sustainable Livelihood Groups appear to provide a unique opportunity to gather with other women and discuss life issues, which is not available in any other setting. These social benefits are very powerful and transformative. Specific social benefits mentioned are:

- Growth as a group and individuals
- Able to discuss personal problems with others
- Help each other with personal issues
- Openly discuss problems and get solutions
- Gain my neighbors respect and admiration
- Gain my husband's approval and happiness
- Better understanding of the social life
- Learn from an open and supportive environment
- Build unity and community support
- The group loves each other
- Brings personal happiness
- Have learned how to talk to others and share our life
- Brought together different religions and taught tolerance
- Have learned how to visit sick people
- Have learned to speak and share our ideas

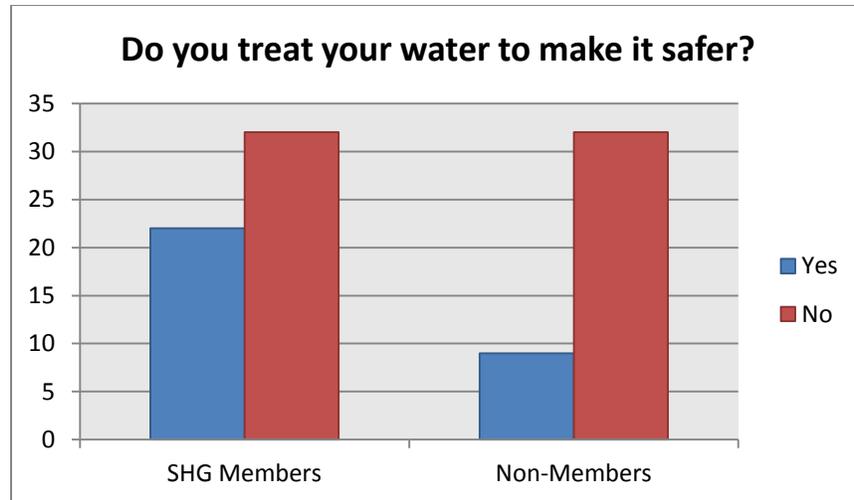
In all of the focus groups, when asked what they liked most about their Sustainable Livelihood Group, all of the groups talked about the love and support that they receive from the other women in their group. They discussed the unity, peace, and encouragement that they have together.

In regards to sanitation education, none of the Sustainable Livelihood Groups had received specific sanitation training or education through their group. One of the groups had heard about handwashing with soap from government extension workers that had visited their community, another group had heard about it from the media, and for the other two groups this was a new idea. However, all of the groups showed a general knowledge of the importance of handwashing with soap at critical times such as after using the toilet and before preparing and eating food. All groups claimed to always wash their hands with soap, but admitted that often soap was not available because of money. Groups also stated that in general in their community people know it is important to wash their hands with soap, but whether they do or not is not known.

### Survey Findings

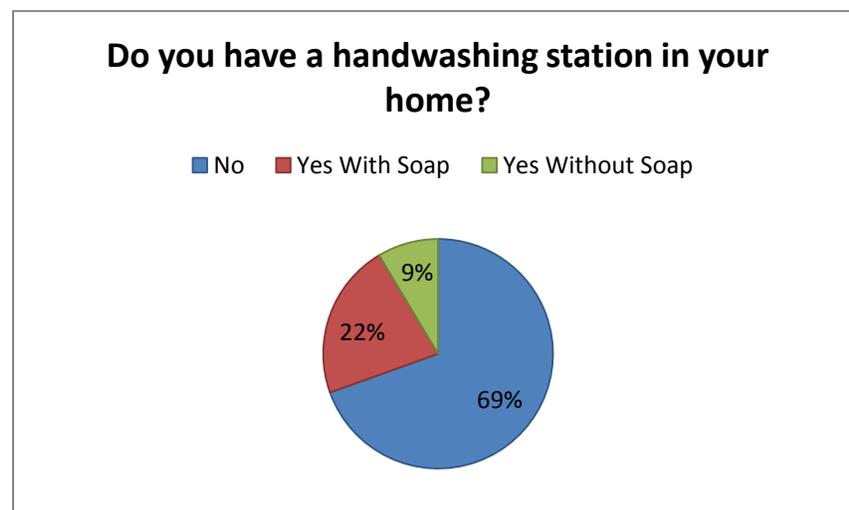
Of the 105 people surveyed, 56 are Sustainable Livelihood Group members and 48 are not members. The majority of the population are female, 95 of the participants, and this is representative of the majority of Sustainable Livelihood Group members being female. The average age of the participants is 35 and the average education level is grade 6 or 7. For the Sustainable Livelihood Group members the average years of membership in their Sustainable Livelihood Group is 4 or 5 years.

