



**USAID**  
FROM THE AMERICAN PEOPLE

# EVALUATION OF THE USAID GHANA WATER, SANITATION, AND HYGIENE PROGRAM

**QUICK RESPONSE TECHNICAL ASSISTANCE TASK ORDER UNDER  
THE USAID INTEGRATED WATER AND COASTAL RESOURCES  
MANAGEMENT INDEFINITE QUANTITY CONTRACT**

**1 November 2013**

This report was made possible through support provided by the U.S. Agency for International Development's Office of GH/HIDN/MCH, under the terms of the Integrated Water and Coastal Resources Management Indefinite Quantity Contract No. EPP-I-00-04-00020-00, Task Order No. 01/AID-OAA-TO-10-00016.

The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.



# EVALUATION OF THE USAID GHANA WATER, SANITATION, AND HYGIENE PROGRAM

**QUICK RESPONSE TECHNICAL ASSISTANCE TASK ORDER UNDER  
THE USAID INTEGRATED WATER AND COASTAL RESOURCES  
MANAGEMENT INDEFINITE QUANTITY CONTRACT**

**Contract No. EPP-I-00-04-00020-00  
Order No. 01/AID-OAA-TO-10-00016**



## **LIST OF ABBREVIATIONS AND ACRONYMS**

ADRA	Adventist Relief and Development Association
BCC	behavior change communications
CBHP	community-based hygiene promoters
CLTS	community led total sanitation
CWSA	Community Water and Sanitation Agency
DST	district steering team
DWST	District Water and Sanitation Team
EHA	environmental health aids
FMP	facility management plan
GDA	USAID Global Development Alliance
GoG	Government of Ghana
GWASH	Ghana Water, Sanitation and Hygiene Project
KVIP	Kumasi Ventilated Improved Pit Latrine
KAPB	knowledge, attitudes, behaviors, and practices
LNGO	local non-governmental organization
MLGRD	Ghana Ministry of Local Government and Rural Development
ODF	open defecation free
RI	Relief International
SHEP	School Health Education Program
USAID	United States Agency for International Development
VIP	ventilated, improved pit latrine
WASH	water and sanitation; or water, sanitation, and hygiene
WI	Winrock International



## EXECUTIVE SUMMARY

The USAID Ghana Water, Sanitation, and Hygiene (GWASH) program is implemented under a 4-year, \$13.2M cooperative agreement between the United States Agency for International Development (USAID) and Relief International (RI) that began in mid-December 2009. RI partnered with the Adventist Development and Relief Agency (ADRA) Ghana for latrine construction, and with Winrock International (WI), for the community organization and behavior change component, to implement GWASH. RI contracts directly with local well installation firms for the wells and water component. This was USAID's first water and sanitation sector program in Ghana.

The GWASH goal is to support improved access to safe, adequate, water supply and basic sanitation facilities (latrines) for homes, schools, clinics and markets while promoting complementary hygiene practices.

This report is the final evaluation of the GWASH project and was carried out by a five-person team in June and July of 2013. As required by the Scope of Work (SOW), the team visited 28 project communities and 14 nearby non-project communities by dividing into two sub-teams. The evaluation covered two of GWASH's five regions: Western and Central. Data were collected from 42 focus groups (21 groups of men and 21 groups of women), inspections of GWASH and traditional water sources and latrines, functionality tests of pumps, individual Knowledge, Attitude, Behavior, and Practice (KABP) interviews with 185 women, review of background documents, group interviews with Government of Ghana (GoG) officials, and group and individual interviews with other stakeholders at the local, national, and district level. The methodology for the evaluation was dictated by the SOW and depended primarily on qualitative data from observations, interviews, and focus groups. Quantitative data was gathered on the functionality of pumps and latrines and from the KABP survey.

### RESPONSES TO EVALUATION QUESTIONS

- 1. Are current water, sanitation, and hygiene infrastructure improvements functioning properly in terms of installation and use, in both GWASH and non-GWASH communities?*

In general, the borehole systems developed in the GWASH project were found to be functional and operating at levels better than those in non-GWASH communities. The team found that 88 percent of the hand pumps tested in GWASH communities were found to be functional as compared with 61 percent of hand pumps tested in non-GWASH communities. No repairs of GWASH project boreholes and hand pumps have been necessary to date. All GWASH pumps are relatively new however, and it can be expected that repairs will begin to be needed in one to two years for early-installed and heavily used boreholes. Hand dug wells tended to go dry seasonally, so women had to return to sourcing water from rivers and streams, or to purchasing water up to two months per year.

Two small towns – Elluokrom and Bokabo – received piped water supply packages through GWASH. Construction at Bokabo is only 30 percent complete and behind schedule. The system at Elluokrom is technically completed but was not yet functioning at the time of the evaluation

due to a lack of electricity to run it. As neither system was operating, functionality could not be assessed.

Rainwater harvesting systems for hand washing have been installed in five schools. None of these facilities were functioning at the time of the evaluation, which took place at the end of the dry season.

The evaluation team visited over 250 GWASH-constructed household and institutional latrines. Nearly 100 percent appeared neat and met the conditions for hygienic latrines. However, only one of the household latrines and none of the institutional latrines visited were properly sealed around the roof to create the ventilation that characterizes the KVIP latrine and helps prevent fly infestation. Only three of the 247 household latrines inspected were used for the storage of grain or produce and this did not affect the utility of the latrine.

*2. Are the sustainability plans for maintenance, repair, and security of current infrastructure improvements (both water points and latrines) adequate to ensure project success in both GWASH and non-GWASH communities?*

Data gathered from interviews confirms that in all communities where GWASH provided water supply or latrines, there are active Water and Sanitation (WASH) committees that understand their responsibilities with regard to the maintenance of the water systems. Interviews and observations indicate that 80 percent of individuals on 28 WASH committees reviewed by the evaluation team have a basic understanding of maintenance and repair. None of these 28 WASH committees however, know how to budget for maintenance costs of a well over five years. Only half of the WASH committees demonstrated effective financial management and accounting in terms of opening bank accounts, keeping financial records, and sharing financial records with the community on regular basis in line with Community Water and Sanitation Agency (CWSA) standards. GWASH provided WASH committee members with one training session of five days. Committees received limited follow up on an as needed basis from GWASH Regional Coordinators for problem solving but did not have any systematic support.

In all the project communities where water facilities were provided by GWASH, the WASH committees report that fees for maintenance are collected either on a pay-as-you-fetch basis, through monthly household levies, or via special collections when water systems breakdown. While WASH committees often started out collecting fees, when no repairs were needed, 23 of 28 total committees stopped collecting money and levied fees only when a water facility broke down. Roughly 80 percent of households interviewed in GWASH communities reported that they pay the tariff. By contrast, in all of the 14 non-GWASH communities visited, payment of tariffs is a major concern and has resulted in lengthy breakdowns of the water facilities.

Ten of the total 12 officials interviewed at the district level classified GWASH collaboration with district and metropolitan assemblies as weak. Low involvement of the district level staff in hardware and software implementation was found in all cases. About 75 percent of 413 community members interviewed were of the opinion that the hand pump had been given to them by GWASH or USAID (as most facilities are clearly marked as such) and were not aware that the district had any responsibility for monitoring and providing support.

Ten Area Mechanics have been trained to repair pumps in the Central Region and eight in the Western Region. Feedback from interviews with more than 125 stakeholders, including District officials, NGO partners, and others knowledgeable about the project indicated that the initial training of Area Mechanics was rich in content and methodology. After the initial training however, no further training was given to the mechanics. In addition, of the 40 total mechanics trained, none have the tools they need to complete underground repairs. To sustain the construction, use, and maintenance of household latrines, GWASH recruited 153 individuals (58 in Central Region and 95 in Western Region) and trained them as Latrine Artisans. Since only two of 247 latrines inspected by the evaluation team met the basic standards of a ventilated, improved pit latrine (VIP), it is apparent that the training of Latrine Artisans was not adequate.

All Area Mechanics who were trained are still in their districts, thus retention of Area Mechanics does not pose any threat to the sustainability of GWASH interventions at the moment. Mechanics report that they are available within three days of being contacted, provided the communities can pay for their services. Therefore, the greatest threat to sustainability of infrastructure is the potential inability of GWASH communities to raise the level of revenues necessary to pay for maintenance services. Other threats to sustainability at the district level were the absence of spare parts outlets and a lack of tools reported by all six of the Area Mechanics interviewed<sup>1</sup>.

- 3. What factors influenced community acceptance of the modified CLTS approach used to promote construction of sanitation facilities in the project area? Has this demand driven approach resulted in sustained use of constructed facilities? Is there any evidence that the modified CLTS approach will result in additional latrine construction after the end of GWASH in targeted communities?*

The Community Led Total Sanitation (CLTS) approach forms part of the Government of Ghana (GoG) policy to provide total sanitation to communities. The goal of CLTS is to achieve open defecation free (ODF) communities which are defined as breaking the fecal-oral contamination cycle. Individual families move up a “sanitation ladder” as they can afford to move from dig and cover (the lowest level) to improved types of sanitation. As described in the CWSA’s *District Manual for Managing CLTS in Small Towns*, the process of moving a community from open defecation to all families having some type of individual latrine requires a deliberate process of community education and mobilization. GoG guidelines do not promote subsidies for household latrines.

CLTS had not been a part of the original GWASH strategy, but in 2012, two years into the four-year program, in an effort to comply with GoG guidelines, the GWASH Project adopted a hybrid approach using community “triggering” as a way to motivate community members to build one of the nine types of latrines GWASH offered. A GWASH latrine costs between \$300 and \$800 to build depending on which of the nine types offered by the program the household elects to build. GWASH had previously provided 60 percent of the costs of a latrine. Under the newly adopted hybrid-CLTS approach; the subsidy was reduced to 40 percent of the cost of a VIP model latrine.

---

<sup>1</sup> GWASH trained a total of 18 Area Mechanics in Ghana’s Central and Western regions.

While a traditional CLTS approach promotes the community coming to a collective decision and working out an action plan for building latrines for each family, the evaluation team found that the hybrid CLTS approach used by GWASH relied heavily on subsidies to individual households to promote construction of latrines. The use of subsidies by GWASH has increased the number and use of latrines in selected communities but it is not clear that the hybrid CLTS approach has fostered a process of community self-realization and individual volunteerism. Interviews with 123 women in GWASH communities show that the message about not eating feces (carried by flies to the food) has been very effective and people want latrines. Affordability of latrines however, continues to be a major issue for most families. None of the GWASH-trained latrine artisans interviewed reported having constructed private latrines for non-GWASH families in the communities. The continued use of subsidies in water and sanitation projects is not aligned to current GoG policies.

*4. Was GWASH successful in using Local Non-Governmental Organizations to undertake effective WASH activities within communities?*

GWASH consciously adopted a strategy of using district-level Local Non-Governmental Organizations (LNGOs) to undertake behavior change and facility maintenance in GWASH communities. Accordingly, twelve LNGOs were initially selected through a competitive bidding process. This approach was consistent with CWSA's policy of using LNGOs for mobilization. Compared to outside institutions, travel and community work is intense in some areas and LNGOs are more able to do this type of work than District Water and Sanitation Teams (DWST). GWASH staff reported that 11 of the 12 LNGOs working under the program have been active and productive partners in the field whose efforts led to high demand for services. GWASH terminated the subcontract of just one LNGO that was not effective in carrying out the tasks in its sub-award.

*5. What has been the contribution of GWASH in the implementation of the program with regards to Public, Private Partnership?*

The partnership between USAID and Rotary International has been highly effective. All GWASH staff interviewed reported excellent working relations with local Rotary staff. Frequent consultations and problem solving sessions have led to a very positive relationship. A recent report on the sustainability (January 2013) of the Rotary projects shows many of the same issues with regards to sustainability that this evaluation team found on the GWASH program. WASH committees lacked financial planning skills and the District Assemblies lacked capacity to monitor projects effectively.

Another major public-private partnership was with Coca-Cola, which funded some GWASH projects in areas around major cities such as Accra. Coca-Cola tended to support WASH facility solutions – sometimes this worked well (such as with surface water treatment kiosks) and sometimes not as well (as with biogas toilets). Still, GWASH worked hard at rendering the facilities sustainable, despite some built-in challenges that were the result of the technology selections on the part of the private sector partner.

The GWASH project has engaged in five additional alliances with Safe Water Network, WaterHealth International, Water NGO, PriceWaterhouseCoopers, and Ernst and Young. The team did not visit any of the projects sponsored by any of the partners aside from Rotary;

however, GWASH developed a Lessons Learned document on public private alliance efforts to provide more background on lessons learned from these partnerships.

## **FINDINGS AND CONCLUSIONS**

### *Water, sanitation, and hygiene infrastructure*

- By the end of the project GWASH, will have met or exceeded its basic goals of installing 4,680 household latrines, 110 institutional latrines, 33 hand dug wells, two piped water systems, and 75 boreholes. They also installed 28 rainwater catchment systems at schools and clinics. By comparison with the control communities, GWASH project communities had greater presence and functionality of water and sanitation infrastructure.
- GWASH has exceeded its training goals by 19.5 percent. The indicator measures attendance at program-sponsored workshops and 136,687 people (22,297 over the goal of 114,395) attended some type of training event. Hand dug wells have not provided a dependable source of water year round. GWASH's plan to discontinue hand dug wells is appropriate.
- Rainwater catchment tanks have some value during rainy seasons but they tend not to have enough water in them if there is no rain for one to two weeks. GWASH staff reported that the program had ceased supporting rainwater catchment tanks at the time of the evaluation as reliable sources of water for hand washing at schools and clinics.
- The VIP and KVIP latrines have not been constructed according to specifications for ventilation. The Latrine Artisans need re-training on this feature.

While GWASH did not achieve its goal of 50 ODF communities, this should not be seen as a shortcoming of the project. ODF status is hard to document, given the current GoG validation process, which involves Municipal/District Assemblies as verification units. The limited number of trained district personnel meant the project had to conduct the verification itself.

### *Sustainability plans for maintenance, repair, and security of current infrastructure.*

- More than 80 percent of WASH Committees in GWASH communities are functioning at acceptable levels, but all have yet to deal with major maintenance issues.
- None of the 28 WASH committees in GWASH communities know how to budget for maintenance costs of a well over five years. Additional follow up support and/or training focused on budgeting and financial management is needed to ensure adequate funds will be available for future maintenance.

### *Community Led Total Sanitation (CLTS)*

- The GWASH community intervention strategy is contrary to GoG CLTS guidelines. Per CLTS best practice, community organization, hygiene education, and behavior change should have preceded the installation of wells and latrines by three to six months to assure community ownership and thus, sustainability.

- Subsidizing latrines, at either high or low levels, is contrary to the GoG CLTS guidelines. Once latrines were subsidized, it has been very difficult for this project or for other programs working in the same or nearby communities to convince households to construct latrines without subsidies. In addition, the focus on more costly latrine models may have prevented some people from building their own latrines.

*Use of LNGOs to undertake behavior change and facility maintenance*

- The use of LNGOs to conduct community-level behavior change activities is still a recommended strategy and is in line with both the GoG's strategy as well as USAID Forward goals of developing the capacity of civil society and private sector partners.

## **RECOMMENDATIONS**

*Water, sanitation, and hygiene infrastructure*

- GWASH's strategy of focusing on rehabilitation of wells and pumps during its final months is an excellent one and should be continued. Non-GWASH communities have many, many broken pumps from other donors.
- All VIP or KVIP latrines should follow VIP standards for ventilation and light in the latrines. GWASH should retrofit the VIP latrines with door vents and be sure they are sealed between the roof and walls to create the ventilation that characterizes this type of latrine.

*Sustainability plans for maintenance, repair, and security of current infrastructure*

- District level WASH refresher activities that bring all district WASH members together to review WASH committee responsibilities and give participants a chance to share lessons learned would be a useful activity before the project comes to an end.
- GWASH should calculate the costs of maintaining a pump over five years so that WASH committees know how much money they need to be setting aside. The project could alternatively establish an annual budget for maintenance of facilities so that WASH committees can budget accordingly.
- Provide direction on what spare parts and tools are needed for conducting common repairs. Each WASH committee should purchase a supply of the most common parts so that repairs can be made immediately and the stock replenished after the repairs are made. Additionally, clarify what repairs can be performed by locally trained mechanics and what repairs will need to be performed by experienced borehole drillers/mechanics.
- Post-training assistance and tools should be provided to Area Mechanics so that they can immediately apply their newly acquired skills. If funds are available, a maintenance and repair re-training workshop (that includes women) should be considered.

*Community Led Total Sanitation*

- A continued focus on hygiene education and motivation for sanitation in line with GoG CLTS guidelines is appropriate. There should be at least three to six months of community mobilization, hygiene education, and behavior change sessions before any hardware is installed.
- Future efforts should promote low-cost latrine options that can be made mostly from locally available materials and comply, as much as possible, with the GoG's no subsidy CLTS guidelines.

*Use of LNGOs to undertake behavior change and facility maintenance*

- Given that all seven of the GWASH LNGO partners interviewed had weak back office systems, a more systematic, strategic approach to strengthening partner LNGO organization, experience, accounting and operational controls, as well as technical skills (as per FAR 9.104-3(a)), would contribute to greater sustainability of behavior change activities.

*Public-private partnerships*

- Should USAID continue to partner with Rotary International, Rotary members should be included in training/coaching of community water and sanitation committees and Water Boards.
- Strategic alliances have overall been successful. USAID and its implementing partners should continue to pursue these alliances with local and international businesses (e.g. Unilever Ghana, Ghana Cocoa Board) that either provide clean water, sanitation, and hygiene solutions or that depend on them for the quality of their product and health of their employees and suppliers.



# CONTENTS

- List of Abbreviations and Acronyms ..... i
- Executive Summary ..... iii
- I. Introduction and Purpose of the Evaluation ..... 1
- II. Background of the Project..... 3
- III. Evaluation Methodology..... 5
- IV. Responses to Evaluation Questions ..... 9
- V. Findings and Conclusions ..... 35
- VI. Recommendations..... 37
- Appendix A: Project Targets and Results ..... 39
- Appendix B: Scope of Work..... 41
- Appendix C: GWASH Projects Visited for the Evaluation ..... 51
- Appendix D: List of People Interviewed ..... 53
- Appendix E: List of Documents Reviewed ..... 59
- Appendix F: Data Collection Instruments ..... 61
- Appendix G: Evaluation Field Visit Schedules ..... 77
- Appendix H: Functionality of Systems and Community Overview ..... 81
- Appendix I: KAPB Results and Discussion of Health Issues..... 87
- Appendix J: Community Ranking Analysis ..... 95



## I. INTRODUCTION AND PURPOSE OF THE EVALUATION

The USAID Ghana Water, Sanitation, and Hygiene program has been implemented under a four-year, \$13.2 million cooperative agreement between USAID and Relief International that began in mid-December 2009. To implement GWASH, RI partnered with the Adventist Development and Relief Agency Ghana for latrine construction and with Winrock International for community organization and behavior change. RI contracts directly with local firms for the installation of wells. GWASH is USAID's first water and sanitation sector program in Ghana.

The GWASH goal is to support improved access to safe, adequate, water supply and basic sanitation facilities (latrines) for homes, schools, clinics, and markets while promoting complementary hygiene practices. The GWASH project has the following objectives:<sup>2</sup>

1. Improve access to improved WASH infrastructure for individual households, communities, schools, and clinics in the target areas.
2. Assist in developing innovative modes of establishing new infrastructure.
3. Improve the capacity of small grant recipients to mobilize community members to actively participate in:
  - a. Improvement and maintenance of water and sanitation infrastructure; and
  - b. Establishment/development of local official bodies that provide support for these efforts.
4. Support the development of behaviors that result in:
  - a. Water and sanitation infrastructure that is well utilized by target communities; and
  - b. Increased adoption of complementary hygiene behaviors that will reduce water-borne disease.
5. Manage existing partnerships and potentially develop new partnerships with private sector and/or voluntary organizations committed to achieving the same results.

Program activities were organized under five components that further these objectives:

- 1) Infrastructure Development – water facilities and latrines
- 2) Small Grants – for special small projects
- 3) Capacity Building – with District Assembly members and Community WASH Committee members
- 4) Strategic Behavior Change – the promotion of Open Defecation Free (OFD) communities and increases in hygiene behavior such as hand washing
- 5) Public Private Alliances – for additional funding.

The purpose of this evaluation is to determine whether the assistance provided by USAID/Ghana through GWASH activities is meeting its stated objectives, including whether GWASH is meeting its expected results within the expected timeframe. In addition, in answering several specific evaluation questions, the evaluation will test the critical assumptions that supported the initial program funding and assess the different implementation models and approaches used by the GWASH program in comparison to other WASH programming efforts in similar

---

<sup>2</sup> While funded from USAID/Ghana's health budget, the project specifically has no health results or objectives. The rationale given by the Mission for this is that USAID funds lot of other health programs that do monitor health impact so it was not necessary for GWASH to do so.

communities. Evaluation findings will be used by USAID/Ghana to provide a better understanding of GWASH programmatic relevance, impact, and cost-effectiveness.

## II. BACKGROUND OF THE PROJECT

GWASH activities have been implemented in five regions of Ghana (Volta, Eastern, Greater Accra, Central, and Western) with the support of 30 District Steering Teams. District Steering Teams participate in monitoring and evaluation and manage WASH issues. Within the 30 Districts, 200 communities were selected and sensitized on WASH. Through Fiscal Year (FY) 2012, GWASH established new improved water, sanitation, or both water and sanitation facilities in approximately 200 communities throughout Ghana; an additional 80 communities have received services in FY 2013. In addition to constructing individual borehole/hand dug wells with hand pumps, GWASH constructed thirteen small piped water schemes for small towns including surface sources water treatment systems by the end of 2012. In an evolution from an initial reliance on high-subsidy approaches to improve sanitation, the project is now using a modified CLTS approach to promote household latrine construction. This approach using a partial construction subsidy was adopted in 2012 to encourage communities and individuals to construct household latrines in 54 communities. All GWASH infrastructure activities were accompanied by behavior change communication (BCC) and hygiene promotion activities in communities, schools and clinics.

The four-year project got off to a slow start. The first Chief of Party resigned within the first year and there was a four-month gap between his departure and the arrival of the current Chief of Party. During that time the project fell behind on achievement of targets that included the installation of over 1,200 latrines each year (the project goal was 4,860 latrines in four years). After the current Chief of Party came on board however, the project was able to make up for lost time. The project has achieved its goals for training in WASH issues, for the installation of latrines, and for water facilities (See Appendix A).

The primary partner within the GoG should be the CWSA, which oversees all rural WASH projects in Ghana and ensures that projects adhere to basic quality standards. However, USAID and CWSA never reached a working agreement on how to coordinate to maximize the impact of GWASH activities. Nevertheless, GWASH proceeded with limited engagement with CWSA staff at the local level as well as coordinated with other national level government agencies. GWASH does use some of CWSA's manuals for behavior change and both groups have attended some of the same conferences and workshops. CWSA also provided critical oversight in the evaluation of applications for the program's Innovations Contest.



### III. EVALUATION METHODOLOGY

The evaluation methodology was prescribed in the Scope of Work (Appendix B) with 28 GWASH and 14 control communities selected by USAID to be visited. The methodology included visits to control communities that were located fairly close to the project communities and thus were comparable in culture and economic conditions. A list of all the project communities visited in Central and Western Regions is included in Appendix C. The point of the control community visits was to compare the GWASH project communities with those that did not have GWASH interventions. The Knowledge, Attitude, Practice, and Behavior (KAPB) study was required though GWASH staff report that no KAPB had previously been carried out by the project. Some of the questions in the GWASH baseline study did have KAPB relevance. A list of representative people interviewed is attached as Appendix D. The team conducted focus groups with well over 800 people in 42 communities and interviewed over 200 individuals in groups or in individual interviews.<sup>3</sup>

The team was given over 50 project background documents to review in connection with the evaluation. A list of documents consulted is included in Appendix E. The team did consult these documents for context but relied mostly on field observations for its findings and conclusions. The content of this report is based on functionality tests of the hand pumps, focus groups, group and individual interviews, as well transect walks and observations in the communities. The evaluation team began work in Accra on June 19, 2013. Work began with an orientation meeting with the Agreement Officer Representative (AOR) Mr. Emmanuel Odotei and other relevant USAID staff and subsequently with GWASH staff for an overview of the project.