The survey revealed some significant differences in behaviors and characteristics between the Sustainable Livelihood Group members and non-members. As shown in the chart below, Sustainable Livelihood Group members are more than twice as likely to treat their water as non-members.



Seventy percent (70%) of the time water that is being treated is for drinking. The most popular reported technique for water treatment is to allow water to stand and settle, accounting for 65% of respondents. The other common method is to filter water, but only 12.5% of the population does this. The survey showed that Sustainable Livelihood Group members are more likely to use treated water for drinking, washing their hands, washing food, and for washing utensils.

Only 31% of the population reported having a handwashing station in their home. And of that population, only 9% of the entire population has a handwashing station with soap in their home. These relationships are illustrated below.



The data gathered for the timing of handwashing are illustrated below.



Survey results showed that 99% of the population has the correct knowledge in regards to handwashing with soap behaviors and timing. The main constraint to proper handwashing behaviors revealed by the survey is social norms. There is also a significant difference between the self-efficacy of Sustainable Livelihood Group members and non-members. Sustainable Livelihood Group members' level of self-efficacy is significantly higher than non-members.

#### Recommendations for Kale Heywot Church

- Introduce sanitation training in the curriculum of Sustainable Livelihood Groups to provide practical training to Sustainable Livelihood Group Members for water treatment, handwashing timing, and handwashing techniques
- Focus sanitation training not on knowledge, but on practical elements
- Encourage the formation of more Sustainable Livelihood Groups, especially in rural areas
- Encourage Sustainable Livelihood Groups to be active in their neighborhoods to discuss sanitation information and proper behaviors with others

**Annex C: Sanitation Behavior Survey**2012 Sanitation Behavior Survey  
Individual Questionnaire

LOCALITY NAME \_\_\_\_\_

CLUSTER NUMBER \_\_\_\_\_

HOUSEHOLD NUMBER \_\_\_\_\_

REGION \_\_\_\_\_

SELF HELP GROUP NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Introduction and Consent**

Hello. My name is \_\_\_\_\_. We are conducting a survey to gather information about Self Help Groups and individual sanitation behavior. We would very much appreciate your participation in this survey. This information will help Kale Heywot Church to better serve this community. The survey usually takes up to 30 minutes to complete. As part of the survey we will first ask some questions about your household. Whatever information you provide will be kept strictly confidential, and will not be shared with anyone other than members of our team.

Participation in this survey is voluntary, and if we come to any question you do not want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope that you will participate in the survey since your views are important.

At this time, do you want to ask me anything about the survey?

May I begin the interview now?

*(If the interviewee consents then continue on to the next page to administer the survey)*

NO.	FILTERS	RESPONSES	CODE	SKIP
1	Gender of Respondent	Male Female	1 2	
2	Age		_____	
3	Marital Status	Single Married/cohabitating Divorced/separated Widowed	1 2 3 4	
4	Highest academic level obtained	Illiterate Read and write Grade 1-6 Grade 7-8 Grade 9-10 Grade 11-12 Above Grade 12	1 2 3 4 5 6 7	
5	How many children under 5 in the household?		_____	
6	Are you a member of a Self Help Group?	Yes No	1 2	
7	If yes, for how many years have you been a member of a Self Help Group?	Less than 1 year 1 to 3 years 4 to 5 years 6 to 9 years 10 or more years	1 2 3 4 5	
8	What is the <b>main</b> source of drinking water for members of your household?  <i>[Choose only one response, the source used the most]</i>	Bottled water House tap Public tap/standpipe Private tank Shared tank Rain water River Lake Other _____	1 2 3 4 5 6 7 8 9	
9	What is the <b>main</b> source of water used by your household for other purposes such as cooking and handwashing?  <i>[Choose only one response, the source used the most]</i>	Bottled water House tap Public tap/standpipe Private tank Shared tank Rain water River Lake Other _____	1 2 3 4 5 6 7 8 9	
10	Where is your water source	In own dwelling	1	