The five member team spent three days preparing data collection forms including 10 different interview protocols, checklists, functionality assessments, and community ranking forms (see Appendix F). The entire team visited the GWASH community of Akoako, located near Accra, to field test the instruments and overall methodology. Several of the forms needed substantial revisions and those revisions were completed before the teams departed for fieldwork. The team divided into two sub-teams, one to cover the Western District (Dr. Buzzard and Mr. Konadu) and the other to cover the Central District (Mr. Berg, Ms. Tadeffa-Kubabom, and Mr. Dzansi). This meant that each team had one woman and one engineer.

The sub-teams traveled for one week in their respective districts and then met in Kumasi for a two-day team meeting to discuss methodology and conduct some data analysis. The sub-teams identified preliminary findings and areas where additional information was needed. The sub-teams then returned to their respective districts for another week of field visits. In most cases, the team visited one community in the morning and a second in the afternoon. The team visited all

---

<sup>3</sup> The list in Appendix D is a representative sample of individuals interviewed. Due to the intensive nature of the evaluation and the need to travel to and visit at least two communities per day, interviews and focus groups were conducted under very tight time constraints. In addition, some focus groups with stakeholders functioned much like community meetings, with some participants joining or leaving the group in progress. As a result of time and translation constraints, the evaluation team was not able to get the name and title of every official or stakeholder participating in group interviews and focus groups. For example, in the case of District Assembly personnel, officials were interviewed in groups of 5-6 assembly members and the names and titles of the highest ranking 1 or 2 members were recorded.

28 GWASH communities and 14 control communities identified by USAID. A detailed evaluation schedule is included in Appendix G.

A typical community visit lasted two to three hours and began with a general meeting of local officials and interested community members (between 20 and 50 people) to introduce the evaluation team and the purpose of the visit. The team then conducted separate focus groups for men and for women. Focus group sessions usually took 45 minutes to an hour and included between 20 and 35 people. They covered issues such as sources of water, satisfaction with the systems and latrines, support from the District assemblies, and the functioning of the local WASH Committee (see Appendix F for questionnaires for each group of stakeholders).

Each member of the team was responsible for one of the five evaluation questions but as the skills of the team members overlapped, all of the team members contributed data on all five questions as well as agreed on the findings and recommendations.

The SOW called for a KAPB study to be conducted in all of the visited communities. These were administered individually to adult women using a convenience sample, usually at their home where the interviewer could look at their water storage system, hand washing facilities, and latrine. The Central Team was able to conduct more KAPB interviews than the Western Team due to having more people on the team. Between 3 and 10 KAPB interviews were administered in each community for a total of 185. The data were entered and processed using SPSS Statistics software and the results are included in the narrative of this report and in detail in Appendix I.<sup>4</sup>

In addition, both teams interviewed staff of seven of GWASH's 11 LNGO partners, members of the District Assembly in each district (groups interviews with 5-6 assembly members), as well as other stakeholders such as school teachers, clinic staff, Peace Corps Volunteers, and School Health Education Program (SHEP) officers. The team received total cooperation from USAID and GWASH program staff. GWASH Regional Field Coordinators accompanied the teams in their respective regions but did not participate in focus groups or KAPB interviews. Their role was to brief the team of the type of facilities that has been installed and to introduce the team to the community. Local NGO partners, School Health Education Program (SHEP) Coordinators, and BCC Agents also were present at some of the community visits in both evaluation Regions.

At the end of each community visit, the team ranked each community visited on a scale of one to five in each of the following categories using the questions in Appendix F and scoring methodology in Appendix J. The scores were grouped into the three categories of water, sanitation, and sustainability to provide a means to summarize and interpret the data.

- Water
  - Water availability
  - Length of time that pumps were broken before repair
  - Overall satisfaction with water

---

<sup>4</sup> The KAPB study was concerned with health and health behavior issues. As the GWASH project had no health objectives, and as the evaluation questions did not ask about the program's impacts on health, most of the data from the survey is presented only in Appendix I.

- Consistent year-round water quality
- Consistent year-round water quantity
- Sanitation
  - Number of latrines per household
  - Latrine use
  - Overall latrine satisfaction
- Sustainability
  - Functioning of WASH committee
  - Collection of funds for maintenance
  - Innovation in WASH interventions

The points were summed across all questions and then adjusted to a 0-100 percent scale for each of the three major categories: Water, Sanitation, and Sustainability. Not-applicable questions for a particular community were removed from the calculation and the denominator was adjusted so that the total range remained at 0-100 percent. For example, the Kuber Kro community received 25 out of a total of 30 points according to the evaluation team’s rankings for “Water.” However, its pump had never broken so the team included a “Not Applicable (NA)” ranking for the community in the category of “Length of time that pump has been broken.” The total number of points for the denominator was discounted by five points, the total number of points for this category. As the result, the community received a score of 100 percent, or 25 divided by 25, in the Water category. Exhibit 11 in Appendix J presents the complete results of this exercise.



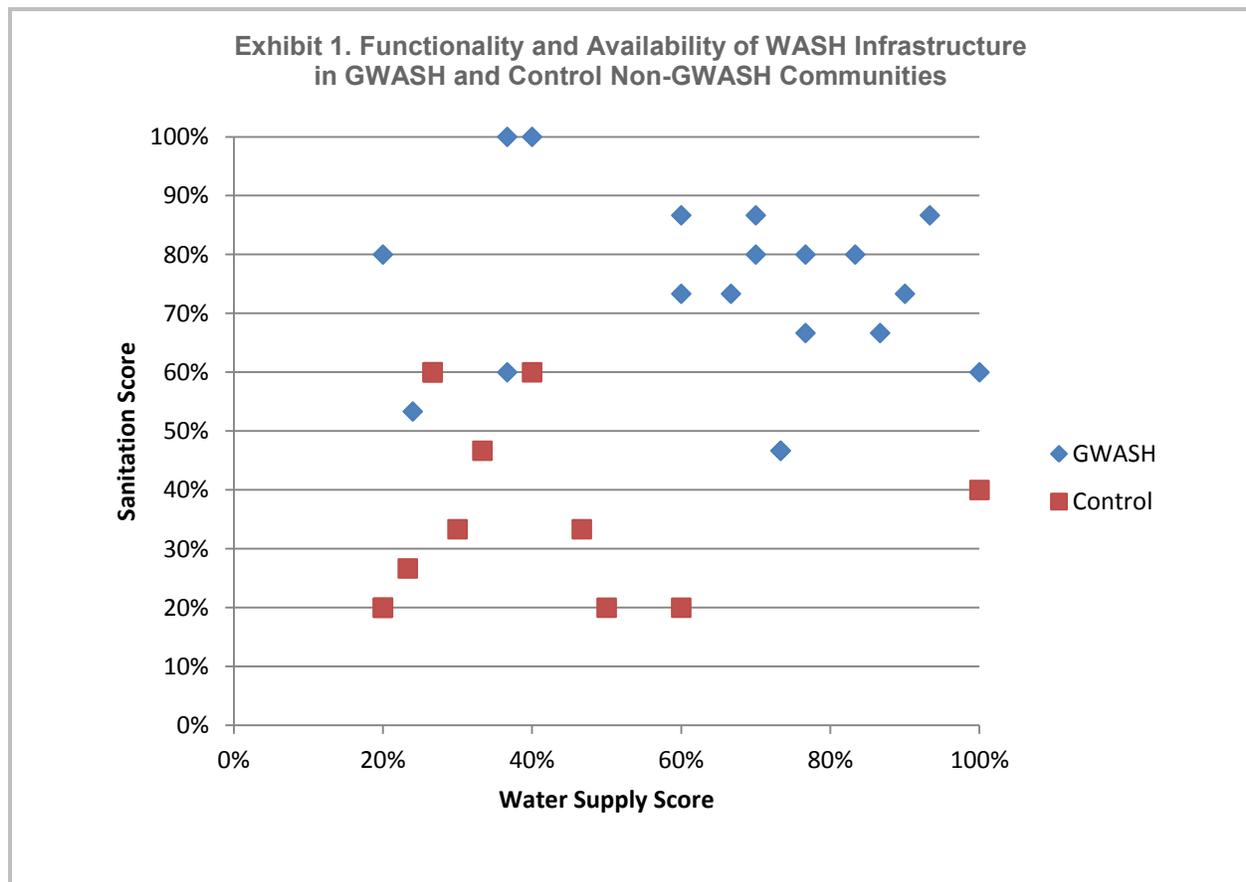
## IV. RESPONSES TO EVALUATION QUESTIONS

### 1. FUNCTIONALITY OF WASH INFRASTRUCTURE IMPROVEMENTS IN GWASH AND NON-GWASH COMMUNITIES

#### Evaluation Question 1

1. Are current water, sanitation and hygiene infrastructure improvements functioning properly in terms of installation and use, in both GWASH and non-GWASH communities?
  - 1a. How does the functionality of modified Ghana/India Mark II hand pumps compare to other community-based pump systems?
  - 1b. Are there differences in infrastructure installation and patterns of use of GWASH water points compared to infrastructure provided in similar, non-GWASH communities?

As a whole, GWASH communities had better access to functioning WASH infrastructure than control communities. This conclusion is based on observations from transect walks, pump functionality tests performed by the engineers, and the community ranking methodology described in Section III. On average, GWASH communities received a score of 65 percent for water and 74 percent for sanitation, while control communities received an average score of 40 percent for water and 37 percent for sanitation. The graph below plots rankings of GWASH (blue) and non-GWASH control communities (red) according to the functionality and availability of water and sanitation facilities in the community.



The team’s observations on the functionality and condition of WASH infrastructure inspected at GWASH and control communities are provided in the following sections.

### 1a. Functionality of Hand Pumps, Hand-dug Wells, Rainwater Harvesting Systems, Piped Water Supplies, and Sanitation Facilities

#### GHANA/INDIA MARK II HAND PUMPS

Approximately 88 percent of the hand pumps tested in GWASH communities were found to be at least partially functional as compared with 62 percent of hand pumps tested in non-GWASH communities. All GWASH borehole systems were appropriately located away from obvious contamination sources, such as latrines, surface impoundments, and garbage dumps. Some borehole design improvements could be implemented, such as better drainage away from the well collection point, a raised bucket platform to avoid puddles where the basins are placed under the spigot, and the addition of rubber stops to avoid damage to the pump lever mechanism at the top and bottom of strokes.

GWASH used standard designs for hand pumps. Nearly all communities visited with hand pump borehole projects used one of the following CWSA approved pumps: Nira AF 86, Afridev, or Ghana-modified India Mark II. Only one India Mark II hand pump that was not the Ghana-modified type had been installed by the GWASH program in Brebre in the Bia District of the Western Region. This particular pump was broken at the time of the team’s visit.

All six of the GWASH Ghana Modified India Mark II (MIM2) hand pumps examined were performing acceptably at the time of the teams’ visits, although not all met the functionality criteria published by CWSA. A minor amount of wear was noted in these pumps, commensurate with their age and the number of people using them. None of the four MIM2 hand pumps tested in the Central Region were able to fill an 18-liter bucket with fewer than 40 strokes. Three of the four brought water to the surface within 5 strokes and the fourth required 11 strokes. However, all four were able to fill an 18-liter bucket within one minute.

Two of the six GWASH MIM2 pumps were in the Western Region. The number of strokes to fill an 18-liter bucket was not measured for either one. Both of these pumps were capable of filling an 18-liter bucket within one minute but only one of the two brought water to the surface within 5 strokes.

No significant non-compliance with the CWSA criteria and no complete failures of GWASH MIM2 hand pumps were identified for the six GWASH communities using MIM2 hand pumps.

#### Determining Functionality of Water Supplies

Per CWSA guidelines, the functionality of a point source water supply is determined by whether or not it successfully passes a stroke and leakage test. For a successful stroke test the maximum number of strokes to fill a size 34 bucket (18 liters) within one minute should be no more than 40 strokes for Afridev and Ghana Modified India Mark II and 30 strokes for a Nira AF-85 hand pump. For a successful leakage test, water should flow out of the pump within five strokes, when resuming pumping after five minutes of rest following the stroke test.

- A successful stroke and leakage test implies the pump is functioning.
- Either a successful stroke or a successful leakage test implies the pump is partially functioning.
- Neither a successful stroke test nor a successful leakage test implies the pump is non-functioning.
- If it is not possible to perform either test, the pump is considered broken down.

The functionality of a standpipe connected to a piped scheme is determined by whether or not water is flowing when the tap is opened. In addition, the functionality of the piped scheme is determined by the proportion of standpipes which are functioning at the time of the spot checks.

This is not unexpected as the pumps are relatively new. Based on the experience of other communities, in the opinion of the project team, it can be expected that repairs of the MIM2 hand pumps will begin to be needed in one to two years for early-installed and heavily-used boreholes.

**Exhibit 2. Results of Stroke Tests in GWASH and Non-GWASH Communities**

REGION	COMMUNITY	PUMP TYPE		Borehole 1		Borehole 2	
		GWASH	Control	Strokes to bring	Strokes to fill	Strokes to bring	Strokes to fill
Central	Akoakoo	X		Afridev	NF	NF	
Central	Abrafo	X		BH 1: Afridev; BH 2: MIM2	3	70	3 72
Central	Kuber kro	X		MIM2	11	45	
Central	Bereku Municipal Assembly	X		MIM2	2	86	
Central	Abankoo Health Ctr	X		MIM2	2	55	
Central	Frami		X	B1/B2: MIM2	5	38	5 64
Central	Bremang		X	B1/B2: MIM2	10	40	5 45
Central	Sraha		X	Piston	NF	NF	
Western	Adobewura	X		Afridev	4	36	
Western	Alata	X		Afridev	7	46	
Western	Sefwikrom	X		Afridev	5	32	
Western	Tikobo	X		BH1/B2: MIM2	4	30	8 48
Western	Elluokrom	X		BH1/BH2: Afridev	5	33	4 36
Western	Brebre	X		IM2	4	30	
Western	Gyampokrom	X		Afridev	NF	NF	
Western	Suibo	X		Afridev	8	48	
Western	Asuoklo	X		Afridev	5	35	
Western	Nyanney		X	Afridev	High Iron		
Western	Kwantwikrom		X	Afridev	3	33	
Western	Abochikrom		X	Nira	NF	NF	
Western	Nkonya		X	BH1: Afridev; BH2: IM2	NF	NF	50 NF
Western	Manhyia		X	Afridev	3	38	
Western	Besease		X	Afridev	10	50	
Western	Kwamebikrom		X	BH1: MIM2; BH2: Nira	22	80	35 92

MIM2: Modified India Mark II Pump

IM2: India Mark II Pump

Piston: Pump used on Hand Dug Wells in some places

NF: Not functioning

Red font indicates that measured value does not comply with CWSA criteria

*Functionality of modified Ghana/India Mark II hand pumps compared to other community-based pump systems.* The Ghana Modified India Mark II hand pumps were performing at acceptable levels as compared to non-GWASH supported infrastructure. All 11 modified India Mark II pumps tested in GWASH and control communities were functioning. The question on how the Ghana Modified India Mark II hand pumps are faring compared to other pumps could not be answered with any certainty for the following reasons:

- The number of modified India Mark II pumps inspected – six in GWASH communities and five in control communities – was too small to do a fair comparison.
- Hand pumps installed under GWASH have been in place for less than two years, and were too new for the team to draw conclusions on the durability of any particular pump.
- For pumps in the control communities, the ages and installation depths of the various pumps could not be ascertained. The team therefore could not establish a common basis for comparison.

#### **HAND DUG WELLS**

The team visited five GWASH hand dug wells in the Western region, along with at least 15 hand dug wells that were older sources of water or wells paid for by other donors. The five hand dug wells in the GWASH project were found to be functional and very much the same as those constructed by CWSA and other projects.

On functionality tests, 80 percent of those hand dug wells using the MIM2 were functioning. They required an average of 41 to 50 strokes to draw water. The Afridev pumps on hand dug wells required 51-60 strokes to bring water. The team also found that 80 percent of the Afridev pumps were leaking. While GWASH had located the boreholes in Brebre and Sefwikrom according to recommendations from ground water exploration and explained the rationale for their locations to community members, the evaluation team heard complaints from GWASH beneficiaries in these communities that women have to walk a long distance to fetch the water. In Alata and Suibo, beneficiaries complained that the yield of some facilities is reduced considerably during the dry season.

#### **Benefits of the Modified India Mark II Pump**

The performance of the modified India Mark II hand pumps is expected to be more sustainable than other locally-used hand pumps, which include the standard India Mark II and the Afridev. This is because compared with the other models, the modified India Mark II hand pump has a stainless steel pump rod rather than a galvanized steel pump rod, a solid chain guide, and wider back plate using flanged bearings instead of ball bearings. The modified India Mark II pump's handle assembly is also a solid stainless steel axle welded in a square bar, rather than the galvanized steel assembly of the standard pump. All of these make the modified India Mark II lighter in weight and thus easier to pull if below-ground maintenance or repairs are needed.



An abandoned Nira AF86 pump at Abokykrom (Control Community)

Throughout the Western Region, all hand dug wells have periods in the dry season when they have no water or dirty water. Women in at least ten of the Western Region GWASH communities reported having to buy water sachets for a few weeks each year. GWASH staff agreed that hand dug wells were not a reliable source of water year round. In 2012, GWASH discontinued the use of hand dug wells and replaced every two hand dug wells with one borehole. In 2013, GWASH also introduced manual drilling to southern Ghana for the first time and have had considerable success in Assin North and South. No hand drilled wells were visited for this evaluation.

### **RAINWATER HARVESTING**

GWASH installed rainwater harvesting systems for hand washing in 28 schools and clinics. The team visited five of these systems installed at schools in Central Region. None of the rainwater harvesting systems was functioning during the evaluation team's visits, which coincided with the end of the dry season. The catchment systems were unable to provide a typical school of between 90 and 200 students with water following a period of one to two weeks without rain.

At least two of the five tanks visited had design flaws. For example, the taps for hand washing were often higher than the bottom of the tank so that even with water in the tank, it would not come out of the tap. At the clinic, the fill pipe from the gutter to the tank was uphill meaning much rainwater never gets to the tank.

GWASH staff said that the program had come to the conclusion that these systems did not provide a reliable water supply system for hand washing at schools or clinics and had stopped supporting them at the time of the evaluation.

### **PIPED WATER SUPPLY SYSTEMS (SMALL TOWN WATER SYSTEM)**

GWASH is supporting installation of small town piped water supply systems in two communities, Elloukrom and Bokabo. Construction at Bokabo was behind schedule at the time of the evaluation and was less than 30 percent complete. Efforts should be doubled to get the contractor to speed up. The system at Elloukrom is technically completed as per the contract. The system however, has not been commissioned. Community leaders report that the electricity supply to the pump was too low for continuous operation. This is a deficiency in the design of this system with regards to the power supply. A transformer should have been installed exclusively for the water supply system to ensure adequate power to enable continuous, smooth operation.

There are no noticeable differences between the small towns' piped water supply systems installed under GWASH and those under other projects. The standpipes, high level tank and pump house all looked similar to facilities constructed by CWSA and other projects.

### **SANITATION FACILITIES**

*Household VIP and KVIP latrines.* The team inspected 247 household latrines. Latrines are supposed to satisfy these three basic conditions to be accepted as hygienic. They should:

- Eliminate intolerable odor
- Prevent flies from settling on feces and then contaminating food

- Keep feces out of sight.

About 90 percent of the household latrines had inadequate ventilation, thereby resulting in odors and some fly infestation. Ideally, the ventilation component in the VIP and Kumasi ventilated, improved pit latrine (KVIP) moves air in through a screened vent on the front door, down through the hole, and out through the ventilation pipe. Most of the household latrines visited did not have screened

openings in the door, or were not sealed between the roof and walls resulting in inadequate ventilation with resulting bad odors and fly infestation. The picture to the right shows VIP latrine without adequate ventilation. Only one household latrine in the Western Region met the “ventilation” criterion that is the hallmark of the KVIP design. The latrines were also pitch dark inside with the door closed making it difficult to aim properly.

Despite the issues with ventilation, household latrines inspected appeared quite neat and met the conditions for hygienic latrines.

Beneficiaries were proud to show their latrines. Some latrines had been tiled and some had even installed ceramic bowls. The picture on the previous page shows a household latrine that has been tiled. (However, both holes are in use in this case, when one should be sealed until the other is full.)

GWASH shifted from a high subsidy (60 percent of costs), supply-driven household latrine initiative to a low subsidy (40 percent of costs), demand-driven approach in 2012. In an attempt to reduce subsidies in the hybrid CLTS communities, GWASH restricted household latrines to only VIP types. About 60 percent of the latrines are VIPs rather than KVIPs. Semi-detached VIPs were more common though they will probably only be usable for 6-8 years. In five hybrid CLTS communities semi-detached VIPs have been constructed. Had these been converted into KVIPs they would have provided a longer benefit.

Latrines in control communities varied from very crude open pits with boards

#### Latrine Innovations in GWASH Communities

In both Central and Western Region, community members had added an adjoining bathhouse to their latrines, which appeared to be an efficient use of space and materials (since they shared a common wall). This was noted in two families in Bantum and one in Alata.

Five elderly people had installed raised seats in the latrines as they are unable to squat due to hip or knee problems.



Household latrine at Asuoklo.



Household KVIP latrine that has been tiled at Alata.

across the pit to fairly well constructed houses with doors.

*Institutional KVIP latrines.* GWASH reports having built 150 KVIP institutional latrines to date. The team visited six of these: five school latrines in Western Region, and one at Abankrom CHPS Compound in Central Region. These were mostly four to six seat latrines with separate rooms for men and women. Usually one toilet is set aside for the teachers. The school latrines also often include a “changing room” for girls who are menstruating. The changing rooms do not have water or a place to dispose of sanitary pads.

#### Revisiting Water Supplies in Some GWASH Communities

In communities where GWASH participated only in latrine construction, the project decided not to conduct a water intervention based on the determination that communities already had access to clean water. However, the evaluation team noted that in three GWASH communities (Akoakoo, Adaa, and Bentum) in the Central Region and Adobewura in the Western Region, water facilities were not functional and community members were collecting water from a river source or from a shallow well. In Akoakoo, the hand pump borehole was broken. The borehole at Adobewura had high iron content. The community of Adaa relies on the Ghana Water Company, but deliveries to the Ghana Water Company standpipes were inconsistent. A newly drilled well at Bentum, financed by the District Assembly is still pending the installation of the hand pump.

The institutional KVIP latrines inspected in the communities appeared to be well constructed with screened openings provided for the entry of fresh air into the cubicle. All of them met conditions of hygienic latrines. Four of the five school latrines had flies trapped behind the screen indicating that the ventilation flow was not working efficiently. This was the case in Adobewura and Bokabo where the superstructure had not been properly off-set. This will make it more difficult to empty pits of decomposed feces when the time comes. Also, none of the latrines visited were properly sealed around the roof to create the ventilation that characterizes the KVIP latrine and helps prevent fly infestation.

#### 1b. Differences in WASH Infrastructure Installation and Patterns of Use in GWASH and Non-GWASH Communities

Using data gathered through stroke and leakage tests, water quality and safety tests, observations, and interviews with beneficiaries, the team ranked each community on a scale of 1 to 5 for each of the following categories: 1) Water Availability; 2) Water Quality; 3) Consistent Year-Round Water Quality; 4) Consistent Year-Round Water Quantity. Exhibit 3 and Exhibit 4 on the following page illustrate the functionality and quality of water supply as indicated by the rankings in each category in each of the GWASH and control communities visited. The team also looked at the length of time the community’s pump was broken and beneficiaries overall satisfaction with their water supply. Full rankings for each of the communities visited are provided in Appendix J.

*Water infrastructure and functionality in GWASH and non-GWASH communities.* As demonstrated in Exhibits 3 and 4 on page 17, GWASH communities on the whole ranked significantly higher than non-GWASH control communities in terms of availability of water, water quality, and consistent year-round water quality and availability. The team gave 50 percent of GWASH communities a combined ranking of 15 (out of 20) or higher, while only 8 percent of control communities received a combined ranking of 15 or better. This would indicate that GWASH communities on average have greater access to a reliable source of clean water than control communities thanks to the Program. Two of the four GWASH communities that scored

18 or better had multiple boreholes, so if one failed, they still had water supply from a safe source. Krobro, for example, had two boreholes. One of the boreholes was broken, but both were high capacity boreholes with electric pumps, so even with just one the community had sufficient water supply. Abrafo had four boreholes, three of which were working. Kuberkro had only one borehole, but the community was relatively small so the stress on the borehole was not high. Additionally, the community took a lot of pride in their borehole—it was the cleanest, most protected installation the team visited in Central region. Should this borehole fail however, the community does not have a safe back up supply. These examples support the argument that communities need at least two boreholes so that they will have continuity of clean water when one pump is broken or in repair.

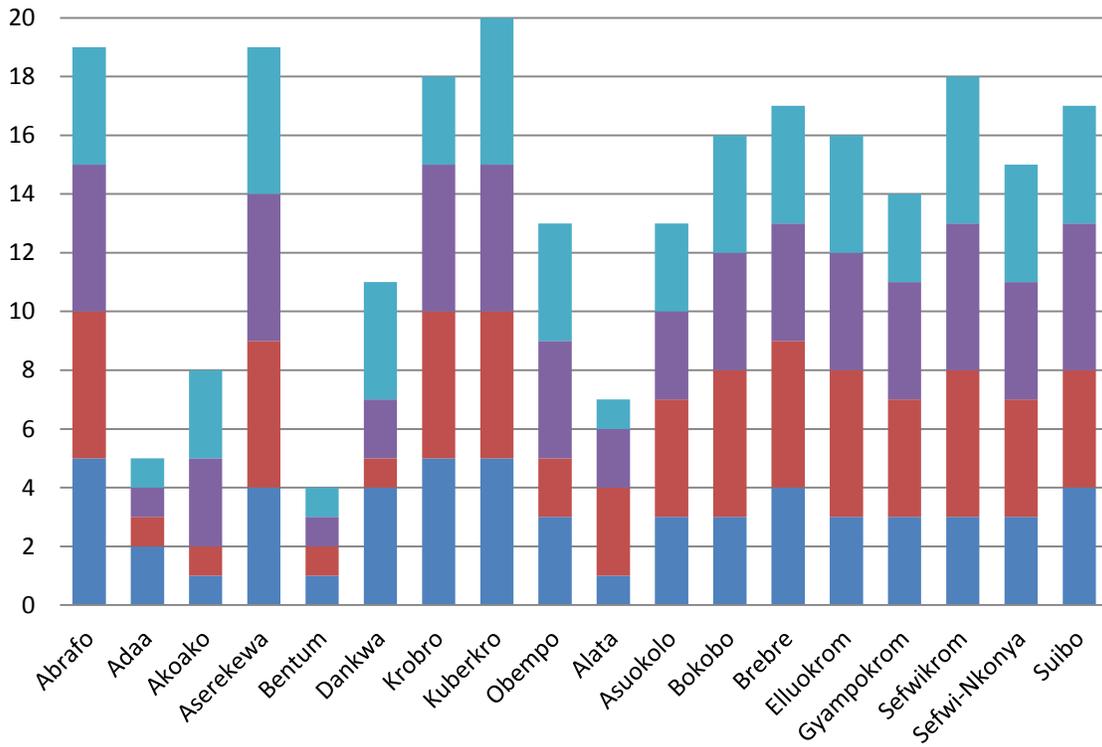
While the estimated water supply functionality in the GWASH communities of Adaa, Adobewura, Akoako, and Bentum was low, it should be noted that these communities only received GWASH sanitation interventions. Alata's combined ranking was low due to the fact that GWASH interventions were limited to the provision of one hand pump that had been put on a hand dug well. Interviews with several community members indicate that this well did not provide sufficient water for the entire community.

As shown in Exhibit 4, control communities generally ranked low with roughly half of communities receiving a ranking of 6 (out of 20) or lower.

*Sanitation infrastructure and patterns of use in GWASH and non-GWASH communities.* Looking at data on the number of households relative to the number of latrines in each community as well as data on use of latrines from the KAPB survey and interviews with beneficiaries, the team ranked each community on a scale of 1 to 5 for 1) Prevalence of Latrines, and 2) Use of Latrines. As shown in Exhibits 5 and 6 on page 18, 83 percent of GWASH communities received combined sanitation rankings of 7 out of 10 or better. Two of the four communities that scored low, Bokabo and Elloukrom are small towns with relatively large populations. This could explain why the GWASH intervention in sanitation could not achieve high enough coverage in terms of latrines per households in those communities. Based on findings from the KAPB interviews and from general observations made during visits, water utilization, sanitation, and hygiene practices in GWASH project communities were also slightly better than those in control communities.

On the other hand, 75 percent of control communities received combined sanitation rankings below 7 (out of 10). More than half of control communities received rankings of 4 (out of 10) or below showing that sanitation infrastructure and use in communities that did not benefit from GWASH interventions was poor.

**Exhibit 3. Water Supply in GWASH Communities**



**Exhibit 4. Water Supply in Control Communities**

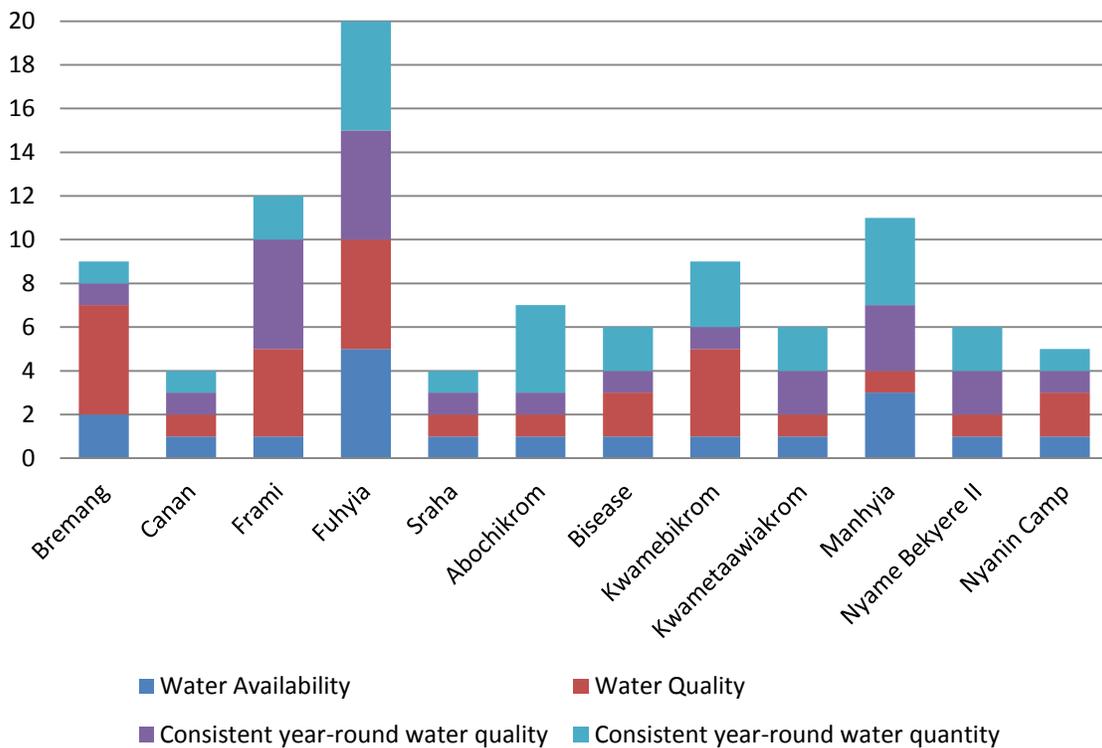


Exhibit 5. Latrine Prevalence and Use in GWASH Communities

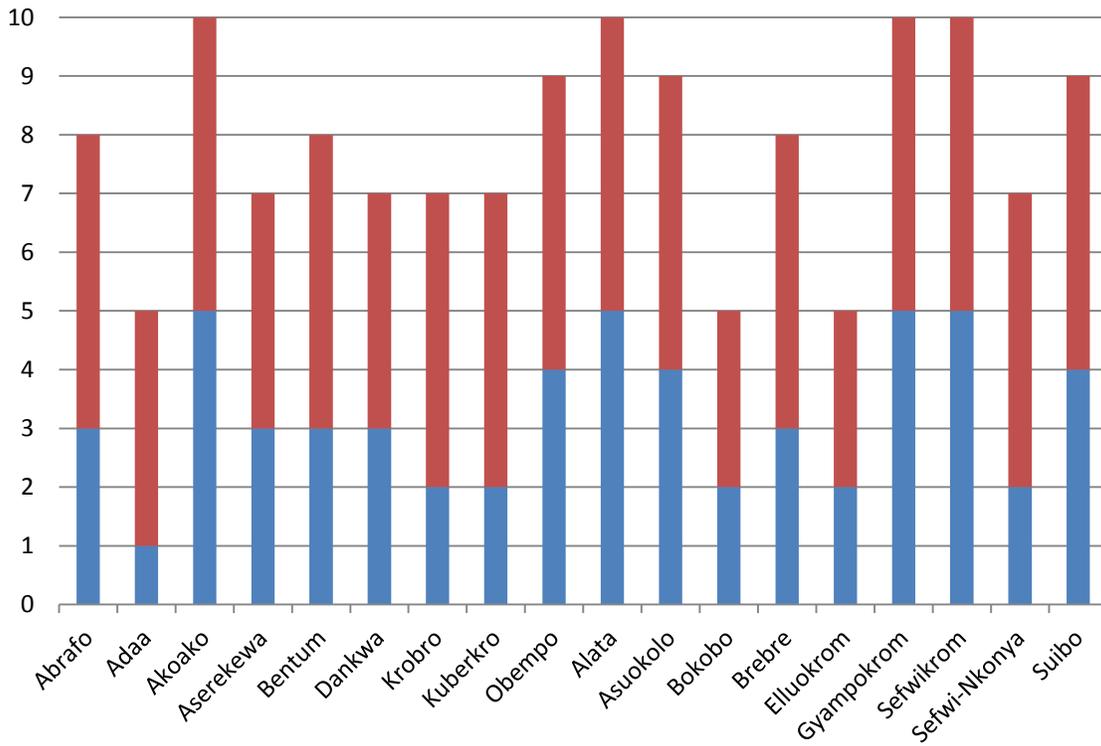
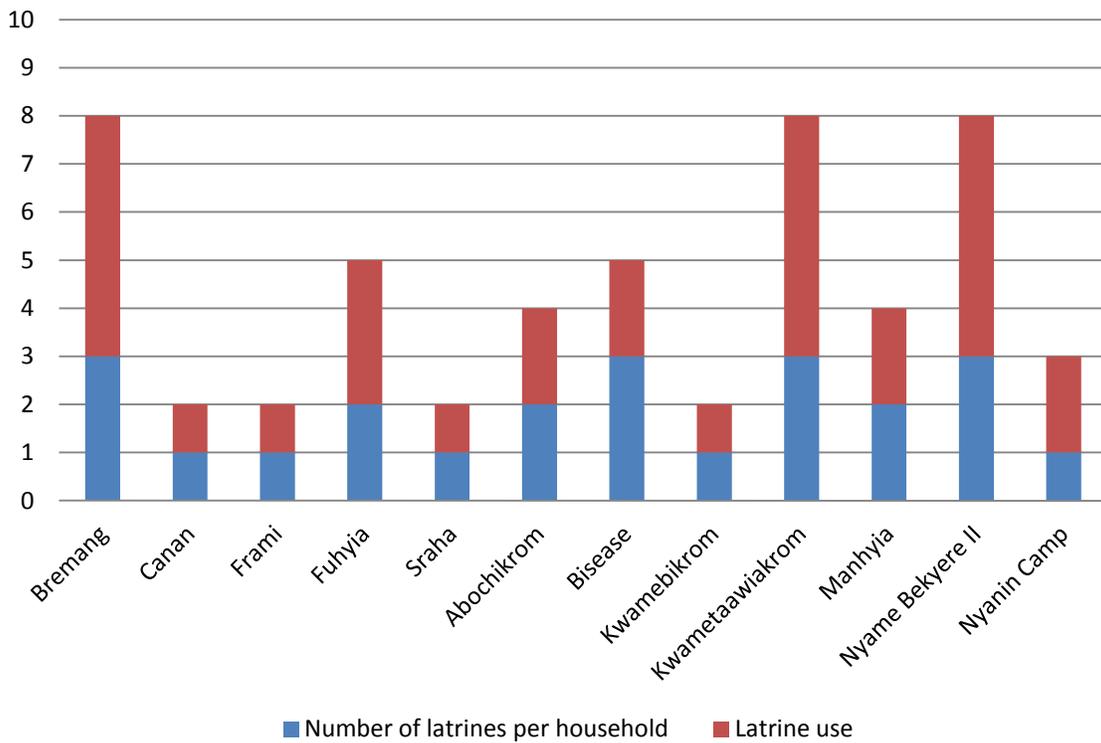


Exhibit 6. Latrine Prevalence and Use in Control Communities



## 2. SUSTAINABILITY PLANS FOR MAINTENANCE, REPAIR, AND SECURITY OF CURRENT INFRASTRUCTURE IMPROVEMENTS

### Evaluation Question 2

2. Are the sustainability plans for maintenance, repair, and security of current infrastructure improvements (both water points and latrines) adequate to ensure project success in both GWASH and non-GWASH communities?
  - 2a. Is the level of field training sufficient to ensure community-based maintenance of the infrastructure?
  - 2b. Are those trained retained to ensure timely and effective maintenance in both GWASH and non-GWASH communities?

The GWASH project focused only the institutional requirements of sustainability at the community, district, and national level for established water systems. The maintenance of latrines is the responsibility of household recipients.

*Community WASH Committees.* CWSA guidelines at the community level recommend the establishment of WASH Committees for management of water infrastructure in small communities and Water and Sanitation Development Boards (WSDB) for piped water supply systems. The committee or board should be democratically selected with at least 30 percent of members being women. The committee should be trained to be able to hold regular meetings and record minutes of meeting and financial transactions.

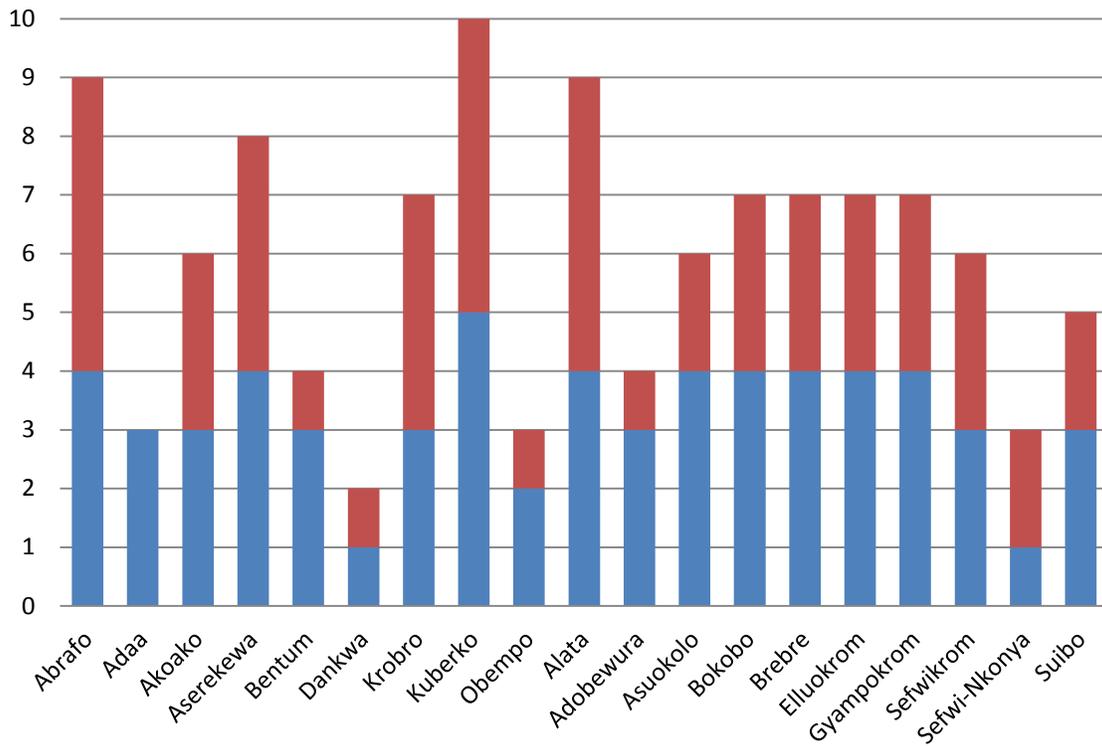
Data gathered from interviews confirms that in all communities where GWASH provided water supply or latrines, there are active WASH committees that understand their responsibilities with regard to the maintenance of the water systems. In the GWASH communities visited, most of the WASH members were either volunteers or appointed by community leaders as the concept of elections is not used at the community level where local chiefs make most decisions. Interviews and observations indicate that 80 percent of individuals on 28 GWASH committees have a basic understanding of maintenance and repair. Even within the committees some members are more active and informed than others.

The criteria for a functioning WASH committee, for this evaluation, are that they hold regular meetings, record minutes, monitor financial transactions in a transparent way and see that pumps are routinely maintained and repaired within two weeks when they break. As shown in Exhibit 7, the team gave 16 out of 19 WASH committees in GWASH communities a ranking of 3 out of 5 or better based on interviews, observations, and comments from beneficiaries in focus groups. Nine of those committees were ranked 4 out of 5 or higher in terms of functionality of WASH committees. Those in Suibo and Asuoko, with more women on the committee, seemed to be functioning better than those with fewer women. As women make up half of the population and are the primary gatherers and users of water, the global experience is that when women manage the committees and are trained to maintain/repair pumps, there is less down time.

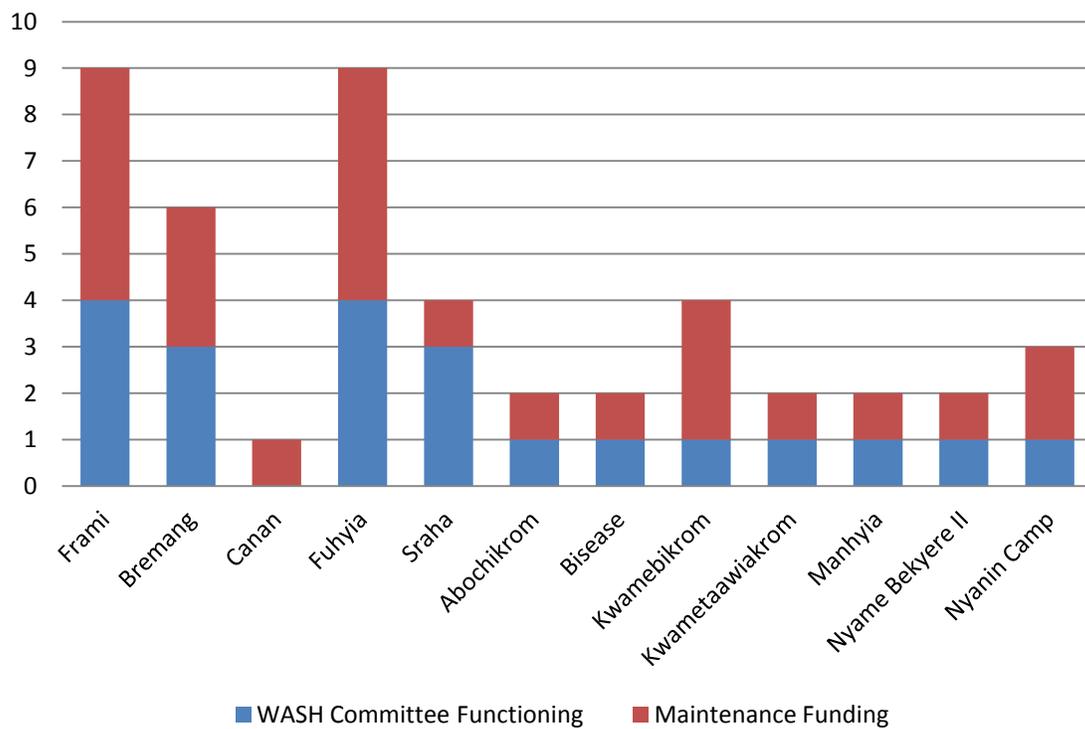
In communities where only sanitation was provided by GWASH, such as Adaa, Adobewura, Akoako, and Bentum, committees meet less frequently as families are responsible for maintaining their own latrines. In the cases of institutional latrines at schools the committees had dealt with minor repairs and repaired vandalism. In no case, had a GWASH committee taken

initiative to create additional latrines or manage other community sanitation efforts such as garbage management or building community latrines.

**Exhibit 7. Sustainability of WASH Infrastructure in GWASH Communities**



**Exhibit 8. Sustainability of WASH Infrastructure in Control Communities**



*Financial management.* Financial sustainability depends on the community WASH committee's ability to continuously mobilize funds for the operation and maintenance of water and institutional sanitation facilities. As show in Exhibit 7, the team gave more than half of the GWASH communities a ranking of 3 out of 5 or better for Maintenance Funding. This was significantly better than control communities, where only one-third of committees received a rank of 3 out of 5 or better for maintenance funding (see Exhibit 8).

Approximately half of the WASH committees in GWASH communities demonstrated effective financial management and accounting in terms of opening bank accounts, keeping financial records, and sharing financial records with the community on regular basis in line with CWSA standards. From interviews and observations however, the team concluded that none of the 28 WASH committees in GWASH communities (and none in the control communities with WASH committees) know how to budget for maintenance costs of a well over five years.

Also of importance are the systems adopted for accountability and transparency of uses of funds. Only about 10 percent of more than 400 focus group participants in GWASH communities said that they know how much money the WASH committee had on hand or how collected funds were being used.

#### **Making WASH Work in Kuber Kro**

One of the better WASH committees was in Kuber Kro in the Assin North District. As there is no chief in the community, the community members chose the 13 WASH committee members (four of whom were women), including a well-respected committee chairman and literate and committed secretary. The LNKO, New Nation Network, engaged by GWASH to oversee work in Kuber Kro actively and regularly engaged the WASH committee in the hygiene education work.

In all the project communities where water facilities were provided by GWASH, the WASH committees report that fees for maintenance are collected on a pay-as-you-fetch basis, through monthly household levies, or via special collections when water systems breakdown. WASH experts agree that while pay-as-you-fetch is the most reliable method for collecting funds, this discourages people from using sufficient water for good sanitation and hygiene and/or encourages people to draw from poor quality sources (streams) at least some of the time. This was supported by data from the focus groups and KAPB study. In 10 of 15 GWASH communities, such as Elluokrom, where the pay as you fetch mode was applied, at least 20 of total women interviewed considered the five cents per basin to be too high and had stopped paying it, preferring to use the local stream or old hand dug wells.

As facilities are relatively new, annual revenues are currently more than annual expenditures in all project communities. While committees often started out collecting fees, when no repairs were needed, 23 of 28 committees stopped collecting money choosing instead to levy fees only when a water facility broke down. This takes time and delays needed repairs.

At least 80 percent of households interviewed in GWASH communities, or a proportion in line with national or locally set standards, pay the tariff. On the other hand, in non-GWASH communities, payment of tariffs is a major concern leading to breakdown of the water facilities. For example in Frami, in the Twifo Hemang Lower Denkyira District, out of five boreholes, only two are functioning. The remaining three are broken, and the community does not have enough funds to undertake the needed repairs nor was it clear who in the community was responsible for upkeep. None of the 14 control communities collected funds routinely. Instead, they wait until the pump breaks, and do a special levy to have it repaired. In all 14 control communities pumps had at some point been broken for a month or more.

*District level support.* District Water and Sanitation Teams are expected to provide regular monitoring of WASH services and follow-up support. Specifically, they are to monitor financial, technical, and administrative performance including periodic audits. In this regard, DWSTs are to be fully involved in the formation and training of WASH committees to ensure good relationships between the two. The DWST is supposed to make periodic visits to all the pumps in their district, to monitor the effectiveness of the WASH committee, and pump functioning but none of the members of the DWST that were interviewed reported making these visits. They are overworked, often lack transport, and have no incentive to make visits.

Ten of the 12 stakeholders interviewed at the district level classified GWASH collaboration with district and metropolitan assemblies as weak. District Assembly members have huge responsibilities and very limited resources. USAID restrictions on compensation for host-country government personnel limited GWASH's ability to assist District personnel with transportation and other support which meant that the collaborative relationship between community WASH committees and District Assemblies was not particularly strong. Evaluation team members speculated that the constitution of a District Steering Committee by the project may have diluted the expected role of the DWSTs and created confusion as to roles and responsibilities of the DWST when dealing with the GWASH communities. Inadequate involvement of the DWST in the contracting of local NGOs and technical contractors may have also limited closer or more consistent monitoring of services provided by these contractors.