	located?	In own yard/plot Elsewhere	2 3	
11	How long does it take roundtrip to collect water?	Less than 30 minutes 30 minutes to 1 hour 1 hour to 2 hours More than 2 hours	1 2 3 4	
12	Who usually goes to this source to fetch the water for your household?  [Choose only one response]	Adult woman Adult man Female child (under 15 years old) Male child (under 15 years old) Other _____	1 2 3 4 5	
13	How is the water stored in your house?  <i>Verify lid.</i>  <i>Well closed means with its own lid or impossibility of dirt getting into the water.</i>  [More than one answer is possible]	Well closed jericán Badly closed jericán Well closed bucket Badly closed bucket Well closed bottle Badly closed bottle Well closed pot Badly closed pot Other container _____	For drinking 1 2 3 4 5 6 7 8 9	For other purposes 1 2 3 4 5 6 7 8 9
14	Do you treat your water to make it safer?	Yes No	1 2	
15	If yes, for what purposes do you treat water?  [More than one answer is possible]	For drinking For washing hands For washing food For bathing For food preparation Other _____	1 2 3 4 5 6	
16	How do you treat your household drinking water?  [Choose only one response]	Boil Put chemicals in tank Put chemicals in household container Strain through a cloth Filters Waterguard Let it stand and settle Other _____	1 2 3 4 5 6 7 8	

\*Please answer the following questions by stating whether they happen Never, Sometimes, Usually, or Always

		Never	Sometimes	Usually	Always
17	In the last 30 days, how often did your family drink treated water?	1	2	3	4
18	In the last 30 days, how often did your family use treated water for washing their hands?	1	3	3	4
19	In the last 30 days, how often did your family use treated water for washing food?	1	2	3	4

20	In the last 30 days, how often did your family use treated water for washing utensils?	1	2	3	4						
21	Do you have a handwashing station in your home?	Yes	1								
		No	2								
22	If so, what kind of station do you have?	Tippytap/Jerican	1								
		Tippytap/Jerican with soap	2								
		Bucket with dipper	3								
		Bucket with dipper and soap	4								
		A sink	5								
		A sink with soap	6								
		Other _____	7								
23	When do you wash your hands?  [More than one answer is possible]	Before eating	1								
		Before preparing food	2								
		Before feeding children	3								
		After using the toilet	4								
		After cleaning a baby's bottom	5								
		After handling baby's feces	6								
		Other _____	7								
24	When do you use soap to wash your hands?  [More than one answer is possible]	Before eating	1								
		Before preparing food	2								
		Before feeding children	3								
		After using the toilet	4								
		After cleaning a baby's bottom	5								
		After handling baby's feces	6								
		Other _____	7								
25	The last ten times you prepared food, how many times did you wash your hands with soap and water before preparing the food?	1	2	3	4	5	6	7	8	9	10
26	The last ten times you fed a child, how many times did you wash your hands with soap and water before feeding the child?	1	2	3	4	5	6	7	8	9	10
27	The last ten times you used the toilet, how many times did you wash your hands with soap and water after using the toilet?	1	2	3	4	5	6	7	8	9	10
28	The last ten times you cleaned a child's bottom, how many times did you wash your hands with soap and water after cleaning the child's bottom?	1	2	3	4	5	6	7	8	9	10
29	What kind of toilet facility do members of your household usually use?  [Choose one response]	Flush toilet	1								
		Ventilated improved pit latrine	2								
		Pit latrine with covering	3								
		Pit latrine without covering	4								
		No facility/bush/field	5								
		Other _____	6								

30	Do you share this toilet facility with other households?	Yes No	1 2	
31	If so, how many households use this toilet facility?	2 to 4 households 5 to 7 households More than 7 households	1 2 3	
32	How do you remove children's feces?  <i>[Choose one response]</i>	Leave in open air Bury Put in the latrine Put in the toilet Use disposable nappies Other _____	1 2 3 4 5 6	