Low involvement of the district level staff in hardware and software implementation was found in all cases. In project communities in the Western Region, at least 90 percent of the 200 community members interviewed had no concept of district level staff responsibilities for monitoring and providing direct support. The rates were higher among women than men who have slightly more contact with district officials. About 75 percent of 413 GWASH community members interviewed were of the opinion that the hand pump had been given to them by GWASH or USAID (as most facilities are clearly marked as such) and that the district had nothing to do with these interventions. Therefore they did not see the need to approach the district for support. They assumed that when facilities break, GWASH and/or USAID would repair them. The lack of knowledge of district level staff responsibilities on the part of community members could have implications for communities' ability to access district support for maintenance. While GWASH linked communities to local supplies in district markets, the evaluation team found that Area Mechanics still lacked necessary tools for underground repairs and for pulling pipes out of wells.

*National level support.* The Community Water and Sanitation Agency under the Ministry of Water, Works, and Housing, has a mandate to assist and coordinate with other government ministries, departments and agencies, international agencies, and NGOs for the effective delivery of rural water supply and related sanitation facilities and services. One of the CWSA's functions is to prescribe standards and guidelines and ensure compliance by all actors in the sector. This makes the Agency a key player in the pursuit of sustainable rural WASH delivery.

CWSA and USAID staff interviewed explained that the two agencies could not come to agreement on how to more directly engage CWSA in the GWASH project because of an issue related to management fees for CWSA staff time. Although GWASH recognized the importance of CWSA, USAID policy does not allow "payment to government officials for their official

responsibilities.” While GWASH did not coordinate formally with CWSA at the national level, many GWASH staff did coordinate with CWSA staff informally at the community level.

## **2a. Level of Field Training to Ensure Community-Based Maintenance of WASH Infrastructure**

*WASH committees.* To ensure community based maintenance, GWASH trained about 1,600 WASH committee members (eight members in each of the 200 communities) as well as 18 Area Mechanics and 153 Latrine Artisans in facilities Management and Maintenance. GWASH provided WASH committee members with one training session of five days. Committees received limited follow up on an as needed basis from GWASH Regional Coordinators for problem solving. GWASH did not sponsor opportunities for WASH committees to meet with counterparts in other communities to share ideas and experiences.

*Training of Area Mechanics.* Sustainability of the pumps depends on routine maintenance, the availability of a local mechanic who can make minor above-ground repairs, and availability of Area Mechanics who can complete below-ground repairs. GWASH trained a total of ten Area Mechanics in Central Region and eight in Western Region. All except two were experienced practicing Area Mechanics trained by CWSA or other projects. Feedback from more than 400 GWASH community members indicates that the initial training of Area Mechanics was rich in content and methodology. The methodology involved two weeks of both theory and practical application that incorporated adult learning techniques and was done in local languages. After the initial training, no further training was given to the mechanics. In addition, making below-ground repairs requires special tools that the Area Mechanics currently do not have.

To sustain the construction, use and maintenance of household latrines, GWASH recruited 153 individuals (58 in Central Region and 95 in Western Region) and trained them as Latrine Artisans. ADRA Ghana during its previous Food Security Program trained a number of professional masons as Latrine Artisans. They dig pits and assist with the concrete slabs and other construction. The artisans say they are available but they are rarely called upon in the absence of subsidy.

Since very few of the latrines constructed meet the basic ventilation standards of a VIP, it is apparent that the training was not adequate. The project could have done more to enforce quality control standards as latrines were being built. None of the Latrine Artisans went on to build their businesses by building latrines for non-GWASH families.

## **2b. Retention of Trainees for Effective Maintenance**

There were no reported cases of relocation of any WASH Committee members, even though at the time of visits, some members had traveled out of town. However, one cannot guarantee the retention of WASH membership in all project communities, given that this is a voluntary service. With time, some members are likely to leave for various reasons. Other WASH projects in Ghana have experience with various ways of compensating community leaders for their time in community work. In the Western Region, many people only live in the communities during agricultural seasons and have homes in other places half of the year. This makes continuity difficult, especially of a pump breaks during the time when many people are at their other homes.

All 18 Area Mechanics in Central and Western Regions are still in their districts. All 18 GWASH-trained Area Mechanics are supposed to be providing support to both GWASH and non-GWASH communities. However, they and other stakeholders report that they are rarely called on by non-GWASH communities. The issue of retention of Area Mechanics does not pose any threat to sustainability of GWASH interventions at the moment. Mechanics report that they are available within three days of being contacted, provided the communities can pay for their services. Therefore, the greatest threat to sustainability is the potential inability of GWASH communities to raise the level of revenues necessary to pay for maintenance services. In the non-GWASH communities, pumps visited were broken down precisely because of inability of the community members to raise sufficient funds. The control communities were more likely to have hand dug wells that are dry in some seasons so they use river water. Virtually every community has one or more old, broken pumps that were installed by another donor in the past.

## **2c. Differences in Sustainability Planning, Training, and Retention between GWASH and Non-GWASH Communities**

GWASH sustainability planning is modeled on the CWSA strategy of community participation and community ownership and management. While the team did not visit communities with active WASH projects being implemented by other organizations, interviews with 125 stakeholders suggest there is no noticeable difference between GWASH strategies to train and retain WASH Committee Members, Area Mechanics, or spare part dealers and those of other WASH implementers.

On the community ranking exercise GWASH communities scored an average 3.3 (out of 5) for WASH committee functionality, while control communities only scored 1.9. Only 3 of 14 control communities had WASH committees; the rest had Unit Committees with vague responsibilities for various community activities including water. On average, GWASH communities ranked 2.8 (out of 5) for their ability to collect adequate fees on a regular basis to fund maintenance. Non-GWASH communities ranked an average of 2. Ten of 28 GWASH communities had collected sufficient funds to pay for routine maintenance of pumps though they had stopped collections when the funds were not used.

## **3. COMMUNITY LED TOTAL SANITATION APPROACH (CLTS)**

### **Evaluation Question 3**

3. What factors influenced community acceptance of the modified CLTS approach used to promote construction of sanitation facilities in the project area?
  - Has this demand driven approach resulted in sustained use of constructed facilities?
  - Is there any evidence that the modified CLTS approach will result in additional latrine construction after the end of GWASH in targeted communities?

The Community Led Total Sanitation Approach (CLTS) is one of the key elements of the national sanitation policy of Ghana. The objective of CLTS is to change people's sanitation behavior starting with the achievement of total open defecation free (ODF) communal environment that breaks the fecal-oral contamination cycle. Individual families move up the "sanitation ladder" as they can afford to move from dig and cover (the lowest level) up through

various types of latrines. The process of moving a community from open defecation to all families having some type of latrine can take months or years.

All seven GWASH staff interviewed did not think that a pure CLTS (i.e. no subsidy) implementation would allow the Project to achieve its latrine construction targets before the project end in September 2013. However, in response to Ministry of Local Government and Rural Development (MLGRD) pressure for all WASH implementers<sup>5</sup> to align their approaches to the national policy, GWASH adopted what it calls a “hybrid CLTS” approach in March of 2012. The hybrid approach was a GWASH effort to comply with MLGRD policy while also achieving GWASH target infrastructure goals. This approach employed lower subsidies for household latrine construction (only 40 percent, down from 60 percent subsidies provided before March 2012) and used a one-day CLTS triggering method to also enhance demand for the latrine, specifically to encourage households to raise contributions toward latrine construction. The GWASH community intervention strategy differs from GoG guidelines for CLTS in that the CWSA manual focuses first on the behavioral change needed to ensure real and sustainable improvements – investing in community mobilization instead of hardware, and shifting the focus from toilet construction for individual households to the creation of ODF villages. Following CWSA CLTS strategy, community organization, hygiene education, and behavior change would have preceded the installation of wells and latrines by three to six months to assure community ownership and thus, sustainability.

*Factors influencing community acceptance of modified CLTS approach.* The GWASH project offers nine different VIP latrine models that vary in cost from \$300 to \$800 and use a variety of locally available materials (e.g. bamboo, thatch)<sup>6</sup>. GWASH does not offer lower cost options, such as traditional pit latrines constructed to avoid human contact with excreta and built with non-permanent structures with significant local material component. Those families with ready cash were the first to sign up and often chose the more costly models. Those households with no available resources did not participate in latrine construction.

As shown in Exhibit 9, in the seven GWASH communities with sanitation interventions visited in the Central Region, an estimated average 65 percent of households were not involved in GWASH latrine construction. This 65 percent of households without GWASH latrines depend mostly on nearby pits or communal open pit latrine or OD. Although the evaluation was not able to collect exact figures, it was able to establish during focus group discussions that there were only a few household latrine owners before GWASH entered the communities. One hundred percent of men and women in focus groups indicated that the main constraint that keeps families from building household latrines is affordability.

---

<sup>5</sup> CONIWAS is a membership organization of NGOs and other implementers of WASH projects in Ghana. They have over 100 members, of whom 50-60 are implementing WASH projects in Ghana.

<sup>6</sup> The costs include roofing materials, sand and cement for the floor, siding of wood or mud, and the purchase of labor to dig the pits.

Exhibit 9. Latrine Coverage in GWASH Communities in Central Region

COMMUNITY/DISTRICT	ESTIMATED NO. OF HH IN COMMUNITY	NO. OF HH GWASH LATRINES	NO. (%) OF HH WITH NO LATRINE
Dankwa (Awutu Senya)	87	45	42 (48%)
Obempo (Awutu Senya)	62	35	27 (44%)
Bentum (Awutu Senya)	80	30	50 (63%)
Aserekewa (Agona East)	150	41	109 (73%)
Adaa (Gomoa West)	450	51	399 (81%)
Abrafo (Twifo Hemang)	306	93	213 (70%)
Krobo (Twifo Hemang)	375	117	258 (69%)
<b>Average</b>			<b>157 (65%)</b>

The subsidy has allowed several recipient households to own a latrine which they say they value mostly for the privacy and convenience. Based on the KABP survey responses (see Appendix I) from GWASH communities, the attitude towards latrines was equally dictated by the desire for convenience and privacy as health considerations. The more frequent answers to the KABP survey question “Why do you think the latrine is important?” were:

- “Protects people from diseases” (23%)
- “We don’t have to go far anymore during the night.” (21%)
- “We are no longer embarrassed to have visitors stay in our house.” (19%)
- “We can now have our privacy. We can even easily clean our own toilet.” (15%)

*Demand driven approach and sustained use of constructed facilities.* Despite issues with ventilation, household latrines inspected were neat and met the conditions for hygienic latrines. Beneficiaries were proud to show their latrines. Some latrines had been tiled and some had even installed ceramic bowls. Only three of the 247 latrines inspected were used for the storage of grain or produce and this did not affect the utility of the latrine.

GWASH improvements have contributed to achieving official open defecation free (ODF) status for nine out of the target 50 communities. This ODF status was based on a GWASH verification process and did not go through the current GoG validation process, which involves Municipal/District Assemblies as verification units. The limited number of trained District personnel led the project to conduct the verification itself. Five communities (three project communities in the Western Region and two – one project and one control – in Central Region) reported to the evaluation team they are ODF although there was no way for the team to verify this.

GWASH educational programs specifically targeted latrine beneficiaries to encourage proper hygiene and use of latrines, rather than attainment of ODF. These seem to have been successful as all the KABP respondents from GWASH communities say they wash their hands after defecation. However, it needs to be noted that none of the household latrines visited during the evaluation have a hand washing facility beside their toilets. All interviewed latrine owners indicated that they wash their hands when they enter their houses or with some stored water outside their homes. They take newspaper, corn cobs, or other materials with them when they visit the latrine to clean themselves after they defecate.

*Modified CLTS approach and potential for additional latrine construction after the end of GWASH.* Families that received either high or low subsidies followed through in constructing latrines but the modified CLTS approach did not foster fully self-funded expansion of latrines in those communities.

Based on interviews and observation, there is no evidence of follow-up construction in GWASH communities. The presumption of the project, that once a few influential community members had latrines, others would follow suit and build their own has not been valid. There were only four cases in which community members had built or were in the process of building their own latrine, usually a traditional pit latrine. Community members interviewed indicated that financial difficulty is the biggest reason why other households are not constructing their own latrines.

Over 80 percent of the 200 community members interviewed confirmed that any level of subsidy provided to some community members discourages others from paying the entire amount for their own latrine. In the GWASH communities visited, community members who did not benefit from the GWASH latrines were awaiting external financial help before they constructed their own latrines because they believed they needed a considerable amount of money to afford latrines. This was expressed in all the focus group sessions, especially by women.

The vast majority of focus group participants were not aware of alternative low cost sanitation options. The GWASH approach of prescribing only the VIP latrine model rules out a wide range of lower cost latrine options which people could improve in increments and thus up the sanitation ladder. A UNICEF-sponsored evaluation of the CLTS implementation in 35 communities in five districts in Ghana observed that communities chose to improve on the communal latrines as a starting point with the decision to move up on the sanitation ladder at a later stage. Within 18 months of implementation, more than 270 households had initiated household latrines with the majority having the traditional pit latrines constructed with locally available materials.

**Temporary Residency May Limit Demand for Latrines in Western Region**

In Western Region, most of the residents of the communities visited are not year round residents. They are either cocoa or palm oil farmers who come to live near their farms in certain seasons but have more permanent homes in other towns. As community members see their residence as only seasonal, this may contribute to a disinterest in proper latrines. It is not known what sort of latrines they have in their other homes.

The GWASH Project has been training stakeholders on the full CLTS approach (as demonstrated by its Training Manual from May 2011), but the fact that some form of subsidy as well as the absence of the required intensive follow-up created confusion at the level of support organizations and stakeholders such as LNGOs, EHAs, as well as the communities. Why pay for your own latrine when you have hope that one of the NGOs will pay for it? How does an NGO explain to the community that they do not subsidize latrines when others do? It is important to keep in mind that the CLTS guidelines were introduced in 2011 with only two years remaining in the project. GWASH staff assert that they would not have been able to meet their ambitious target for number of latrines constructed without providing some type of subsidy.

All seven local NGOs interviewed expressed frustration with their inability to implement the full practical processes of CLTS in the assigned GWASH communities. Virtually all the district and national level stakeholders interviewed said that the introduction of subsidies became problematic for the major stakeholders in the sector because it served to delay government

efforts to scale up the national sanitation policy for which government investments were provided.

Only one out of the nine communities visited in the Central Region and none in the Western Region had plans to sustain the process GWASH started with Behavior Change Communications (BCC). Contrary to the GWASH BCC strategy, the community representatives were not able to show their plans to sustain hygiene education and good practices. Very few Community Based Health Promoters (CBHPs) or “natural leaders” were known to the community members. This outcome can only allude to limitations in the preparation of communities to own a process of behavioral change. It should be noted that literacy rates in the Western Region are reported at less than 20 percent and thus written community plans are of marginal use. Also, CHBPs and WASH committee members are volunteers and these activities can take a lot of time. There was discussion with GWASH and community members about ways to compensate community volunteers but no community was doing that at the time of the evaluation. As the communities where GWASH works are usually very low income, volunteers want some sort of stipend for any extra effort. School teachers would like to be “motivated” (with stipends or other rewards) for the extra time they put into the school health program.

The lack of demand for more latrine construction can also be traced to the observation that Latrine Artisans seem to be lacking capacity and entrepreneurial initiative to promote improved sanitation. They are available to assist with construction but the project provided limited training and follow-up mentoring to these service providers. Artisans complained that households were not demanding their services because there were no funds to support latrine construction. If these artisans were trained on the range of low-cost options for latrines in rural areas, they could be the key to educating the communities on these options, thus, creating a market for themselves, at the same time expanding the sanitation coverage in communities. UNICEF’S evaluation of CLTS in Ghana found that in communities where post-triggering included intensive follow-up by qualified personnel such as NGO technicians who provided support such as identifying suitable sites, bottom-up engineering with community members (e.g. locally appropriate latrines that fulfill privacy, stability, exclusion of flies, distance from water points, etc.), substantial number of households were able to build their own latrines without subsidies.

#### 4. Use of Local NGOS

##### Evaluation Question 4

4. Was GWASH successful in using LNGOs to undertake effective WASH activities within communities? Why or why not?

*LNGO selection and capacity building.* GWASH consciously adopted a strategy to engage district-level LNGOs in outreach efforts required to mobilize the communities for WASH services. Stakeholders strongly support the use of LNGOs to mobilize communities, as they know the LNGOs from other projects. This approach is also consistent with CWSA’s policies. LNGOs are part of the local economy and are familiar with local languages and cultures. Accordingly GWASH selected LNGO partners through a competitive bidding process. LNGOs responded to advertisements with proposals and twelve were initially selected for community mobilization, maintenance, and other services. For the purpose of the evaluation the team

interviewed staff of seven LNGOs (see Appendix D). It was noted that all the LNGOs were in existence before the start of GWASH.<sup>7</sup>

The selection process of LNGOs excluded the District Assemblies and other municipal and district officials. The GWASH COP explained that LNGO and District assemblies were often found to have intertwined relationships, with many District personnel also running NGOs on the side. Allowing District personnel to have a heavy hand in the selection process could present certain conflicts of interest and lead to implementation challenges down the road. A selection process that is completely independent of District teams, however, can lead to poor collaboration, since they might not have a firm relationship with the selected LNGO in that district. For example, in the Assin North Municipal Assembly, officials were not aware of the office location of New Nations Network, the LNGO contracted by GWASH. They also claimed the LNGO has never invited any of the officials to any of the GWASH training or field activities. On the other hand, in Aowin Suaman, and Assin North districts where LNGOs initially built strong relationships with the District Assembly, officials have appropriate knowledge of the project.

All LNGOs were vetted to be sure they were legitimate organizations and registered with the GoG. GWASH Regional Field GWASH assessed the effectiveness of the LNGO partners each year and terminated those they judged to be ineffective.<sup>8</sup> GWASH assumed that all LNGOs had some basic logistics such as motorbikes and offices, which was sometimes not the case. Early in the project, at least two LNGOs were using taxis to reach the communities.

While all LNGO partners have a few core staff who are reasonably experienced, all seven LNGOs interviewed had deployed male secondary school graduates with little to no field experience to explain the project and organize the community. This has implications for staff effectiveness, confidence, and the kind of respect accorded to them by the community members. Among the seven LNGOs interviewed, the evaluation team was unable to identify any LNGO staff with training specifically in community mobilization. GWASH staff report that in two cases, LNGOs diverted program funds to enhance the salary of the Executive Director, rent larger office space, or buy computers rather than hire competent staff. The LNGOs are for the most part very small and underfunded so this diversion of funds is not surprising.

All seven LNGOs interviewed have weak or non-existent “back offices” and as such, cannot produce basic administrative and financial reports. Likewise, due to the informal approaches to human resources within the LNGOs and extremely high turnover, significant investment goes into training personnel with no guarantee that individuals trained will stay with the project for any length of time. GWASH coordinators worked closely with the LNGOs and made efforts to coach and support them, but GWASH did not develop formal strategies for building the capacity of partner LNGOs. While LNGO staff members often participated in GWASH workshops for all

---

<sup>7</sup> Ghana, like most developing countries, has many “hip pocket” NGOs which are one-person, in name only organizations. The selected GWASH partners were vetted to be sure they were legitimate, registered organizations. GWASH worked closely with the Ghana Coalition of NGOs in the Water and Sanitation Sector (CONIWAS), an organization with about 100 members in its selection of partners.

stakeholders, GWASH did not conduct capacity assessments for partner LNGOs or help them develop plans for becoming financially or operationally sustainable organizations.

*LNGO performance.* GWASH staff reported that 11 of 12 LNGOs have been active and productive partners in the field whose efforts led to high demand for services (PROMAG in particular).<sup>9</sup> GWASH did not attempt to monitor behavior change in communities after training provided by LNGOs, however, and all of the seven LNGOs were found to have weak administrative capacity and/or lacked critical planning skills.

Notwithstanding the challenges of working with the LNGOs, the evidence at the community level suggests that LNGOs have been useful and effective in the following ways:

- GWASH increased knowledge and attitudes about sanitation and hygiene. Based on responses in KAPB interviews and focus groups, people in GWASH communities for the most part understand the basics of fecal-oral transmissions of disease and would like to change their behavior. The stumbling block is that many of these people believe they cannot afford latrines or sanitary kitchens.
- Formation of WASH Committees and Water Boards is in line with national standards. GWASH Communities do have WASH committees, most appointed by the chief based on their willingness to serve. Each committee has at least one woman and in one community, there were four women on the committee. All 28 committees visited were at least marginally effective at collecting revenues for maintenance, maintaining transparent accounting systems, and undertaking routine maintenance. Unfortunately, none had received follow-up training or any opportunity to share experiences with committees in other communities after the project got started.
- LNGOs in all 28 GWASH communities visited conducted community profile analysis and assisted in the development of community action plans (CAPs). However, none of LNGOs followed up to see if the plans were implemented. As the literacy rates are low, written plans and print materials get lost or are not used.
- As they have offices in the field, five of seven LNGOs interviewed said they had reasonably close relations with the District Assemblies.

## 5. PUBLIC, PRIVATE PARTNERSHIPS

### Evaluation Question 5

5. What has been the contribution of GWASH in the implementation of the program with regards to Public, Private Partnerships?

The project attempted to carry out private sector alliances according to USAID Global Development Alliance (GDA) guidance. Two of those partnerships were with Rotary

---

<sup>9</sup> The contract of CODESULT was terminated after one year due to the LNGO's inability to complete its tasks in the field.

International. The Rotary International partnership is part of a three-country strategic partnership between USAID and Rotary International. The Alliance was formally launched in 2009 at the 5<sup>th</sup> World Water Forum in Turkey. Rotary hired a project manager as part of its new strategy for implementation. Rotary had previously focused only on volunteer work and small grants for members who wished to do small local programs in their communities.

The Alliance calls for each partner to contribute \$1 million for joint projects. The pilot phase of the project has been implemented in Ghana, the Dominican Republic, and The Philippines. A separate evaluation of the three-country project is listed in the documents in Appendix F. There was also a specific evaluation of the Alliance program in Ghana in January of 2013. In brief, the Alliance was a major learning initiative for Rotary which had never worked with development professionals on sustainable community projects. As their leadership changed every year, it took some time for the approach to be institutionalized.

In partnership with GWASH, Rotary funded projects in Volta, East, Central, and Greater Accra Regions. This included 57 boreholes with hand pumps, 18 Institutional latrines at schools, three public latrines, and one municipal reticulated water system. GWASH, for its part constructed 20 wells with hand pumps in rural communities, 22 KVIP latrines at schools, and provided BCC/hygiene education for all projects.

Local Rotary has 800 members and about 60 have been very actively involved in the project, visiting target communities and assisting with the installation where appropriate. GWASH staff report excellent working relations with local Rotary staff. Frequent consultations and problem solving sessions have led to a very positive relationship. A January 2013 report on the sustainability of the Rotary projects shows many of the same issues of sustainability that this team found. WASH committees were not functioning optimally and the District Assemblies lacked the capacity to monitor the projects effectively. One rich resource that was not tapped was the individual Rotary members who were often personally involved in specific communities. These members might have been excellent coaches/mentors to the WASH committees. Still, Rotary would like to partner with the next phase of the project and would also like to see a health and income generation component added.

Another major public-private partnership was with Coca-Cola which funded some GWASH projects in areas around major cities such as Accra. The partnership had a rocky start but GWASH was able to collaborate and work towards common goals in an agreeable and productive manner. Coca-Cola's activities tended to support WASH facility solutions. Sometimes this worked well (such as with surface water treatment kiosks), and sometimes not as well (as with biogas toilets). Still, GWASH worked hard at rendering the facilities sustainable, despite some built-in challenges that were the result of the technology selections on the part of Coca-Cola.

Ghana WASH Project has engaged in five additional public private alliances – with Safe Water Network, WaterHealth International, Water NGO, PriceWaterhouseCoopers, and Ernst and

Young. The team did not visit any of the projects sponsored by any of the partners aside from Rotary.<sup>10</sup>

---

<sup>10</sup> GWASH has a Lessons Learned document on PPP efforts to provide more background on lessons learned from these partnerships.



## V. FINDINGS AND CONCLUSIONS

### EVALUATION FINDINGS

*Water, sanitation, and hygiene infrastructure.* By the end of the project GWASH, will have met or exceeded its basic goals of installing 4,680 household latrines, 110 institutional latrines, 33 hand dug wells, two piped water systems and 75 boreholes. GWASH also installed 28 rainwater catchment systems at schools and clinics. GWASH provided much needed water and latrines in some of the least served communities in Ghana. By comparison with the control communities, GWASH project communities scored higher on rankings for both water and sanitation.