*Please respond to the following statements whether you completely disagree, disagree, agree, or completely agree					
Opportunity					
Access/Availability		Completely disagree	Disagree	Agree	Completely agree
33	You know of a place where you can buy soap	1	2	3	4
34	There is always enough water to wash your hands when you need to	1	2	3	4
35	You can buy soap when you decide to do it without asking someone else	1	2	3	4
36	You can always find soap when you need it	1	2	3	4
37	Sometimes you want to wash your hands but soap and water are not available (-)	1	2	3	4
38	You have a designated place in your house for handwashing	1	2	3	4
39	The price you pay for soap is affordable	1	2	3	4
40	Soap and water are always available in your house to wash hands after going to the toilet	1	2	3	4
41	Soap and water are always available in your house to wash hands before eating	1	2	3	4
Social Norms		Completely disagree	Disagree	Agree	Completely agree
42	My neighbors have handwashing stations with soap in their homes	1	2	3	4
43	Most of my friends have handwashing stations with soap in their homes	1	2	3	4
44	My relatives have handwashing stations with soap in their homes	1	2	3	4
45	Most families around me make sure they have products used for washing hands with soap next to the latrine	1	2	3	4
46	Most families around me make sure that they have products for washing hands with soap close to their food preparation area	1	2	3	4

47	My friends make sure that they have products used for washing hands with soap next to the latrine	1	2	3	4
48	My friends make sure that they have products for washing hands with soap close to their food preparation area	1	2	3	4

Ability					
Knowledge		Yes	No	Don't Know	
49	It is important to use soap when washing hands	1	2	3	
50	Handwashing with soap is an important way of preventing disease	1	2	3	
51	It is important to wash my hands with soap after using the toilet	1	2	3	
52	It is important to wash my hands with soap before preparing food	1	2	3	
53	It is important to rub your hands together when washing them	1	2	3	
Social Support					
		Completely disagree	Disagree	Agree	Completely agree
54	My neighbors have advised me and my family to wash our hands with soap	1	2	3	4
55	People I know have advised me and my family to wash our hands with soap	1	2	3	4
56	Someone has taught me when to wash my hands	1	2	3	4
57	My friends or family members sometimes give me soap for handwashing	1	2	3	4
58	I have learned about hand washing with soap through a government program or community health worker	1	2	3	4

Motivation					
Beliefs and Attitudes		Completely disagree	Disagree	Agree	Completely agree
59	If you wash your hands well with water, you don't need to use soap (-)	1	2	3	4
60	You only need to wash your hands with soap if they look or smell dirty (-)	1	2	3	4
61	Washing hands wastes water in a household that could be better used for other things (-)	1	2	3	4
62	You don't need to wash your hands with soap if you know you have not touched anything dirty (-)	1	2	3	4
63	If you wash your hands many times with water you do not need to use soap (-)	1	2	3	4
64	Washing your hands with soap before feeding a child is important only if you use your hands to feed them (-)	1	2	3	4
65	You do not need to wash your hands before eating if you use a fork or spoon to eat (-)	1	2	3	4

66	Because foods are cooked there is no point in washing your hands with soap before touching them (-)	1	2	3	4
67	There is no need to wash your hands with soap before feeding a child with a spoon or fork (-)	1	2	3	4
68	It is important to wash your hands with soap at certain times	1	2	3	4
<b>Outcome Expectations</b>					
		Completely disagree	Disagree	Agree	Completely agree
69	Washing my hands with soap will prevent my children from getting sick	1	2	3	4
70	Washing my hands with soap after using the toilet will prevent the spread of disease	1	2	3	4
71	Washing my hands with soap will make my food cleaner	1	2	3	4
72	Washing my hands with soap will cause sickness for my family and children (-)	1	2	3	4
<b>Threat</b>					
		Completely disagree	Disagree	Agree	Completely agree
73	In my household, children are not at risk for diarrhea (-)	1	2	3	4
74	Children are more apt to get diarrhea than adults if they do not wash their hands with soap	1	2	3	4
75	Children can die from diarrhea	1	2	3	4
76	Children who always have diarrhea will not grow properly	1	2	3	4

<b>Self Efficacy</b>		Completely disagree	Disagree	Agree	Completely agree
77	I can always manage to solve difficult problems if I try hard enough	1	2	3	4
78	If someone opposes me, I can find the means and ways to get what I want	1	2	3	4
79	It is easy for me to stick to my aims and accomplish my goals	1	2	3	4
80	I am confident that I could deal efficiently with unexpected events	1	2	3	4
81	Thanks to my resourcefulness, I know how to handle unforeseen situations	1	2	3	4
82	I can solve most problems if I invest the necessary effort	1	2	3	4
83	I can remain calm when facing difficult situations because I can rely on my own ability	1	2	3	4
84	When I am confronted with a problem, I can usually find several solutions	1	2	3	4
85	If I am in trouble, I can usually think of a solution	1	2	3	4