GWASH has exceeded its training goals by 19.5 percent. The indicator measures attendance at program-sponsored workshops and 136,687 people (including school children) attended some type of training event. This is 22,297 over the goal of 114,395.

With regard to water, hand dug wells have not provided a dependable source of water year round and GWASH's plan to discontinue hand dug wells is appropriate. Rainwater catchment tanks have some value during rainy seasons but they tend not to have water in them if there is no rain for one to two weeks. Therefore, they do not make reliable year-round water sources for hand washing at schools and clinics. GWASH staff explained that they would not be supporting additional construction of rainwater catchment tanks.

The VIP and KVIP latrines have not been constructed according to specifications for ventilation. The Latrine Artisans need re-training on this feature. The GWASH project fell short of its goal of 50 ODF communities by a substantial margin with only nine communities declared ODF. This was not part of the original objectives and should not be seen as a shortcoming of the project as the concept of ODF is hard to document given the current GoG validation process, which involves Municipal/District Assemblies as verification units. The limited number of trained district personnel meant the project had to conduct the verification itself.

*Sustainability plans for maintenance, repair, and security of current infrastructure.* As none of the 28 WASH committees in GWASH communities know how to budget for maintenance costs of a well over five years, it is not clear whether they will be able to manage the existing water systems in their communities over the long term. The committees are particularly weak in latrine-only communities.

*Community-led Total Sanitation Approach.* GWASH is to be commended for trying to accommodate the CLTS approach of CWSA. However, the GWASH community intervention strategy is contrary to GoG CLTS guidelines. Community organization, hygiene education, and behavior change should have preceded the installation of wells and latrines by three to six months to ensure community ownership and thus, sustainability. Subsidizing latrines, at either high or low levels, is also contrary to the GoG's CLTS guidelines. Once latrines were subsidized, it was very difficult for GWASH or other programs working in the same districts to transition away from subsidies. The premise that when "natural leaders" or others with standing in the communities built latrines, others would emulate them could not be validated.

*Use of Local NGOs.* The use of LNGOs is still a recommended strategy, and is consistent with GoG policies and USAID Forward goals.

## VI. RECOMMENDATIONS

As the project is coming to an end, the team has a few recommendations for the remaining months of the project.

### *WASH infrastructure*

- GWASH's strategy of focusing on rehabilitation of wells and pumps is an excellent one. The communities have many, many broken pumps from other donors as well as GWASH.
- All VIP or KVIP latrines should follow VIP standards for ventilation and light in the latrines. GWASH should retrofit the VIP latrines with door vents and be sure they are sealed between the roof and walls to create the ventilation that characterizes this type of latrine.
- A continued focus on hygiene education and motivation for sanitation is appropriate.
- Some GWASH communities received latrine interventions while others received water infrastructure. Few GWASH communities received both types of interventions. As a result, some communities with relatively effective sanitation interventions still lacked or had unreliable water supplies. Other communities had reasonably effective water and sanitation interventions but had less than ideal sustainability because of limited capacity of their WASH committee or lack of plans to generate sufficient funds for maintenance. There were no communities that the evaluation committee visited that scored above 80 percent in all three categories (water, sanitation, sustainability).

Going forward, a more integrated and holistic approach to providing access to clean water and sanitation facilities along with behavior change interventions to increase the prevalence of hygiene behaviors in each community would likely multiply the positive impacts of program interventions on overall health and nutrition in rural communities.

### *Sustainability plans for maintenance, repair, and security of current infrastructure*

- District level WASH refresher activities that bring all district WASH committee members together to review committee responsibilities and give participants a chance to share lessons learned would be a useful activity before the project comes to an end.
- GWASH should calculate the costs of maintaining a pump over five years so that WASH committees know how much money they need to be setting aside. The project could alternatively establish an annual budget for maintenance of facilities, such as the hand pump boreholes so that WASH committees can budget accordingly. The WASH committees also need ideas for leveraging funds in creative ways.
- The project should provide direction on what spare parts and tools are needed for conducting common repairs. Each WASH committee should have a supply of the most common parts so that repairs can be made immediately and the stock replenished after the repairs are made. Additionally, GWASH should clarify what repairs can be performed by locally trained mechanics and what repairs will need to be performed by experienced borehole

drillers/mechanics. The project can make sure all communities know whom to call in the case of repairs that cannot be performed by local mechanics.

- Post-training assistance (e.g. tools) to Area Mechanics should be provided so that they can immediately apply their skills and not forget their training. If funds are available, a maintenance and repair re-training workshop (that includes women) might be considered.
- If the new project does not have health objectives, it should be implemented in communities where USAID health projects (preferably Maternal Child Health Projects) are located so that both projects can coordinate and monitor results/impact.

#### *Community-led Total Sanitation*

- There should be at least three to six months of community mobilization, hygiene education, and behavior change sessions before any hardware is installed. There should be established benchmarks for community mobilization to determine when hardware should be discussed and installed to assure community ownership of the hardware.
- There should be no subsidies for latrines. The new project should offer some low-cost latrine options that can be made mostly from locally available materials and comply, as much as possible, with the GoG's CLTS strategy. The project should investigate various schemes such as micro-credit, community gardens, or other ways to raise funds. Priority for latrines should go to the poorer members of the community.

#### *Use of Local NGOs*

- A more systematic approach to building the financial, operational, technical, and service delivery capacity of LNGOs would promote greater sustainability of program activities. A strategy for greater involvement of local partners and government agencies is also essential, as well as clearer definition of the roles of each partner.

#### *Public-private partnerships*

- If USAID continues to partner with Rotary International, members of Rotary International should be included in training/coaching of community water and sanitation committees and Water Boards.
- Strategic alliances have overall been successful. USAID and its implementing partners should continue to pursue these alliances with the Ghana Cocoa Board, Unilever Ghana, Clean Team, Community Water Solutions, Quest Water, or other businesses that either provide clean water, sanitation, and hygiene solutions or that depend on them for the quality of their product and health of their employees and suppliers. For example, Unilever already promotes hand washing with soap as part of its efforts to market its products. It could be willing to invest in clean water infrastructure as a corporate social responsibility initiative but also as a way to build its customer base.

## APPENDIX A: PROJECT TARGETS AND RESULTS

LOP: LATRINES AGAINST OBJECTIVES				
	LOP Target	Achievement	%	
Household Latrines	4,680	4,224	90.2%	
Institutional Latrines	110	114	103.64%	
LOP: TRAINING AGAINST OBJECTIVES				
# people trained in various sanitation and behavior issues	81,194	93,442	115.1%	
# School children given sanitation information	10,800	20,949	192.2%	
LOP: ODF AGAINST OBJECTIVES				
ODF	50	9	18%	
LOP: HARDWARE AGAINST OBJECTIVES				
Community Facility	LOP Target	Completed to Date	Percent Completed	Additional Under Construction
Institutional KVIP, WC	110	112	102%	19
Hand Dug Wells	33	38	115%	0
Small Town Pipe Systems	2	1	50%	1
Rainwater Harvesting Systems (liters of storage)	494,000	623,000	126%	90,000
Boreholes	75	93 (67 new boreholes, 26 boreholes repaired)	124%	80 (40 manually drilled, 40 to be repaired)

Training data is as of July 2013. WASH infrastructure data is as of March 31, 2013.

18 Area Mechanics were trained to maintain and repair pumps and were given some tools for above ground repairs.

153 Latrine Artisans were trained in how to build the nine models of latrines GWASH offered.



## APPENDIX B: SCOPE OF WORK

### THE EFFECTIVENESS OF USAID /GHANA IN ADDRESSING WATER, SANITATION AND HYGIENE (WASH) CHALLENGES IN TWO REGIONS OF GHANA

#### Introduction

#### PROJECT DESCRIPTION

The USAID Ghana Water, Sanitation and Hygiene (GWASH) program is implemented under a 4-year, \$13.2M cooperative agreement between USAID and Relief International that began in mid-December 2009. Relief International has partnered with Adventist Development and Relief Agency (ADRA) Ghana, and Winrock International to implement GWASH.

The GWASH goal is to support improved access to safe and adequate water supply and basic sanitation facilities infrastructure for households, clinics and schools and promote complementary hygiene practices to maximize the health impact from this improved infrastructure and as a result maximize health impacts in target areas. This GWASH goal is pursued through the following objectives:

*Objective 1:* Improve access to improved water and sanitation infrastructure for individual households, communities, schools, and clinics in the target areas.

*Objective 2:* Assist in developing innovative modes of establishing new infrastructure.

*Objective 3:* Improve the capacity of small grant recipients to mobilize community members to actively participating in: (a) the improvement and maintenance of water and sanitation infrastructure; and, (b) local official bodies that provide support for these efforts.

*Objective 4:* Support the development of behaviors that result in: (a) water and sanitation infrastructure that is well utilized by target communities; and, (b) increased adoption of complementary hygiene behaviors that will reduce water-borne disease.

*Objective 5:* Manage existing partnerships and potentially develop new partnerships with private sector and/or voluntary organizations committed to achieving the same results.

The program activities were organized under five components that roughly align with these objectives:

- Infrastructure Development
- Small Grants Facility
- Capacity Building
- Strategic Behavior Change
- Public Private Partnerships

## **Background**

GWASH activities have been implemented in five regions of Ghana (Volta, Eastern, Greater Accra, Central and Western) with the support of 30 District Steering Teams. District Steering Teams participate in monitoring and evaluation and manage WASH issues. Within the 30 Districts, 200 communities were selected and sensitized on WASH. Through FY12, GWASH established new improved water sources in 200 communities; the remaining 80 are receiving services in FY 2013. In addition to constructing individual borehole/hand dug wells with hand pumps, thirteen small piped water schemes for small towns including surface sources water treatment system were completed by the end of 2012. In an evolution from an initial reliance on high-subsidy approaches to improve sanitation, the project is now using a modified Community Led Total Sanitation approach (CLTS) to promote household latrine construction. This approach utilizing a partial construction subsidy was adopted in FY 2011 to encourage communities and individuals to construct household latrines in 54 communities. All GWASH infrastructure activities were accompanied by behavior change communication and hygiene promotion activities in communities, schools and clinics.

## **Existing Project Monitoring Documentation**

Project data is available from annual and semi-annual reports, indicator performance data tables, GWASH field reports and files, Community Water and Sanitation Agency (CWSA) reports, Local NGOs working with GWASH, and other relevant documents considered appropriate by the evaluators.

Of particular interest to project evaluation is data from the GWASH baseline and end line, knowledge, attitude, practice, and behavior (KAPB) report. Both the baseline and end line evaluation used the same household- and community-based survey, gathering information on individual KAPB as well as community level infrastructure.

## **Evaluation Purpose And Use**

The primary purpose of this evaluation is to determine whether the assistance provided by USAID/Ghana through GWASH activities is meeting its stated objectives, including whether GWASH is meeting its expected results within the expected timeframe. In addition, in answering several specific evaluation questions, the evaluation will test the critical assumptions that supported the initial program funding and assess the different implementation models and approaches used by the GWASH program in comparison to other WASH programming efforts in similar communities.

Evaluation findings will be used by USAID/Ghana to provide a better understanding of GWASH programmatic relevance, impact, and cost-effectiveness and inform future WASH programming in Ghana. The timing of this evaluation is appropriate for recommending and suggesting possible future strategic USAID priorities for WASH sector assistance in Ghana. The evaluation report will be shared with the WASH community within USAID and also with the Ghana WASH Sector Working Group members.

## Evaluation Questions

1. Are current water, sanitation and hygiene infrastructure improvements functioning properly in terms of installation and use, in both GWASH and non-GWASH communities?
  - 1a. How does the functionality of modified Ghana/India Mark II hand pumps compare to other community-based pump systems?
  - 1b. Are there differences in infrastructure installation and patterns of use of GWASH water points compared to infrastructure provided in similar, non-GWASH communities?
2. Are the sustainability plans for maintenance, repair, and security of current infrastructure improvements (both water points and latrines) adequate to ensure project success in both GWASH and non-GWASH communities?
  - 2a. Is the level of field training sufficient to ensure community-based maintenance of the infrastructure?
  - 2b. Are those trained retained to ensure timely and effective maintenance in both GWASH and non-GWASH communities?
  - 2c. Are there differences in sustainability planning, training, and retention between GWASH and similar, non-GWASH communities?
3. What factors influenced community acceptance of the modified CLTS approach used to promote construction of sanitation facilities in the project area? Has this demand driven approach resulted in sustained use of constructed facilities? Is there any evidence that the modified CLTS approach will result in additional latrine construction after the end of GWASH in targeted communities?
4. Was GWASH successful in using LNGOs to undertake effective WASH activities within communities? Why or why not?
5. What has been the contribution of GWASH in the implementation of the program with regards to Public, Private Partnership?

## Evaluation Design And Methodology

The evaluation will be partially based on review of existing project monitoring documentation (described above) especially the performance monitoring plan, using the key indicators identified at project inception to measure the project progress and achievements over time. This review of existing data shall also include:

- GWASH baseline and end line reports, including KAPB components
- Program monitoring plans (PMP), bi-annual, and annual reports
- Drilling and logging procedures

- CLTS processes
- Latrines construction documentation
- Training data, manuals and tools from ADRA and Winrock from the period 2010 to December 2012

Although a preliminary report on the KAPB end line survey will be available at the time of this evaluation, it is expected that the evaluator will further analyze the data to triangulate information for this assessment.

However, in addition, the evaluation will examine the evaluation questions by collecting primary data in 28 GWASH intervention communities and 14 similar communities that have recently benefited from other donor or government WASH projects within the same region and districts with similar demographic characteristics, concerning the functionality and sustainability of their existing water and sanitation facilities. This field work will take place in two of five GWASH target regions, Central and Western Regions. The Coke Alliance and Rotary Alliance activities supported by GWASH in the other regions are the focus of separate external evaluations. The list of GWASH target communities in the two regions of interest are attached as an annex to this scope and can be identified on a program Google Map. The evaluator will agree with USAID/Ghana on the final selection of the 28 GWASH communities and 14 comparison communities during the initial preparation phase of the evaluation.

For the primary data collection field work, the evaluator will use a cross-sectional descriptive study design. There are several possible sources of data and collection methodologies that the evaluator can propose based on the evaluation timeline, budget ceiling, and their assessment of logistic constraints. Potential additional data that the team can generate and use include:

- Application of a modified KAPB implemented in non-GWASH sites to explore differences between GWASH and non-GWASH sites.
- Infrastructure/Borehole/latrine functionality assessment. The functionality assessment could closely match the assessment used for the GWASH program baseline and endline surveys for data comparisons.
- Focus group discussions in the community. Focus groups could be held with groups of elders, men, women, community leaders, and/or youth, but efforts should be made for diversity in age, gender, and household location from the infrastructure changes.
- Key informant interviews with Water and Sanitation Committee/Water Boards.
- Stakeholder meetings.
- Site-based observational checklists to catalog community-based hygiene/water intervention activities in communities, schools and healthcare facilities including low subsidy latrines, visible health promotion campaign materials, soap stations, etc. This tool should be formulated to allow for a ranking of community facilities and interventions.

During the initial preparation phase, USAID/Ghana will approve the final data collection approach proposed by the evaluator.

The Consultants shall perform both qualitative and quantitative analysis as part of this evaluation, based on their review of existing data and collection of supplemental data. The qualitative component will include assembling interview information, and completing thematic analysis. The quantitative components will include further analysis and synthesis of project reports; the base line and end line KAPB surveys already conducted in the two regions as part of the PMP; check list compilation for infrastructure functionality; and assessment of the quality of training offered to hand pump mechanics and construction artisans. All data that will be analyzed should be directly related to the objectives listed above.

USAID/Ghana recognizes that budget limitations and logistical challenges will restrict the amount of primary field data collection that the evaluator will be able to pursue and thus the veracity of the data generated as a result. However, USAID/Ghana expects that based on their review of existing project monitoring information that the evaluator will be able to sufficiently focus their field work on pursuing key unknowns related to the evaluation questions.

### **Deliverables**

The Consultant team will undertake at least a six-week evaluation effort of which approximately 4 weeks is expected to be in-country starting no later than 5 May 2013 but not before 15 March 2013 - the expected completion date of the end line survey. The team will use approximately one week in pre-evaluation preparations and another one week post-evaluation report finalization.

USAID/Ghana and GWASH team members will arrange for an initial introductory meeting with appropriate regional and District staff at the outset of the process. Where necessary and appropriate, a USAID/Ghana member may participate in meetings with the District representatives and implementing partners. A general list of relevant stakeholders and key partners will be provided to the assessment team at the time of arrival, but the evaluation team will be responsible for expanding this list as they deem it fit or appropriate to develop a comprehensive understanding of the procedures in the WASH Sector as per that of CWSA under the Ministry of Water Resources, Works and Housing.

Prior to conducting field work, the consultants will review various project documents and reports. The USAID /Ghana team will provide the relevant documents for review (many are attached). Consultants will prepare a draft evaluation tool which will be reviewed with the USAID team at a Team Planning Meeting.

The evaluation team members will meet with key representatives of USAID/Ghana at the beginning of the assignment. This time will be used to clarify team's roles and responsibilities, deliverables, development of tools and approach to the evaluation and refinement of agenda. The consultant team must work closely with Sector and District representatives and interact with selected District Assemblies from the 2 regions.

The Consultant team shall arrange to visit communities, health facilities/Institutions and households in the two regions. Other communities with WASH facilities but not USG funded will also be visited to compare and contrast the maintenance schedules and whether CWSA

strategies are being strictly adhered to for the sustainability of the facilities. In selected circumstances, a member of staff from USAID/Ghana will participate in the field site visits but will not attempt to influence the team's findings. Prior to site visits, the team will meet with key GWASH sector heads and key District/Regional Administration stakeholders. Consultants may conduct group interviews with WASH/Water Board members' including women and youth groups and if possible disabled members in communities with WASH activities. USAID will organize debriefing meetings with the WASH Sector Group including Ministry of Water Resource, Works and Housing (MWRWH).

Important meetings over the course of the assignment will include:

- Initial organizational/introductory meeting with USAID and Implementing Partner and other stakeholders at which the consultant will present an outline and explanation of the design of the evaluation, including a draft evaluation tool.
- Mid-evaluation review with USAID/Ghana Team to outline progress and implementation problems; and
- Final evaluation debriefs/summary of the data and draft recommendations, to be held with USAID/Ghana and other key stakeholders after field work is completed. The objective of debrief, will be to share the draft findings and recommendations, solicit comments and inputs, and clarify any remaining questions or issues before the consultant departs.

### **Team Composition**

The Evaluation Team shall consist of at least 4 individuals with 10+ years of experience in water, sanitation and hygiene service delivery in mid and low-income countries with USAID and/or other donors. At least one should have considerable experience in evaluation design and should have a good management skills

All team members will be required to travel within the two target regions as part of their primary data collection.

- Team Leader – The team leader will serve as the primary point of contact between the USAID and Evaluation Team. The incumbent must:
  - Be able to communicate effectively with senior U.S. and host country officials and other leaders;
  - Have a 10+ year proven track record in terms of leadership, coordination, and evaluation delivery for development projects and programs;
  - Have excellent writing/organizational/management skills and proven ability to deliver a quality written product (Evaluation Report and PowerPoint).

In addition the Team Leader may provide his/ her technical expertise in one or more areas to support this Evaluation. We expect the team to exhibit senior-level technical expertise, evaluation expertise, and the expertise and ability of the team's leadership to manage the

team's budget and staff resources. USAID/Ghana will designate staff to provide logistical and administrative support to the team; however, the Team Leader will have the primary responsibility for ensuring the final deliverables are completed in a timely manner and are responsive to the Scope of Work and USAID comments.

The required areas of technical (subject matter) expertise that should be represented on the team correspond roughly to the technical foci of the program being evaluated:

- Water, sanitation and hygiene (WASH) programming in Africa, preferably with some experience in Ghana
- WASH infrastructure design, functionality, and sustainability analysis.
- Behavior change, communications and public awareness.

The Evaluation Team should plan on identifying and funding a small local team to provide support for field work for easy access and communication in the local language.

### **Scheduling and Logistics**

The USAID/Ghana point of contact for the evaluation will be the AOR<sup>11</sup> for GWASH cooperative agreement officer, Emmanuel Odotei, Water and Sanitation Management Specialist, Vandana Stapleton and Melanie Luick-Martins USAID/Ghana.

The USAID team will assist the Evaluation Team in their work by reviewing draft deliverables, responding to questions from the team and resolving administrative or logistical obstacles. However, the evaluator will be responsible for financing all in-country costs for transport, lodging, translation, etc. out of the evaluation contract budget.

### **DRAFT: Logistics & Time Frame (assumes Saturdays as workdays in Ghana)**

The following provides a notional presentation of a prospective allocation of level of effort for the Evaluation:

<b>ACTIVITY</b>	<b>EXPECTED DURATION</b>	<b>LOCATION</b>
Preparation – Document review. Finalization of evaluation methodological approach and proposed field schedule. Development of questionnaires and/or other tools to be used in conducting surveys and fieldwork. To be approved by USAID/Ghana before initiation of field work.	5 days	U.S.
Field Work - In-brief with USAID/Ghana, interviewing of USAID staff and project implementers, partners, and beneficiaries to confirm project results, identify constraints to the project being more successful in achieving desired results, and stakeholder views on ways in which assistance could be more effective in achieving expected/desired results.	26 days	Ghana

<sup>11</sup> AOR: Agreement Officer’s Technical Representative; the AOR is the designated representative who provides technical and administrative oversight of an assistance award.

ACTIVITY	EXPECTED DURATION	LOCATION
Follow-up and synthesis – In-country team work culminating in delivery of draft report/findings to USAID/Ghana Mission and stakeholders. Additional meetings and interviews may also be scheduled to validate/confirm findings and de-briefing	7 days	Ghana
Revision and refinement – In response to comments from USAID, team will incorporate feedback and other input into analysis, report and presentation.	3 days	U.S.
Final report production and presentation – Completion and delivery of final evaluation report and summary power-point presentation.	1 day	U.S.

## Reporting Requirements

Preliminary findings and oral de-briefing at USAID/Ghana with USAID/Ghana staff in attendance will be done in Power Point

Below is the format for writing the evaluation report to be made available to Government of Ghana and the GWASH implementing partner after final review by USAID/Ghana.

### EXECUTIVE SUMMARY

The Executive Summary will state the development objectives of the program/project evaluated; purpose of the evaluation; study method; findings; conclusions, lessons learned and future design implications.

### Table of Contents

#### Introduction

The context of what is evaluated including the relevant history demography socioeconomic and basic political arrangements.

#### Body of the Paper

- The purpose and study questions of the evaluation. Include brief description of the project activities in Ghana.
- Methodology
  - Evidence, findings and analysis of the study questions.
  - Conclusions drawn from the analysis of findings stated succinctly.
  - Recommendations.

**Appendices** shall include:

1. Evaluation scope of work
2. List of relevant project targets and results

3. List of documents consulted
4. List of individuals and agencies contacted
5. Technical topics including study methodology if necessary
6. Schedule of activities in an Excel format.

All reports are to be submitted in English in both electronic and hard copies. The Team will provide 5 printed copies of the Draft and Final Evaluation Reports and 5 printed copies of the PowerPoint presentation.

The Final Evaluation Report should not exceed 30 pages in length in its body, not including title page; Table of Contents; List of Acronyms; usage of space for tables, graphs, charts, or pictures; and/ or any material deemed important and included as Annexes. The executive summary with brief evaluation findings, conclusions and recommendations will be included in the final report.

The Final Evaluation Report and PowerPoint addressing the USAID's comments should be submitted in both Word and PDF formats. Once the PDF format has been approved by USAID, the Team will submit the Final Evaluation Report to the Development Experience Clearinghouse (DEC) for archiving- [www.dec.usaid.gov](http://www.dec.usaid.gov)

**Budget – Not to exceed \$200,000**



## APPENDIX C: GWASH PROJECTS VISITED FOR THE EVALUATION

The Evaluation Team visited the following communities in Western and Central Regions. The type of facilities at each location is given.

#	REGION	DISTRICT	COMMUNITY	FACILITIES	LATITUDE	LONGITUDE
1	Western	Bibiani	Alata	Hand-dug well, High-subsidy HHLs	6.143139	-2.341325
2	Western	Bibiani	Adobewura	Institutional KVIP, High-subsidy HHLs	6.1308	-2.334869
3	Western	Bibiani	Sefwikrom	Hand-dug Well, High-subsidy HHLs	6.442136	-2.229744
4	Western	Sefwi-Wiaso	Sefwi Nkonya	Peace Corps Collaboration, Low-subsidy HHLs, Small Grants for Institutional KVIPs	6.281567	-2.623428
5	Western	Juabeso	Tikobo	Borehole, Institutional KVIP, High-subsidy HHLs	6.250578	-2.913064
6	Western	Bia	Brebre	Borehole (at Government Clinic), Small Grant for Rain Harvesting System, High-subsidy HHLs	6.603256	-3.226111
7	Western	Bia	Elluokrom	Small Town Pipe System, Institutional KVIPs, High-subsidy HHLs	6.526919	-2.929475
8	Western	Aowin Suaman	Gyampokrom	Low-subsidy HHLs (Hybrid CLTS), Hand-dug well	6.162822	-2.981844
9	Western	Aowin Suaman	Asuoklo	Low-subsidy HHLs (Hybrid CLTS), Hand-dug well	5.764689	-2.831878
10	Western	Aowin Suaman	Suibo	Low-subsidy HHLs (Hybrid CLTS), Hand-dug well	6.120719	-3.083383
11	Western	Aowin Suaman	Asafoakye	Low-subsidy HHLs (Hybrid CLTS)	5.790047	-2.692033
12	Western	Aowin Suaman	Papueso	Low-subsidy HHLs (Hybrid CLTS)	5.746972	-2.715311
13	Western	Juabeso	Anhwiafutu	Institutional KVIP, Borehole, High-subsidy HHLs	6.391667	-2.976692
14	Western	Juabeso	Bokabo	Institutional KVIP, Small Town Pipe System, High-subsidy HHLs	6.190356	-2.904658
15	Central	Twifo-Hemang-Lower-Denkyira	Krobo	Peace Corps Collaboration, Low-subsidy HHLs (Hybrid CLTS)	5.246819	-1.393764
16	Central	Twifo-Hemang-Lower-Denkyira	Abrafo	Peace Corps Collaboration, Low-subsidy HHLs (Hybrid CLTS)	5.333819	-1.380975
17	Central	Twifo-Hemang-Lower-Denkyira	Ahwiam	Peace Corps Collaboration, Low-subsidy HHLs (Hybrid CLTS)	5.251417	-1.377014
18	Central	Gomoa West	Abankrom	Borehole, Institutional KVIP	5.5124	-0.867861
19	Central	Gomoa West	Adaa	High-subsidy HHLs	5.359531	-0.838581
20	Central	Assin North	Breku	Mechanized Borehole at Breku cluster of schools through PPP Collaboration with	5.864153	-1.345417

#	REGION	DISTRICT	COMMUNITY	FACILITIES	LATITUDE	LONGITUDE
				PriceWaterhouseCoopers Ghana		
21	Central	Agona East	Akoako	Low-subsidy HHLs (Hybrid CLTS)	5.663233	-0.697625
22	Central	Agona East	Aserekewa	Low-subsidy HHLs (Hybrid CLTS)	5.662158	-0.650731
23	Central	Assin North	Danko	Borehole	5.799558	-1.211364
24	Central	Assin North	Kuberkro	Borehole	5.791631	-1.2178
25	Central	Awutu Senya	Bentum	Low-subsidy HHLs (Hybrid CLTS)		
26	Central	Agona East	Apra	High-subsidy HHLs	5.556536	-0.484806
27	Central	Awutu Senya	Dankwa	Low-subsidy HHLs (Hybrid CLTS)	5.710131	-0.523994
28	Central	Awutu Senya	Opembo	Low-subsidy HHLs (Hybrid CLTS), Borehole (USAID & Rotary Partnership)	5.684269	-0.535744

## APPENDIX D: LIST OF PEOPLE INTERVIEWED

	PERSON'S NAME	TITLE
<b>ACCRA</b>		
	Emmanuel Odotei	Program Specialist for WASH, USAID/Ghana
	Vandana Stapleton	Family Health Team Leader, USAID/Ghana
	Aviri Kudzi	GWASH/Winrock
	Vincent Bertholon	Relief International
	Dominic Dapaa	GWASH CLTS Coordinator
	Mawunyo Puplampu	Water Health Ghana Ltd(General Manager)
	Paul Wesse Kufia	WUSC EUMC (Project Assistant)
	Patricia Buah	GWASH Specialist
	Harold Clottey	GWASH Deputy Director
	Cudjoe Azumah	GWASH, Field Coordinator
	Benedict K. A.Kubabom	CWSA Director, Planning and Investments
	Emmanuel Gaze	CWSA Director, Technical Services
	William K. Nunoo	CWSA, Director of Finance
	Benjamin Arthur	CONIWAS, Executive Director
	Willie Ketew	Chairman, Rotary Host Committee
	R.K. D. Van Ness	Former CWSA Director, Technical Services
	Kambozie Cosmos	Deputy Director, Environmental Health Services, MLGRD
	Kweku Quansah	Programme Officer, Environmental Health Services, MLGRD
	Henrietta Osei-Tutu	Sanitation Engineer, Environmental Health Services, MLGRD
	Atinga Ayamga	Officer, Environmental Health Services, MLGRD
<b>CENTRAL REGION</b>		
	Philip Aratuo	GWASH Field Coordinator
	Anita Agyei	GWASH Behavior Change Agent
	Lambert Lamisi Konlan	GWASH Behavior Change Agent
	Salifu Waah Nuehellata	GWASH CLTS Agent
	Stephen Aboagye	Development Fortress (LNGO) Field Officer
	Larweh Nortey	Development Fortress (LNGO) Field Officer
	J.K. Binkorang-Darko	New Nation Network (LNGO) Executive Director
	Julius Darko	New Nation Network (LNGO) Field Officer
	Daniel Kwesi Thompson	New Nation Network (LNGO) Field Officer
	Archibald Intsiful	New Nation Network (LNGO) Field Officer
	John Aikins	New Nation Network (LNGO) Accountant

	PERSON'S NAME	TITLE
	Abigail A. Yeboah	New Nation Network (LNGO) Secretary
	Edmund Osei Kwakye	New Life Foundation (LNGO) Executive Director
	Emmanuel Sarsah	New Life Foundation (LNGO) Field Officer
	TWIFO ATTI MORKWA DISTRICT ASSEMBLY (OVERSEER OF THE TWIFO HEMANG DISTRICT)	
	C. K. Opoku	District Planning Officer
	Edward Banson	Engineer, DWST
	Michael Kwasi Donkor	SHEP Coordinator
	Isaac Entsieg	District EHO
<b>ASSIN NORTH DA</b>		
	George Nkrumah	EHO, DWST
	Gideon Baidoo	Assistant Planning Officer
	Dora Asamoah	Community Development Officer
	Favour Adetor	EHO, DWST
	Stephen Biem	DWST
	Gladys Offei	SHEP Coordinator
	John Kofi Taylor	Budget Officer (Desk Officer-GWASH)
	Georgia Asimadi	Municipal Director of Health Service
	Saudatu Alhassan	Community Development Officer
<b>GOMOA WEST DA</b>		
	Mansura Sarpomma	Community Development Officer
	Bismarck Sam	Water Engineer
	Philip Kudzor	EHO
	Kwasi Awuni	GHS
	Edith Gadogoe	District Planning Officer
	Ms. Felicia	SHEP Coordinator
<b>AWUTU SENYA DA</b>		
	Prosper	District Planning Officer
	Daniel Larbi	District Engineer
	Abeku Montfort	Community Development Director
<b>ASSIN BREKU Health C.</b>		
	Dorcas Ainoo	Midwife
	Victoria Koomson	Midwife
	Joseph Assan	Principal Enrolled Nurse

	PERSON'S NAME	TITLE
	Doris Saah	Health Aid
<b>OTHERS</b>		
	Nana Enoch Ainoo	Peace Corps Counterpart, Krobo, Twifo-Hemang District
<b>CONTROL</b>		
<b>AKOAKO</b>		
	Nana Kwesi Esuon	Chief
	Ben K. Sam	Secretary
	Kwesi Amo	Chairman
	John Obosu	Linguist
<b>KWANTWIKROM</b>		
	Godfred Ampaw	Translator
	Eric Addae	
	Elizabeth Adipah Larbi	Jr. High Teacher
	Thomas Eduhene	Headmaster
<b>ABOKYIKROM</b>		
	Nana Kwame Nyame	Chief
	Thomas Awauh	Unit Community Chairman
	Kwame Yeboah	Vice
	Moses Acheampong	Community Leader
	Paul Nkrumah	Community Leader
	Kwesi Gyasi	Community Leader
	Kwabena Dankwa	Community Leader
<b>MANHYIA</b>		
	Joshua Agyemang	
	Emmanuel Gyamah	
<b>PROJECTS</b>		
<b>BIBIANI</b>		
	Osei Poku Aseidu	Community Development Officer
	Abrafi Charlotte	Community Development Officer
	Ebenezer Atta- Gyamfi	Environmental Officer
	Javan Kofi	Technical Engineer
	Joseph K. Simpson	District Disease Control Officer
	Richard- Nixou Ziork	Planning Officer
	Nana Buabeng II	King of Sefwi, Nkonya

	PERSON'S NAME	TITLE
<b>JUABOSO</b>		
	Adjei Sampson Acheampong	Development Planning Officer
	Sarfo Brenya Adamukwa	Community Development Officer
<b>JUABOSO-TIKOBO</b>		
	Timothy Donkor	Chief
	George Kuhu	Linguist
	Ester Abgavemie	Queen mother
	Thomas Ebenezer	Elder/Teacher
<b>JUABOSO-BOKABO</b>		
	Nana Amoah	Chief
	Gyebi Kesse	Chairman
	Juliana	Secretary
	Anthony Amoah	Head of Youth
<b>BIA</b>		
	Joshua Agyemang	Field Officer
	Emmanuel Gyamah	Program Coordinator
<b>BIA DISTRICT ASSEMBLY</b>		
	Elizabeth Nhabaa	GES SHEP Coordinator
	Biney Samuel	Environmental Health Officer
	A.G. Offin Boateng	District Environmental Health Officer
<b>BIA- ELLUOKROM</b>		
	Nana Ahoin Panin II	Chief
	Mr. J.G.K Agyin	Development Sub Chief
	Okyeame Ankamah	Linguist
	Okyeame Antoh	Linguist
	Kwarteng Francis	Assemblyman
	Kwarteng Ababio Philip	Secretary
	Appiah John	Chairman
	John Kombat	Member
<b>BIA BREBRE</b>		
	Joseph Okrah	Chief
	Francis Dabie	Assistant Chief
	Rose Tutuwaa	Queen mother
	Yeboah Stephen	Youth Leader

	PERSON'S NAME	TITLE
<b>KWAMEBIKROM</b>		
	Nana Oduro Paul	Community Treasurer
	Linguist Mensah	Community Member
	Issifn Mohammed	Planning Community Chairman
	Rev. Solomon Acquah	Presbyterian Pastor
	Oduro Mensah	Assemblyman
	Kojo Fosu	Community Member
<b>AOWIN</b>		
	Koomson Robertson	Field Officer
<b>AOWIN SUMAN-SUIBO</b>		
	Pualina Asare	Coordinator
	Amil Astu	Desk officer for Water and Sanitation
<b>AOWIN ASUOKLO</b>		
	Nana Kofi Kaa I	Chief
	William Lekpor	Community Assembly man
	Mr. Blankson Abotewaa	Community Chairman
	Foster Adjei Dankwa	
<b>Gyampokrom KONYA</b>		
	Stephen Bergoon	Peace Corps Volunteer
<b>Bibiani</b>		
	Obiri Yeboah	CODESULT, Executive Director

For the purpose of the evaluation the team interviewed staff of seven of GWASH's 11 LNGOs partners:

<b>NAME OF LNGO</b>	<b>YEAR OF REGISTRATION</b>	<b>DISTRICT OF WORK</b>	<b>REGION</b>	<b>AREA OF SERVICE</b>
New Nation Network	2005	Assin North	Central	Health, environment Water and sanitation
Development Fortress	2005	1, Agona West 2. Lower Hermang Denkyira		Health, environment Water and sanitation
New Life Foundation	2003	Gomoa East	Central	Health HIV/AIDS Water & Sanitation, Good Governance Human Rights/ Volunteer placement
Impact		Effutu/Senya	Central	
CODESULT Network	1985	Bibliani	Western	Capacity building, child labor, re-forestation; adult education
Promag Network	2008	Aowin	Western	WASH training, forestry, child labor
Rural Water and Sanitation	2008	Bia	Western	Sanitation training for school vendors, community organization; latrine construction

## APPENDIX E: LIST OF DOCUMENTS REVIEWED

- Adank, Marieke and Thyra Kumasi. *Sustainability Index of WASH Activities: Ghana Country Report*. AguaConsult. January 2013.
- Caplan, Ken and Tracey Keatman. *Strategic Partnership and Learning Review: Macro Level Analysis*. AguaConsult. January 2013.
- Community Water and Sanitation Agency. *Overview of CLTS in Ghana*. Presented in a validation workshop on National Open Defecation Free (ODF) Guidelines. Government of Ghana. 2011.
- Community Water and Sanitation Agency. “Framework for assessing and monitoring rural and small town water supply services in Ghana.” Government of Ghana. April 2013.
- IMPACT-Ghana 2012 Impact Awutu Senya District – Reporting for the Central Region, April 2- June 30, 2012*
- Magala, Joyce Mpalanyi, and Lorretta Roberts. *Evaluation of Strategy for Scaling Up Community Led Total Sanitation in Ghana: Final Report*. UNICEF. September 2009.
- Ministry of Local Government and Rural Development. *Environmental Sanitation Policy*. Government of Ghana, 2010.
- Ministry of Local Government and Rural Development. *MDG Accelerated Framework (MAF)- Country Action Plan for Sanitation: Go Ghana Go*. Government of Ghana, 2010.
- Ministry of Local Government and Rural Development/Environmental Health and Sanitation Directorate. *Checklist For ODF Verification and Certification*. Government of Ghana, 2010.
- Ministry of Water, Works, and Housing. *Community Water and Sanitation Agency Act 564 of Parliament of Ghana*. Government of Ghana, 2010.
- Ministry of Water, Works and Housing. *Community Water and Sanitation Agency Regulations*. Government of Ghana, 2011.
- Ministry of Water, Works, and Housing. *Community Water and Sanitation Agency Small Towns Sector Policy, Operation and Maintenance Guidelines*. Government of Ghana, 2003.
- Nauges, Céline and Jon Strand. *Hauling Water Reduces School Attendance among Girls in Ghana*. World Bank Policy Research Paper No. 6443. World Bank. May 2013.
- Relief International. *Ghana WASH Baseline Survey Report, Final*. 2011.
- Relief International. *Ghana WASH Performance Monitoring Plan, Revised*. April 2012.
- Relief International. *GWASH Cooperative Agreement No. 641-A-00-10-00003-00 Year Four, Semi-Annual Progress Report for October 1, 2012 – March 31, 2013*. 2013.

Relief International. *Achieving Development through Local NGO Partnerships: Ghana WASH Project*. September 2012.

Ross, Kidd et al, *District Manual for Managing CLTS in Small Towns*. AguaConsult.

Skyfox, Ltd. *GWASH Internal Performance Evaluation for Central and Western Regions of Ghana (Draft)*. June 2013.

USAID GWASH Project. *Lessons Learned from Experiences in Project Partnerships*.

USAID GWASH Project. *The New Face of Leadership for the Ofankor Market Association: Supporting Water Sustainability*.

USAID GWASH Project. *Bringing a Focus to Women and Girls: Challenges and Contributions to Water, Sanitation, and Hygiene*.

USAID. *Evaluation: Learning from Experience. USAID Evaluation Policy*. January 2011.

USAID. *USAID Water and Development Strategy 2013-2018*. 2013.

Winrock International. *Winrock International's Behavior Change Communication (BCC) Strategy for the Ghana WASH Project*.

## APPENDIX F: DATA COLLECTION INSTRUMENTS

In all, the team created 10 data collection forms. These were field tested and then revised. On the actual forms, space was left to write the answer of the respondent. In the interest of brevity, these spaces have been removed here. Copies of the original forms are available on request.

### **F1: Interview Guide for Focus Group Discussions (Stakeholder: Women's Group, WASH/WSDB)**

**IN \_\_ PROJECT \_\_ CONTROL COMMUNITIES)**

**Community \_\_\_\_\_ District \_\_\_\_\_ West/Central**

#### **GENERAL HEALTH SITUATION**

1. What are the main illnesses in this community? Do you know what causes them?
2. What is your understanding of the importance of clean water, good sanitation and hygiene on health?
3. What is the level of community understanding?

#### **WATER**

1. What are the sources of water used by the community?
2. Which source is the most used by majority of the community?
3. If a potable water system/point source, how did you get this water system? Did any individual or organization assist you to obtain this system? When and in what period of implementation?
4. How are you managing the use of the system? Were you assisted by any individual/organization in managing the system (e.g. LINGO, GWASH-USAID, etc)? Who are these? What type of assistance did they provide? When and how often was the assistance provided? How do you assess their assistance and their effects in your water system?
5. Does the individual/household pay for the water?
6. Had anyone here dug a well on their own (without assistance from external sources)? How was this possible?
7. Does the system benefit all community members or are there limitations in access for some sectors? Explain.
8. What have been the successes in managing the system? What were the factors that led to the successes?
9. What are the challenges/problems in managing the system? What are the causes of these problems? How did you address the problems?
10. What are the factors that should be in place to sustain the operation of the system? How do you assess the availability of these factors in your community or the system? What actions should be taken? Who should lead and who should assist in these actions?
11. What have been the observed changes in your community and lives of households since the water system was installed? Health, Livelihood/Economy, Social
12. Who carries most of the water (Women, Girls, Boys etc)? How long did it take to carry water round trip (home-source)? Describe them before and after the installation of the water system

## **SANITATION**

1. Where do community members defecate? What would be the most dominant place for defecation?
2. What percentage of households have latrines? Do households share latrines
3. Why don't some households have latrines?
4. How do you feel about open defecation by members of the community? What are the issues and problems associated with this practice?
5. What are the types of latrines used in the community?
6. What is the dominant type of latrines?
7. Had anyone here built a latrine on their own (without assistance from external sources)? How was this possible? What types have they built?
8. When did households start building latrines?
9. What were the factors that motivated them to build latrines?
10. What have been the observed changes in the lives of households since latrines were installed (practice, health etc)? What have been the effects in the community as a whole?
11. What is the role of the school in in changing behavior towards washing hands or using latrines? What has been the effect of the schools' intervention on the practices of households, children and adults?
12. Describe how the change occurred?
13. Did any individual or organization assist households and the community to build latrines? What forms of assistance was given? When and in what period of implementation?
14. What are the factors that should be in place to sustain the initiatives to build and use latrines? How do you assess the availability of these factors in your community or the system? What actions should be taken? Who should lead and who should assist in these actions?
15. Have you heard of the term ODF or open defecation-free community? Have you undertaken activities towards this status?
16. What action plans and activities do you have in place to reach this status?
  - Proper disposal of feces
  - Community defecation map available
  - Local regulations/measures in place
  - Awareness of community members (adult and children) of community effort
  - Leadership involved in CLTS process
  - Self-monitoring and assessment
  - Other \_\_\_\_\_
17. How do you assess your success in reaching this status? What are the challenges? What are the successes?

## **Behavioral Change Communication**

18. Has the community received any materials, messages on good hygiene practices?
19. What were the means through which these messages have been communicated/delivered? Give examples?
20. When were these communication activities done? How often?
21. Who was involved in this communication of hygiene promotion?
22. To what extent did community members understand the messages of the hygiene promotion materials?
23. What areas of the hygiene promotion should be improved?

## **DISTRICT ASSEMBLY SUPPORT**

1. What do you think is the role of the District Assembly in terms of provision of potable water and sanitation facilities to the community?
2. What has been the role of the District Assembly in the installation and operation of your water system?
3. Who in the District Assembly does the community relate to when it comes to installing and /or operating the system? Describe the assistance and activities conducted with this contact(s).
4. How do you assess the District Assembly's role in terms of your access to potable water (level of satisfaction? Explain.
5. Who in the District Assembly does the community relate to when it comes to installing latrines? Describe the assistance and activities conducted with this contact(s).
6. How do you assess the District Assembly's role in terms of your access to latrines (level of satisfaction? Explain.

**F2: Knowledge Attitude Practice Behavior (KAPB) Study for GWASH Evaluation  
(Stakeholder: 185 Individual Women Household Heads)**

Community: \_\_\_\_\_ District: \_\_\_\_\_

Community Type: Control \_\_\_\_\_ GWASH \_\_\_\_\_ Region (Pls Tick): Central \_\_\_\_\_ Western \_\_\_\_\_

Interviewer: Paul Marian Prosper Shirley Konadu

Date: \_\_\_\_\_

Demographic Information: Age: \_\_\_\_\_ of woman (over 15) guess her age.