---

86	I can usually handle whatever comes my way	1	2	3	4
----	--	---	---	---	---

---

## **Annex D: Enumerator Training Agenda**

### **SHG Survey Administration: Enumerator Training Agenda**

**Monday, June 18<sup>th</sup>, 2012**

- 9:30- 9:45     Opening
- 9:45-10:00    Introduction (Stephenie)  
*Introduce Stephenie and WiLi staff, project goals and objectives, and the schedule*
- 10:00-10:30   Orientation (Teddy)  
*Overview of surveying methods and techniques*
- 10:30-11:00   Coffee and Tea Break  
*Coffee and tea provided by Selam, snack provided by Stephenie*
- 11:00-11:30   Training (Teddy)  
*Overview of the SHG survey, instructions for survey administration, establish clear understanding of the complete survey*
- 11:30-1:30    Lunch Break
- 1:30-2:30     Pre-Testing (Teddy)  
*Conducted in the community, enumerators' opportunity to practice survey administration with supervision*
- 2:30- 3:00     Assignments and Closing (Teddy)  
*Establish individual assignments for the surveying and plan for the next day*

**Annex E: Underlying Behavioral Determinant Levels**

Table 3: Average Levels of Underlying Behavioral Determinants (Range 1-4)		
	Question	Mean
<b>Access and Availability</b>		
AA_1	You know of a place where you can buy soap	1.16
AA_2	There is always enough water to wash your hands when you need to	2.17
AA_3	You can buy soap when you decide to do it without asking someone else	2.95
AA_4	You can always find soap when you need it	3.54
AA_5	The price you pay for soap is affordable	3.58
AA_6	Soap and water are always available in your house to wash hands after going to the toilet	2.48
AA_7	Soap and water are always available in your house to wash hands before eating	2.67
<b>Social Norms</b>		
Norms_1	My neighbors have handwashing stations with soap in their homes	3.18
Norms_2	Most of my friends have handwashing stations with soap in their homes	3.49
Norms_3	My relatives have handwashing stations with soap in their homes	3.54
Norms_4	Most families around me make sure they have products used for washing hands with soap next to the latrine	2.47
Norms_5	Most families around me make sure that they have products for washing hands with soap close to their food preparation area	2.54
Norms_6	My friends make sure that they have products used for washing hands with soap next to the latrine	2.46
Norms_7	My friends make sure that they have products for washing hands with soap close to their food preparation area	2.46
<b>Social Support</b>		
SS_1	My neighbors have advised me and my family to wash our hands with soap	1.00
SS_2	People I know have advised me and my family to wash our hands with soap	1.00
SS_3	Someone has taught me when to wash my hands	1.01
SS_4	My friends or family members sometimes give me soap for handwashing	2.36
<b>Beliefs and Attitudes</b>		
BA_1 (-)	If you wash your hands well with water, you don't need to	2.26

	use soap (-)	
BA_2 (-)	You only need to wash your hands with soap if they look or smell dirty (-)	2.63
BA_3 (-)	Washing hands wastes water in a household that could be better used for other things (-)	3.66
BA_4 (-)	You don't need to wash your hands with soap if you know you have not touched anything dirty (-)	1.49
BA_5 (-)	If you wash your hands many times with water you do not need to use soap (-)	1.45
BA_6 (-)	Washing your hands with soap before feeding a child is important only if you use your hands to feed them (-)	1.35
BA_7 (-)	You do not need to wash your hands before eating if you use a fork or spoon to eat (-)	1.45
BA_8 (-)	Because foods are cooked there is no point in washing your hands with soap before touching them (-)	1.53
BA_9 (-)	There is no need to wash your hands with soap before feeding a child with a spoon or fork (-)	1.52
Outcome Expectations		
OE_1	Washing my hands with soap will prevent my children from getting sick	1.56
OE_2	Washing my hands with soap after using the toilet will prevent the spread of disease	1.53
OE_3	Washing my hands with soap will make my food cleaner	3.76
OE_4	Washing my hands with soap will cause sickness for my family and children (-)	3.90
Threat		
Threat_1	In my household, children are not at risk for diarrhea (-)	3.90
Threat_2	Children are more apt to get diarrhea than adults if they do not wash their hands with soap	3.83
Threat_3	Children can die from diarrhea	1.92
Threat_4	Children who always have diarrhea will not grow properly	3.81