1. From what you know, what diseases does dirty water cause?
  - \_\_\_\_\_ diarrhea
  - \_\_\_\_\_ malaria
  - \_\_\_\_\_ cholera
  - \_\_\_\_\_ headache
  - \_\_\_\_\_ skin infections
  - \_\_\_\_\_ other \_\_\_\_\_
2. Once you have the water at your house, is there anything you can do to keep it clean or make it cleaner?
  - \_\_\_\_\_ keep it covered
  - \_\_\_\_\_ wash the bucket often
  - \_\_\_\_\_ do not let animals near it
  - \_\_\_\_\_ use a separate cup for each family member
  - \_\_\_\_\_ other \_\_\_\_\_
3. How far would you be willing to walk to carry water if you were sure it was clean?
  - \_\_\_\_\_ 1 km/1hr
  - \_\_\_\_\_ 2 km/2hrs
  - \_\_\_\_\_ further: How far? \_\_\_\_\_
4. When you carry water, what do you do to keep it from splashing out?
  - \_\_\_\_\_ put a flat cloth or woven mat on top
  - \_\_\_\_\_ try to hold it steady with my hands
  - \_\_\_\_\_ Other \_\_\_\_\_
5. Do you clean your container before filling it with water? Yes \_\_\_\_\_ No \_\_\_\_\_ Do you use soap? Yes/no Explain: \_\_\_\_\_
6. Do you have a separate container to store water used for drinking in your house? Yes \_\_\_\_\_ No \_\_\_\_\_
7. Do you know if your water source is clean and safe for drinking?
  - \_\_\_\_\_ Yes
  - \_\_\_\_\_ No
  - \_\_\_\_\_ Don't know
8. Do you treat your water in any way to make it safer to drink?
  - \_\_\_\_\_ Yes
  - \_\_\_\_\_ No
  - \_\_\_\_\_ Don't know
9. If yes, what do you usually do to the water to make it safer to drink?
  - \_\_\_\_\_ Boil
  - \_\_\_\_\_ Add bleach/chlorine
  - \_\_\_\_\_ Strain it through a cloth
  - \_\_\_\_\_ Use a filter (ceramic, sand, charcoal, composite)
  - \_\_\_\_\_ Solar disinfectant
  - \_\_\_\_\_ Let it stand and settle
  - \_\_\_\_\_ Other \_\_\_\_\_

- \_\_\_\_\_ Don't Know
10. How much water do your household use per day? # people in the household \_\_\_\_\_
- \_\_\_\_\_ 1 – 4 basins/trips
- \_\_\_\_\_ 5 – 7 basins/trips
- \_\_\_\_\_ 8 basins/trips or more
11. From what you know, how many liters/gallons/buckets of water does the average person need for bathing, washing, cooking and other uses?
12. What kind of toilet facility do members of your household usually use?
- \_\_\_\_\_ flush/pour flush to
- \_\_\_\_\_ piped sewer system
- \_\_\_\_\_ septic tank
- \_\_\_\_\_ pit latrine
- \_\_\_\_\_ elsewhere
- \_\_\_\_\_ unknown/don't know
- \_\_\_\_\_ Ventilated improved pit latrine (VIP)
- \_\_\_\_\_ Pit latrine with slab
- \_\_\_\_\_ Pit latrine without slab/open pit
- \_\_\_\_\_ Composting toilet
- \_\_\_\_\_ Bucket
- \_\_\_\_\_ No facilities/bush or field
- \_\_\_\_\_ Other (specify) \_\_\_\_\_
13. If no toilet facilities, why not? \_\_\_\_\_
14. Why do you think it is important to have a latrine? (Multiple answers)
- \_\_\_\_\_ Important to for prestige and privacy
- \_\_\_\_\_ Important to keep the community clean
- \_\_\_\_\_ Important to keep the community free from odor
- \_\_\_\_\_ Important to protect people free from disease
- \_\_\_\_\_ Others (please specify) \_\_\_\_\_
- \_\_\_\_\_ Don't know
15. Do you share this facility with other households? Yes \_\_\_\_\_ No \_\_\_\_\_ # in household \_\_\_\_\_
16. If yes, with how many other households?
- \_\_\_\_\_ (Number)
- \_\_\_\_\_ Can any member of the public use this toilet?
- \_\_\_\_\_ Don't know
17. The last time your child (younger than 3 years old) passed stool, what was done to dispose of the stool?
- \_\_\_\_\_ Child used toilet/latrine
- \_\_\_\_\_ Child used pottie, then rinsed into toilet or latrine
- \_\_\_\_\_ Put/rinsed into drain or ditch
- \_\_\_\_\_ Thrown into garbage
- \_\_\_\_\_ Buried
- \_\_\_\_\_ Left in the open
- \_\_\_\_\_ Others (please specify) \_\_\_\_\_
- \_\_\_\_\_ Don't Know
18. At what age do you think a child can safely use a latrine? \_\_\_\_\_
19. Who among the household members do not use the latrine?
- \_\_\_\_\_ Elders
- \_\_\_\_\_ Children
- \_\_\_\_\_ Disabled Member
- \_\_\_\_\_ Others (please specify) \_\_\_\_\_
20. What is the reason some family members do not use the latrine? (Multiple answers)

- Elders fear sharing latrine with other people  
 Children are afraid to enter the latrine  
 Others (please specify) \_\_\_\_\_
21. What is the importance of hand washing? (Multiple answers)
- To be healthy  
 To reduce the diseases  
 To be clean  
 To reduce foul odor  
 Don't know
22. Can you tell three main things that go into proper hand washing?
- use soap  
 wash at least 2-3 minutes  
 wash carefully between fingers and around fingernails  
 rinse thoroughly  
 dry naturally or use a clean towel
23. When do you wash your hands? (Multiple answers)
- After defecation  
 Before eating  
 Before cooking  
 After cleaning the baby feces  
 Before feeding the baby  
 Others (please specify) \_\_\_\_\_
24. Do you wash your hands with soap? Yes \_\_\_\_\_ No \_\_\_\_\_
25. When was the last time a family member had diarrhea? \_\_\_\_\_
26. Do you know what caused the diarrhea (Multiple answers)
- Through flies  
 Through food  
 Through hands  
 Through water  
 Others (please specify) \_\_\_\_\_
27. Have you ever asked someone else to wash their hands before they prepared your food or touched your children?
- yes (give an example)  
 no (why)
28. Do you children learn about personal hygiene in school? Yes No  
 Give an example of something they now do that they didn't' used to do?
29. Do you think men here are as careful about hygiene as the women are?  
 Yes No Explain \_\_\_\_\_
30. If you could learn more about health/hygiene, what would you like to learn? \_\_\_\_\_

**F3: Functionality of Water Systems: Functionality Scores for Hand Pumps**

Region: West/Central District \_\_\_\_\_ Community \_\_\_\_\_

**Functionality – Borehole Water /Hand Dug Well Systems for Modified India Mark II only**

How many of Water systems are working					Score
None (1)	20% (2)	60% (3)	80% (4)	All (5)	
For systems working how many strokes fill a bucket of 18litres					
>60 (1)	51 to 60 (2)	41 to 50 (3)	30 to 40 (4)	<30 (5)	
How many strokes before water flows					
>11 (1)	10 to 11 (2)	8 to 9 (3)	6 to 7(4)	≤ 5 (5)	
Total for hand pump functionality test					

**Functionality – Borehole Water /Hand Dug Well Systems for Other Hand Pumps**

How many of Water systems are working					Score
None (1)	20% (2)	60% (3)	80% (4)	All (5)	
For systems working how many strokes fill a bucket of 18litres					
>60 (1)	51 to 60 (2)	41 to 50 (3)	30 to 40 (4)	<30 (5)	
How many strokes before water flows					
>11 (1)	10 to 11 (2)	8 to 9 (3)	6 to 7(4)	≤ 5 (5)	
Total for hand pump functionality test					

PERSON/S NTERVIEWED

.....  
 INTERVIEWER.....

Date \_\_\_\_\_

**Results Interpretation:**

Score of 14 to 15 implies systems functionality is **excellent**

Score of 10 to 13 implies systems functionality is **good**

Score of 7 to 9 implies systems functionality is **fair**

Score of 4 to 6 implies systems functionality is **poor**

Score of less than 4 implies systems have **broken down**

#### F4: Functionality of Other Hardware Systems

##### FUNCTIONALITY OF OTHER SYSTEMS

Region: West/Central District \_\_\_\_\_ Community \_\_\_\_\_

##### Functionality – Other Potable Water Supply Systems

How many of Water points are working Score

None (1)      20% (2)      60% (3)      80% (4)      All (5)

Of the systems that are working how many of the points are leaking

None (1)      20% (2)      60% (3)      80% (4)      All (5)

When is water available during the day

Few hours in a day (2)      Morning and evening (3)      Always (5)

Total for system functionality test

##### Functionality – Sanitation facilities installed during Project(s)

How many facilities are in use Score

None (1)      20% (2)      60% (3)      80% (4)      All (5)

How many of the facilities **do not** have strong bad odor problem

None (1)      20% (2)      60% (3)      80% (4)      All (5)

How many of the facilities **do not** have flies infestation

>11 (1)      10 to 11 (2)      8 to 9 (3)      6 to 7(4)      ≤ 5 (5)

Total for system functionality test

##### Results Interpretation:

Score of 14 to 15 implies systems functionality is **excellent**

Score of 10 to 13 implies systems functionality is **good**

Score of 7 to 9 implies systems functionality is **fair**

Score of 4 to 6 implies systems functionality is **poor**

Score of less than 4 implies systems have **broken down**

## F5: Interviews with Teachers

### Interview form for School Teachers

Name of school \_\_\_\_\_ District: Western Central  
Community \_\_\_\_\_ Name of  
Teacher(s) \_\_\_\_\_

---

Interviewer: Prosper, Paul, Marian, Shirley, Konadu  
Date \_\_\_\_\_

1. How long have you been teaching here?
2. Type of school: Primary      Secondary
3. How many students are enrolled?
4. Describe the SHEP program here? What is offered, how often, who does the lessons?
5. Do the children find it interesting?
6. Have you noted any changes in the children's behavior (increase in latrine use? Hand washing?) Describe, give examples:
7. What facilities were built here: bh \_\_\_\_\_ rwc \_\_\_\_\_ hdw \_\_ hand washing station \_\_\_\_\_
8. Do you know what organization provided these facilities?
9. Did members of the community help with construction of the facilities: Describe?
10. Have you noticed a change in the children's health? Less diarrhea? Fewer distended bellies? Fewer absences due to health?
11. What are the main reasons children miss school?
  - a. Need to help their parents with housework/field work
  - b. Sick
  - c. Unable to reach school because of bad roads/lack of transport
  - d. Other \_\_\_\_\_

## **F6: Interviews with Health Professionals**

### **Interview Form for Health Professionals**

Location/Name of clinic \_\_\_\_\_ West/Central

Name and titles of people interviewed: \_\_\_\_\_ District \_\_\_\_\_

1. How long have you worked in this clinic/health center and what is your role?
2. Are you familiar with any WASH projects in this area? If so, please describe.
3. Do you know who sponsored or paid for the project?
4. Does your health center keep records of trends in illness in the surrounding communities?
5. About how many people/communities does your clinic serve?
6. What are the most common causes of illness here? In children? In Adults?
7. What are the most common causes of death here? In children? In Adults?
8. Have you noted any trends in illness, upward or downward, in the past couple of years?
9. If so, why do you think there was change/
10. Are you familiar with the School Health Program (SHEP)? Does anyone from your clinic participate in school health programs such as SHEP?

## F7: Community Ranking

*At the end of each community visit, the team should rank the community.*

Region: West/Central    Project Community/Control Community  
 District \_\_\_\_\_ Community \_\_\_\_\_ Date \_\_\_\_\_

### SCORE

	1	2	3	4	5
1. Clean water is available to what percent of community members within 10 minute (500 m) walk:	20%	40%	60%	80%	100%
2. Are the number of latrines adequate for the community?	No	1 for 8 + families	1 for 4-6 families	1 for 3 families	1 per family
3. Evidence that latrines are used:	Rarely	Sometimes	About half time	Most of the time	Always
4. Number of visible health promotion campaign materials:	1-3	4-6	7-8	9-10	10+
5. Number of hand washing stations with soap	none visible	One within 45 feet of a latrine	One within 30 feet of a latrine	One within 15 feet of a latrine	1 per latrine
6. In a 15 minute period of observation, how many people used the hand washing station and properly washed their hands? (did not observe _____)	0	5	10	15	25
7. Who used the hand washing station?	men only	women only	Women and children	Men and women	Men, women & children
8. Average Length of time pumps were broken without repair	1 month+	2 weeks +	1 week	3-5 Days	1-2 days
9. Average Length of time latrines were not used before repaired	1 Month+	2 weeks+	1 week	3-5 days	1-2 days
10. Functioning of WASH committee	Low	fair	Medium	good	excellent
11. How do people feel about the quality (color/taste/odor) of the water complaints	Low	fair	Medium	good	very good
12. In general, do the community members seem satisfied with the water system?	Low	some complaints	fair	satisfactory	no complaints
13. In general, do the community members seem satisfied with the latrines?	Low	some complaints	fair	satisfactory	no complaints
14. Is there an adequate system for collecting funds for water maintenance?.	No	yes but doesn't work	sort of works	Works with some problems	works fine
15. Has anyone in the community innovated in latrine/water systems?					

- |   |             |                 |        |              |                 |
|---|-------------|-----------------|--------|--------------|-----------------|
|   | No          | limited         | few    | Several      | Quite a few     |
| 16. Does anyone in the community report a higher income or new business because of the available water? |             |                 |        |              |                 |
|   | No          | limited         | few    | Several      | Quite a few     |
| 17. If there have been external sources (such as GWASH) were the interventions effective?.              |             |                 |        |              |                 |
|   | low         | uneven          | medium | helpful      | excellent       |
| 18. Is water of consistent quality all year round?  |             |                 |        |              |                 |
|   | Very uneven | some complaints | fair   | satisfactory | Yes, consistent |
| 19. Is the quantity of the water consistent all year round?   |             |                 |        |              |                 |
|   | Very uneven | some complaints | fair   | satisfactory | yes, consistent |

Total Points: \_\_\_\_\_

Extra information (Do not count in the final score)

- |   |      |         |            |                 |                                 |
|---|------|---------|------------|-----------------|---------------------------------|
| 20. Schools with latrines for every 30 children: # school visited _____ # children _____                        |      |         |            |                 |                                 |
|   | None | A few   | About Half | Most            | All                             |
| 21. Schools with wells/latrines that have safe drinking water (Number tested _____)                             |      |         |            |                 |                                 |
|   | None | Some    | About Half | Most            | All                             |
| . Do any health personnel or teachers report a reduction in water borne illness since the system was installed: |      |         |            |                 |                                 |
|   | No   | limited | some       | very noticeable | Very positive changes in health |

Completed by: West \_\_\_ Central \_\_\_ Team

## F8: Questionnaire for Local Non-Governmental Organizations

Name of LNGO \_\_\_\_\_ West/Central  
District \_\_\_\_\_ Date Established \_\_\_\_\_

Name(s) of people interviewed:

1. What sectors and issues does your NGO work on?
2. What would you say is the greatest strength of your staff?
3. What communities/geographic areas do you work in?
4. Where is your main/headquarters office?
5. How were you selected to work with GWASH?
6. What services do you provide to the GWASH project?
7. Did you or your colleagues attend any GWASH training? If so, on what topics?
  - effective communication,
  - community profile analysis,
  - and civic engagement
  - latrine construction
  - water and sanitation facility maintenance and management
  - latrine facility construction
  - facility management plan
  - other: \_\_\_\_\_
8. Duration of training? Topics covered?
9. Was the training adequate to enable you perform the functions assigned to you?
10. If not, in what areas/subjects do you wish you had more training in?
11. How many of your staff attended the training?
12. How many of those people are still on staff?
13. If some have left, what was their reason for moving on?
14. What other support have you received from GWASH?
15. What is your assessment/opinion of the support?
16. Would you recommend that future GWASH projects continue the approach of using LNGOs for support to the communities? Why?
17. What is your opinion of the supervision and monitoring GWASH did of the project? Do you think they always knew how each community was progressing?
18. Do you have any suggestions for improving GWASH's monitoring?
19. What do you like about working with GWASH? Dislike?
20. In your opinion, will the communities be able to maintain the infrastructure that GWASH has installed?
21. Are there people here trained to ensure timely and effective maintenance?
22. Are there differences in sustainability planning, training, and retention between GWASH and similar, non-GWASH communities?
23. Do you recover enough money from fees to cover your cost of operation?
24. What plans do you have to sustain your organization now that GWASH is ending?
25. What suggestions do you have for improving GWASH effectiveness?

## **F9: Interviews with District Assembly Members**

Name of District: \_\_\_\_\_ West/Central

Names/titles of those interviewed:

1. In what way, if any, were you involved in the GWASH Project?
2. Did you receive any training support from GWASH?
3. If yes, in which areas?
  - effective communication,
  - community profile analysis,
  - and civic engagement
  - latrine construction
  - water and sanitation facility maintenance and management
  - latrine facility construction
  - facility management plan
  - other \_\_\_\_\_
4. Was the length of training (adequate, too short, too long) to enable you perform the functions assigned to you
5. If no, in what areas do you think you require further training?
6. How many people were trained?
7. How many are still at post?
8. What are the reasons for leaving the organization?
9. Can you suggest ways for retaining trained staff at District and Municipal Assemblies?
10. What other support have you received from GWASH
11. What will you say about this support?
12. Would you recommend continuation/change in the role DAs played in GWASH? Was your role similar to that of other WASH projects? Explain?
13. Would you recommend continuation/adoption of this approach of using LNGOs by other projects? Why?
14. What will say about the facilitation, supervision and monitoring support from GWASH
15. What do you like about it? Dislike?
16. Was the level of field training sufficient to ensure community-based maintenance of the infrastructure?
18. Are those trained likely to ensure timely and effective maintenance?
19. Are there differences in sustainability planning, training, and retention between GWASH and similar, non-GWASH communities?
20. Was GWASH successful in using LNGOs to undertake effective WASH activities within communities? Why? Why not? Any examples?

## **F10: Community Observation (Project or Control)**

*One for each team member for each community*

*Do a transect walk across the community and give your impressions:*

District: Western/Central District \_\_\_\_\_ Community \_\_\_\_\_

1. Are the water facilities centrally located?
2. Do you observe latrine use? Hand washing? Was soap available?
3. Do the latrines look clean? Smell ok?
4. Are the latrines used for other purposes such as storage?
5. What cleaning materials were available in the latrines?
6. Did you observe the disposal of children's feces?
7. Did you observe women carrying water? Was it kept clean in transport? Was it covered in transport? Did they put their hands in the water? Did they clean the basin before they filled it?
8. During home visits, was the drinking water stored separately and in a clean container? Was it covered? Did the family share a cup or glass?
9. Is there a lot of trash around the area?
10. Is there a puddle around the well? Around bath houses/
11. Did you see any signs of open defecation?
12. Did you note any health education materials such as posters, brochures?
13. Were there any animals around the water source? Animal feces?
14. Were the wells fenced and at least 30 feet from a latrine or other source of contamination?



## APPENDIX G: EVALUATION FIELD VISIT SCHEDULES

### GWASH EVALUATION - DATA COLLECTION SCHEDULE

#### Western Region

ARIA	DISTRICT	PROJECT COMMUNITY/ COMMUNITIES	FACILITIES	CONTROL COMMUNITIES	REGIONAL/DISTRICT CONTACT
Sat, Jun-22	Agona East District	Akoako	Low subsidy HHL-CLTS		
Sun, Jun-23	Travel to Bibiani district and sleep at district capital, Bibiani with driver - five and half hours				
Mon, Jun- 24	Bibiani district	1. Adobewura 2. Alata <i>(communities are very close so possible to do all three)</i>	1. Hand-dug well, High subsidy HHL 2. Institutional Latrines, High subsidy HHL	Kwantwikrom	
Tue, Jun- 25	Bibiani district	Sefwikrom	Hand dug well, high subsidy HHL	1. Kwantwikrom 2. Abochikrom (35min from Bibiani)	1. MCE BIBIANI Hon. Adansi Bonna 0267246981
Wed, Jun- 26	Bibiani district	1. District stakeholders meeting 2. travel to Sefwi Wiawso district to see Nkonya Peace Corps collaboration (meet the peace corps officer) 3. Continue to sleep at Juabeso			
Thur, Jun- 27	Juabeso			1. Manhyia 2. Besease	–
Fri Jun- 28	Juabeso	1. Tikobo 2. Bocabo	1. Borehole, 1-KVIP, High subsidy HHL 2. I-KVIP, small town pipe system, High subsidy HHL		1. SANITATION/FIELD OFFICER, W/R Richard Boateng - 0202532541 2. CLTS AGENT, W/R Nti Kwakye Michael - 0206824382
Sat, Jun- 29	Juabeso	Travel to Kumasi (4 to 5hrs) for Team meeting			
Sun, Jun- 30	Team meeting in Kumasi				
Mon, Jul -1	1. Data analysis and consolidation 2. Travel back to Team Region				

ARIA	DISTRICT	PROJECT COMMUNITY/ COMMUNITIES	FACILITIES	CONTROL COMMUNITIES	REGIONAL/DISTRICT CONTACT
<b>Tue, Jul -2</b>	Bia	1. Elluokrom 2. Nyamebekyere	1. Borehole, small grant rain harvesting, HSHHL I-2. I-KVIP		DCE - BIA Hon. Tweneboa Kodua 0246179686
<b>Wed, Jul -3</b>	Bia	–	–	1. Brebre 2. Kwamebikrom (one hour)	
<b>Thur, Jul -4</b>	Bia	District stakeholders' meeting: DCE, DWST, GES - SHEP, Env. & Sanitation Health Officers etc. Travel to Aowin Suaman and sleep at district capital Enchi (3.5 hours)			
<b>Fri, Jul -5</b>	Aowin Suaman	1. Gyampokrom 2. Suibo (10minutes drive apart)	1. Low subsidy HHL-CLTs, Hand dug wells 2. Low subsidy HHL-CLTs, Hand dug wells		DCE - AOWIN SUAMAN Hon. Oscar Ofori Larbi - 0246848300
<b>Sat, Jul -6</b>	Aowin	Asuoklo	Low subsidy HHL-CLTs, Hand dug wells	Nyanin Camp	
<b>Sun, Jul -7</b>	Rest				
<b>Mon, Jul -8</b>		1. District stakeholders' meeting 2. return to Accra			

Legend	
HDW	Hand Dug Well
HHL	Household Latrine
PCV	Peace Corps Volunteer
BH	Borehole
I-KVIP	Institutional Kumasi Ventilated Improved Pit Latrine

## Central Region

DATE	DISTRICT	PROJECT COMMUNITY/ COMMUNITIES	FACILITIES	CONTROL COMMUNITIES	DISTRICT CONTACT
Sat, Jun-22	Agona East District	Akoako	Low subsidy HHL-CLTS		<b>Francis: Sanitation Officer</b> 0244977519
Sun, Jun-23	Travel from Accra and sleep at Manna Heights Hotel, Mankessim				
Mon, Jun- 24	THLD	1. Krobo 2. Abrafo	1. Hand-dug well, High subsidy HHL 2. PC collaboration, Low subsidy HHL		<b>1. FIELD OFFICER, C/R</b> Phillip Domebelle Aratuo 0202532644 0208385723 0244844193  0268280875 <b>2. CLTS AGENT - C/R</b> Salifu Waah Nuehella 0209083137/0549577795 <b>3. BEHAVIOR CHANGE AGENT</b> Lambert Lamisi Konlan 0245369733/027620509 <b>Behavior change agent:</b> Anita Agyei 0202532654 0244112856
Tue, Jun- 25	THLD		–	1. Frami 2. Brema	
Wed, Jun- 26	THLD	1. District stakeholders meeting :LNGO - Development Fortress 2. travel to Twifo Praso			
Thur, Jun- 27	Assin North	1. District stakeholder Meeting 2. Visit New Initiatives site: @ Teacher Amoah		Amadu	<b>Meet:</b> <b>1.</b> Assin North District Steering Team - DST (District Water & Sanitation Team), <b>2.</b> LNGO - New Nation Network
Fri Jun- 28	Assin North	1. Breku 2. Danko/Kuberkro-choose closest	1. Mechanized Borehole 2. Borehole		
Sat, Jun- 29	Assin North	Travel to Kumasi, Miklin Hotel for Team Meeting		1.Nduadua 2. Canan	
Sun, Jun- 30	Team meeting				
Mon, Jul -1	Data analysis and consolidation Travel back to Team Region				
Tue, Jul -2	Gomoa West	1. Adaa 2. Abankrom	1. High Subsidy HHL 2. Borehole, I-KVIP		

DATE	DISTRICT	PROJECT COMMUNITY/ COMMUNITIES	FACILITIES	CONTROL COMMUNITIES	DISTRICT CONTACT
Thur, Jul -4	Agona East	Aserekewa; Drop Paul in Accra	Low subsidy HHL-CLTS	Fuhya	<b>Meet:</b> Agona East District Steering Team -DST (District Water & Sanitation Team)
Fri, Jul -5	Agona East	District stakeholders meeting		Kwadansa	
Sat, Jul -6	Awutu Senya	1. Dankwa 2. Opembo 3. Bentum	1. Low subsidy HHL 2. Low subsidy HHL, Rotary - Borehole 3. Low subsidy CLTS HHL		
Sun, Jul -7	Rest day				
Mon, Jul -8	Ewutu Senya	1. District stakeholders meeting 2. Travel back to Accra			<b>Meet</b> 1. Awutu Senya District Steering Team DST (District Water & Sanitation Team) 2. LNGO - IMPACT

## APPENDIX H: FUNCTIONALITY OF SYSTEMS AND COMMUNITY OVERVIEW

### Central Region

Community	Population	Type		Water System			Sanitation			Comments
		GWASH	Control	Source	Discussion	Score	Type	Discussion	Score	
Akoakoo	200	X		BH HP / river	One BH with Afridev hand pump; not working during time of visit; broken 3 weeks; repair not expected for 2 more weeks; community currently collecting water from a river	3	Latrines	VIP type; very clean	15	Very clean and well kept latrines. Seem to have enough for community. Their big need was for clean water as BH was broken.
Krobo	3000	X		BHs elec	Two BHs each with electric pumps; only 1 working; both pump to tank at high point; water was not by GWASH	NA	Latrines	High subsidy, 117 total.	10	Many of latrines had odor and some had quite a number of flies; Average withdrawal of water using electric pump reported as 2-3 m3/d; they estimated cost to fix broken electric pump as GHC 2,200
Frami	3000		X	BHs HP	Both with modified India Mark II; both working	NA	Latrines	Main problem is sanitation. 1 finished VIP. Others use pit latrines or bush. School had segregated latrine but very dirty & smelly	NA	Have a WAT/SAN committee
Abrafo	2450	X		BHs HP	4 BHs; 3 working at time of visit; 3 w/ modified India Mark II & 1 w/ Afridev	NA	Latrines	93 with VIP latrines for population of 2450	12	One man showed us map of community locating all the toilets. BH 1 is Afridev; BH 2 missing some bolts
Bremang	2850		X	BHs HP	5 BHs but only 2 functional; both use modified India Mark II	NA	Bush / latrines	World Vision subsidized some VIP latrines; maybe 10% have	NA	Charge GHC 0.10 per bucket of water. Maybe 30% go to river because of cost. Most do not treat river water. Some have VIP toilets but most use bush. World Vision funded the VIP toilets. Said "we need more help from NGOs" so they are

										definitely not of a mindset to accomplish things on their own.
Kuberkro	108	X		BH HP	Extremely clean and well maintained BH; uses modified India Mark II hand pump	10	Bush / latrines	Mostly bush; had one community latrine but now spoiled	NA	
Bereku Health Center	NA	X		BH with electric pump	BH w/ electric pump to tank elevated on stand on same property; gravity flow from tank to building and an outdoor tap	15	Flush toilets	Not part of GWASH project	NA	Seems a good system. Tank empties after 3-4 days and then run pump about 3 hours to fill
Bereku Municipal Assembly	??	X		BH HP	BH at school with modified India Mark II; drilled 2010	13	Latrines	Not part of GWASH project	NA	
Kenia	50??		X	River	People fetch from river; many don't treat	NA	Latrine & bush	Community latrine nearby; many use bush	NA	Community is <1 km from Kuberkro--interesting that people do not collect their water from BH in Kuberkro. Apparently, some do but people of Kuberkro don't really want them to and charge money, so most of the time, they draw from river (and don't treat)
Sraha	100		X	BH / river	Hand-dug, sealed BH with a piston pump (broken at time of visit); installed 2011; breaks frequently; currently using river	NA	Latrine & bush	A community pit "latrine": just a dug pit with boards over the top	NA	Every household to pay GHC 1 per month for water maintenance; pump has broken about 5 times since installed in 2011; costs GHC 200 to repair each time; repairs generally made in 1-4 weeks; people use from nearby village but the two villages has disagreement so this community vacates when the other community comes to use; probably installed by World Vision

Adaa	1200	X		GWC/ river	Standpipes supplied by Ghana Water Co but system is often off; use river then	NA	Latrine & bush	GWASH VIP latrines, about 42. Also existing community latrines though just pits with boards. Many use bush.	13	Community has reportedly spent GHC 6000 to build a new and better public men's latrine but said they need more money. Another alternative source of water is buying trucked water to fill their poly tanks. It was unclear to me how much of the time they get water from GWC and how much they get trucked or from river.
Abankoo Health Center	NA	X		BH	Constructed in 2012. Good condition. Hasn't been used much since center not yet running, uses modified India Mark II hand pump	14	Latrine	VIP latrine was constructed for Ctr by GWASH. 5 rooms. Divided into M/W. Installed with rainwater tank to collect from roof and supply hand washing taps. Not yet used (locked)	NA	Rainwater system for hand washing was a novel idea and a good one. Unfortunately, it was not installed as carefully as it might have been, so the fill pipe from the gutter to the tank was slightly uphill. There's a vertical section just below the gutter so it should fill but I'd guess that much rainwater is wasted because of the pipe slope.
Bentum	200	X		BH / well / river	BH is currently under construction, by District. To be powered by foot pump. Currently, people use shallow well except during dry season, use river	NA	Latrine	Low subsidy latrines. Some still under construction. Seem clean and well cared for	15	Some residents had constructed rainwater collection systems, using concrete tanks. 30 latrines. Some of the residents are adding a bath house next to the latrine using a common wall between. Hand dug well is maybe 10 m deep. People collect water using rope and bucket. When it dries, they go to river. Most or all do not treat water from either source.

**Western Region**

Community	Popu- lation	Type		Water System			Sanitation			Comments
		GWASH	Control	Source	Discussion	Score	Type	Discussion	Score	
Adobewura		X		BH HP /HDW/Sch. Rainwater Harvest	One BH + Afridev HP BH has high iron content and therefore not being patronized. Hand dug well without HP. Rainwater system not functioning	3	Household VIP and I-KVIP	VIP type; very clean	15	About 15% have clean and well-kept latrines. There is demand for subsidy to construct more latrines. Their big need was for clean water as BH has h.gh iron content.
Alata		X		HDW + Afridev HP	HP provided by GWSAH. Complaints that water not enough and poor yield in dry season	11	Household VIP and KVIP	Clean VIP and KVIP	15	More than 50% have household latrines. There is however demand for more subsidies for latrines
Kwantwikrom			X	BH + Afridev HP and Open HDW	Pump functioning well, however there was queue.	15	Household un-improved Latrines and Bush	Few households have unimproved latrines	6	There is no functioning WATSAN
Sefwikrom		X		HDW + Afridev HP	Water system is less than a year old. No maintenance so far	15	Household VIP and Un-improved latrines	More than 50% with VIP latrines. Few have un-improved latrines	15	Community is very clean and have active WATSAN members
Abochikrom			X	BH+ Nira (broken-down) and Stream	There is no potable water supply in community as the only hand pump had broken-down for some time.	NA	Un-improved latrines and Bush	Defecation in the bush is rampant	NA	There is no functioning WATSAN
Nkonya			X	BH+India Mark II and BH + Afridev	Both pumps shake badly and require maintenance	15	Household VIP and Un-improved latrines	About 20% with VIP latrines. Few have un-improved latrines	12	There is no functioning WATSAN

Manhyia			X	BH + Afridev HP and BH + Solar powered Pump	Complaints about capacity of solar powered water supply	15	Un-improved latrines and Bush	About 25% have un-improved household latrines. There is no communal latrine	8	There is no functioning WATSAN
Besease			X	HDW + Afridev HP	HDW is located far from center of community	7	Un-improved latrines and Bush	Not part of GWASH project	NA	There is no functioning WATSAN
Tikobo		X		BH+ India Mark II HP and HDW	Hand dug well is intermittently polluted by run-off	12	Household KVIP and un-improve latrines	About 25% have household latrines. There is some open defecation	12	
Bokabo		X		BH (Private) Household HDW and Stream	GWASH is providing a piped system that was at about 30% complete	NA	Household VIP and un-improve latrines and bush	About 40% of household have latrines. Community admits to open defecation.	NA	GWASH have provided Institutional KVIP and rainwater harvesting system for the school. The tanks of the rainwater harvesting system was empty
Elluokrom		X		2No. BHs + Afridev HP and Stream	GWASH has provided a piped system that was completed but not commissioned due to unreliable power supply.	13	Household VIP and un-improve latrines and bush	About 10% of household have latrines. Community admits to open defecation.	13	The piped water supply system has to be provided with a dedicated transformer to ensure reliable power supply.
Nyamebekyere No. 2			X	Pond	There is no potable water supply in community.	NA	Few Household Latrine & bush	Few households have un-improved latrines	13	There has not been any outside support for the community. There is lack of potable water and hygienic latrine.
Brebre		X		BH + India mark II (broken-down) and HDW + Afridev	The India Mar k II Provided by GWASH is not the modified type.	12	VIP Latrines	About 40% of household have VIP latrines. Community claim there is	15	GWASH have supported a private clinic with rainwater harvesting system.

								no open defecation.		
Kwamebikrom			<b>X</b>	2No. BH + India mark II HDW + Nira (broken-down)	Both pumps failed both the leakage and stroke tests	7	Communal open pit and un-improved household latrines	Few households have un-improved latrines	6	There is no functioning WATSAN
Gyampokrom		<b>X</b>		Solar powered BH, HDW+Afridev and BH+Afridev (broken-down)	Complaints about capacity of solar powered water supply. Hand dug well is site outside community	8	Almost every household have VIP latrine	About 80% of household have VIP latrines. Community claim there is no open defecation.	15	Very enthusiastic WATSAN
Suibo		<b>X</b>		HDW + Afridev HP	Community is surrounded by hamlets that have unprotected HDWs	11	VIP Latrines	About 85% of household have VIP latrines. Community claim there is no open defecation.	15	Very enthusiastic WATSAN
Asuoklo		<b>X</b>		HDW + Afridev HP	Water system is located at one end of community. There is demand for more improved water supply.	15	VIP Latrines	About 55% of household have VIP latrines. Community claim there is no open defecation.	15	Very enthusiastic WATSAN
Nyanney Camp			<b>X</b>	3No. BH+Afridev	All the BHs have high iron content	NA	Few Household Latrine & bush	Sanitation is poor	3	The community needs iron removal plants on the boreholes.

## APPENDIX I: KAPB RESULTS AND DISCUSSION OF HEALTH ISSUES

While the GWASH project was funded through USAID/Ghana’s health budget, it is not a health project and has no objectives related to health or the reduction of water borne diseases. None of the indicators for the project relate to changes in health or overall sanitation nor is there any effort to track changes in health or behavior that leads to improved health. The KAPB survey was required by the SOW but as the data relates to health, findings are generally not incorporated into the body of this evaluation report. The team did look for evidence of changes in health through focus groups and interviews with clinic personnel where possible. This Annex summarizes the data from the KAPB study as well as including what little information the teams gathered about health impacts.

The data show that there is only a marginal difference between KAPB in GWASH and control communities. The main difference is that 35 percent of GWASH women report covered their drinking water at home as to only 13 percent of women in control communities. In observations of homes, both GWASH and Control communities found that the rate is much higher.

### 1. Background

A modified KAPB was implemented in the both the GWASH communities and control communities in the Central and Western Regions targeted by the evaluation. The aim was to identify differences in KAPB between these two community categories. The original intention was to interview 10 individuals from each community visited, but, due to time and personnel limitations, sometimes fewer women could be interviewed in each community. Survey data was also complemented by observations of the home and community environment, making a solid basis for the conclusions of the evaluation. The respondents were all women because a field test showed that men could not answer most of the questions on sanitation and hygiene. A total of 183 women were interviewed, most of whom were between 25 to 45 years old. The following are the communities visited with the number of respondents per community.

Community	District	Respondents	Community	District	Respondents
<b>GWASH COMMUNITIES</b>			<b>CONTROL COMMUNITIES</b>		
<b>Central Region</b>			<b>Central Region</b>		
Krobo	Twifo Hemang	11	Frami	Twifo Hemang	8
Abrafo	Awutu Senya	10	Bremang	Twifo Hemang	10
Kberko	Assin North	10	Canaan	Assin North	8
Adaa	Gomoa West	10	Sraha	Assin North	9
Bent	Awutu Senya	10			
Aserekewa	Agona East	10			
Opembo	Awutu Senya	9			
Dankwa	Awutu Senya	10			
<b>Sub-Total</b>		<b>80</b>	<b>Sub-Total</b>		<b>35</b>
<b>Western Region</b>			<b>Western Region</b>		

Community	District	Respondents	Community	District	Respondents
<b>GWASH COMMUNITIES</b>			<b>CONTROL COMMUNITIES</b>		
Alata	Bibiani	3	Manhyia	Juabeso	4
Adobewura	Bibiani	6	Besease	Juabeso	3
Gyapokrom	Aowin	5	Kwantikrom	Bia	8
Suibo	Aowin	4	Nyamebikyere	Bia	3
Asoklo	Aowin	6	Abochikrom	Bibiani	5
Ellokrum	Bia	4	Nyanin Camp	Aowin	2
Brebre	Bia	4			
Bokobo	Juabeso	1			
Tikobo	Juabeso	3			
Sefwikrom	Bibiani	7			
<b>Sub-Total</b>		<b>43</b>	<b>Sub-Total</b>		<b>25</b>
<b>TOTAL: GWASH Communities</b>		<b>123</b>	<b>TOTAL: Control Communities</b>		<b>60</b>

## 2. Knowledge and Attitude

The level of knowledge and attitude towards sanitation and hygiene were the same for respondents coming from both the GWASH and Control communities. Their knowledge about the bad effects of dirty water on health and the importance of hand washing turned out to be largely adequate for both categories.

	Adequate (%)	Not Adequate (%)	No answer (%)	Total (%)
<b>Knowledge of diseases resulting from dirty water</b>				
GWASH	94.3	4.9	8	100
Control	98.3	1.7	0	100
<b>Knowledge on the importance of hand washing</b>				
GWASH	82.1	14.6	3.3	100
Control	81.7	16.7	1.6	100

Note:

- Knowledge on Diseases is Adequate if respondent gave at least one answer and Not Adequate if no answer was given;
- Knowledge on the importance of hand washing is Adequate if respondent gave at least one answer and Not Adequate if no answer was given or Don't Know)

Based on the type of responses obtained from both categories of respondents, the attitude towards latrine is dictated by convenience, privacy and prestige as much as health considerations. The immediate answers to the question “Why do you think latrine is important?” were:

- “We don't have to go far anymore during the night.”

- “We are no longer embarrassed to have visitors stay in our house.”
- “We can now have our privacy. We can even easily clean our own toilet”

### 3. Sanitation and Hygiene Practices

There were also similarities in practice both positive and negative. Both categories seemed to have good practices when it comes to washing containers before fetching water and having a separate container for drinking water at home

	Yes (%)	No (%)	Not answered (%)	Total (%)
<b>Wash container before fetching water</b>				
GWASH	91.1	3.3	5.6	100
Control	88.3	3.3	8.4	100
<b>Separate container for drinking water</b>				
GWASH	89.4	8.1	2.5	100
Control	88.3	5.0	6.7	100

Practices in some aspects of water use and hygiene are less than satisfactory. Most women do not cover water containers coming from the water facility to their homes and most do not treat their water for drinking even though the vast majority of women interviewed fetch from unimproved sources such as streams or dugouts. Although women in both categories do not have sufficient measures to maintain clean water inside the house, there are more respondents from the GWASH communities that expressed a variety of ways to store water to ensure cleanliness.

For both categories, more than half of interviewees washed their hands adequately, but a large percentage need to improve hand washing practices. In terms of managing the stool of babies, 61 percent of respondents from GWASH communities use potties and throw the stool in the toilet, compared to 57.5 percent from control communities.

	Adequate (%)	Not Adequate (%)	Not answered (%)	Total (%)
<b>How fetched water is kept from splashing out &amp; kept clean</b>				
GWASH	19.5	75.6	4.9	100
Control	10.0	88.3	1.7	100
<b>Frequency of hand washing</b>				
GWASH	57.7	39.8	2.5	100
Control	53.3	46.7	0	100
<b>How water is kept clean inside the house</b>				
GWASH	35.8	62.6	1.6	100
Control	13.3	78.3	8.4	100
	Yes (%)	No (%)		
<b>Treat water before drinking</b>				
GWASH	25.2	71.5	3.3	100
Control	31.0	65.0	4.0	100

It was noted that the GWASH intervention did not change the behavior for those collecting water from open surface sources or shallow wells, as most reported that they provided no treatment for

these water sources; all water quality experts are convinced of the need to provide treatment for open surface sources and in most cases, for water withdrawn from shallow, hand-dug wells.

Per its Year Three Work Plan and annual report for the period October 2011 to September 2012 report, GWASH did not address water quality from hand-dug wells. Generally, disinfection should be provided for water withdrawn from hand-dug wells. Disinfection may be accomplished by chlorine (liquid or tablets), ultraviolet light (using SODIS or other), or boiling.

## **GARBAGE AND STANDING WATER**

About 75 percent of the GWASH communities were relatively free of garbage (residents said they had prior knowledge that an evaluation team was visiting). Most have one or more designated garbage dumps sites where everyone throws trash. By far the main source of trash is plastic bags from shops and water sachets. There is also substantial organic waste (coconut husks, fruit peelings, etc.) that could easily be composted. Control communities have a serious problem with litter and standing water although at least two were cleaner than GWASH communities. Every community has many goats and chickens wandering and defecating freely.

While malaria was by far the most frequently named illness resulting from dirty water, and most people know mosquitoes cause malaria, there was little effort to drain water around wells, private bathhouses, which often had pools of waste water. About half of the older hand dug wells were covered with boards or a piece of roofing metal.

	<b>Adequate (%)</b>	<b>Not Adequate (%)</b>
<b>How water is kept from splashing out when carrying to home</b>		
GWASH	19.5	75.6
Control	10.0	88.3
<b>Frequency of hand washing</b>		
GWASH	57.7	39.8
Control	53.3	46.7
<b>How water is kept clean inside the house</b>		
GWASH	35.8	62.6
Control	13.3	78.3
	Yes (%)	No (%)
<b>Treat water before drinking</b>		
GWASH	25.2	71.5
Control	31.0	65.0
<b>Share toilet</b>		
GWASH	30.9	35.8
Control	26.7	13.3

In some communities in other parts of Ghana it is reported that women place leaves in the water to keep it from splashing out when it is carried.

## **HYGIENE EDUCATION**

According to the KAPB study, communities, both project and control, have a high level of knowledge and attitude towards the use of clean water sanitation, and hygiene practices as they impact health. A vast majority of people (95 percent) know at least one or two diseases that can be caused by dirty water; almost all women (91 percent) report cleaning their container before

filling it again with water and a majority (67 percent) say they use soap to wash the container. Most families keep their drinking water in a separate container for storing drinking water (88 percent), have adequate knowledge of the importance of hand washing (81 percent), and wash hands (56 percent). Inadequacies and gaps are found in actual practice however, as the vast majority of people do not have access to improved latrines and proper hand washing facilities. Women also often wash their hands in the water they collect from rivers and they rinse their hands in the dirty water they used to wash their hands so the effectiveness of hand washing may be reduced.

There was no substantial difference in knowledge or attitude between GWASH and control communities. In fact, the knowledge of diseases transmitted from dirty water was higher (98 percent) in control communities than in project communities. Both project and control communities know the importance of hand washing (82 percent for GWASH vs. 81 percent for control).

For project communities, the high level of knowledge has been facilitated by GWASH BCC interventions as evidenced by the posters seen on GWASH institutional latrines and the BCC toolkit distributed to WASH Committees. Community members also indicated the inputs of a few of the LNGOs in hygiene education. For control communities, regular interventions would have come from Ghana Health Service personnel, whether from health workers regularly visiting communities or through visits to health centers.

A major issue with the project was the sequencing of the community interventions. In most cases, boreholes were installed before there was any community mobilization or hygiene education. GWASH would drill one borehole and if it came up dry, a second would be drilled. If that had water, then the community mobilization would begin. There was reported to only be one community where two boreholes came up dry and the project did not proceed in that community. The lesson learned from other WASH projects is that the community organization has to begin at least six months before any hardware is installed to ensure community ownership and maintenance of the systems. Communities should be able to meet certain minimal standards for the collection of funds, have the ability to manage a WASH Committee, and understand the fecal-oral transmission cycle before hardware is installed. This sequence of events needs to be thought through for each region as most of the construction has to be done in the dry season and community members are often very busy with their agricultural work during other seasons.

Common to both community categories were the inputs of the Schools Health Education Program (SHEP) in Ghana. At least 75 percent of women interviewed vouched for the changes observed with their school-going age children in terms of sanitation and hygiene practices. They attribute these changes to the inputs of the school. Some of them also said their children were the ones who influenced the adults in the house to practice good hygiene. Women said their children often prompted them to wash their hands or cover the food to protect it from flies. Based on interviews with community members and teachers children learn and practice hand-washing in school and continue the practice in the home. Hand-washing supplies are sometimes required to be provided by parents and this practice also tends to strengthen the message of hygiene importance within the family. Teachers also observe less littering and more students are volunteering to clean around the school. In Nkonya, a community of about 1,000 people and

three schools with around 400 total students, there are student health clubs that go out into the community to clean and educate their parents on hand washing and hygiene<sup>12</sup> Success factors include committed enforcement by teachers. Young children are also more receptive to messages and carry the positive behavior as they go to higher educational levels. It was observed by SHEP Coordinators that those primary students who received hygiene messages at the same time as older students had a greater tendency to sustain good hygiene practices.

Nevertheless, the institutional WASH facilities supported by GWASH did not have adequate security systems to prevent neighboring communities from utilizing them and causing destruction or premature deterioration. The evaluation team noted cases of taps of school KVIP water tanks destroyed due to overuse, school KVIP's broken into, and school borehole pumps open to use by community children.

At least one institution, the Bereku Health Centre, which benefitted from a water facility (mechanized borehole) provided by GWASH, stated that cases of diarrhea brought to the Centre have greatly reduced since the facility was installed in 2010. Health personnel reported that the facility is also a source of water for at least five neighboring communities especially when the small town piped system breaks down or is not working due to electricity cuts.

### **Health Implications of GWASH**

As stated above, GWASH has no health objectives. Its only objectives were to build latrines and wells. Hand washing is encouraged through the SHEP and recently, there has been more emphasis on reduction of Open Defecation.

Overwhelmingly, the main disease that concerns women is malaria. They often also mention typhoid and cholera as concerns though none of the people interviewed knew anyone who had either of the later diseases. In some parts of Western Region, Guinea worm, river blindness, and Belharzia are present but not common. Women say they can see the "germs" in the water with their eyes but even those who say they see germs do not treat the water in any way.

The Western Region team interviewed the Environmental Health Officer at the District Assembly in Bibiani who reports that there has been a 40 percent increase in water borne illness in the district in the past year. He attributes this to the increased consumption of purchased water sachets which are sold on the roadside and in bulk in shops. These sachets are normally just tap water from Accra and if kept cold, are probably safe to drink. If they are not kept cold, then the bacteria/parasites multiply. As few people have electricity, they are possibly contaminated.

At the Brebre Clinic, a private clinic which has a rainwater harvest tank paid for by a small grant from GWASH, the physician in charge reports that he rarely treats water borne illness from Brebre since the installation of the Afridev pump on the hand dug well was installed. A borehole is broken as no one has the tools to make below ground repairs. All community members are welcome to use any of the seven latrines that were installed. And the physician is highly grateful for the rainwater harvesting system though as with other rainwater systems, it is dry three to four

---

<sup>12</sup> Nkonya is one of the communities with a Peace Corp Volunteer. It is a very progressive community with a computer lab and electricity.

months a year and it is installed so low on the ground that the water does not flow properly. The main water borne diseases he treats are from surrounding communities and include guinea worm and typhoid.

At the Presbyterian Health Clinic in Guyampokrom, the lab technician reports that Guinea worm has been eliminated in the area and the main diseases are malaria and typhoid. Taxi drivers in Adobewura II complain that one of their main sources of income was transporting people from Alata to the local hospital but now that people are not getting sick, they are making less money.

### **IMPACT ON INCOME**

While there were no additional businesses started because of available water, women do report that the GWASH project has had a positive effect on their income as they now spend less time fetching water and can spend more time in the palm oil or cocoa farms. They report that spending less money on medicine/medical care, gives them more money for other things.

### **OTHER IMPACTS**

The team did not track school attendance for girls. The eight teachers interviewed said that health is not the major source of absenteeism for school children. The main reason for absenteeism is difficult in getting to school and being held back to help with family farm work. There is a major effort to reduce child labor among cocoa farmers funded by the UN and several NGOs. A recent report from the World Bank suggests that having access to water increases school attendance for girls<sup>13</sup>.

---

<sup>13</sup> *Hauling Water Reduces School Attendance among Girls in Ghana*: In large parts of the world, a lack of home tap water often forces households to travel long distances to fetch water. In Sub-Saharan Africa, more than a quarter of the population walks 6 kilometers a day on average, carrying 20 liters of water. This job often falls on women and girls. In a recent working paper, Céline Nauges and Jon Strand evaluate the effect of water hauling on girls' schooling in Ghana, drawing on data from four rounds of the Demographic and Health Surveys for that country. Their analysis indicates that reducing the time spent fetching water by half increases girls' school attendance by an average of 2.4 percentage points, with a larger impact in rural communities. These results seem to be the first definitive documentation linking water fetching and girls' school attendance for an African country [World Bank Policy Research Working Paper 6443](#).



## APPENDIX J: COMMUNITY RANKING ANALYSIS

### Explanation for Ranking of Community of Community Based Interventions

At the end of each community visit, the team as a whole ranked each community on the following scale. Not all of the items have been calculated for the summary matrix for reasons explained for each item. The total points possible is 65.

Region: West/Central Project Community/Control District \_\_\_\_\_  
 Community \_\_\_\_\_ Date \_\_\_\_\_

### SCORE

- |   | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. Clean water is available to what percent of community members within 10 minute (500 m) walk: |   |   |   |   |   |

	20%	40%	60%	80%	100%
--	-----	-----	-----	-----	------

- |   |    |                    |                    |                  |   |
|---|----|--------------------|--------------------|------------------|---|
| 2. Are the number of latrines adequate for the community? | No | 1 for 8 + families | 1 for 4-6 families | 1 for 3 families | 1 |
|---|----|--------------------|--------------------|------------------|---|

- |                                     |        |           |                 |                  |        |
|-------------------------------------|--------|-----------|-----------------|------------------|--------|
| 3. Evidence that latrines are used: | Rarely | Sometimes | About half time | Most of the time | Always |
|-------------------------------------|--------|-----------|-----------------|------------------|--------|

*The data for this response comes from observations, focus groups and KAP surveys*

- |   |     |     |     |      |     |
|---|-----|-----|-----|------|-----|
| 4. Number of visible health promotion campaign materials: | 1-3 | 4-6 | 7-8 | 9-10 | 10+ |
|---|-----|-----|-----|------|-----|

*The data for this were not calculated as few communities had health promotion materials. Most school latrines did have a poster on the door advising how to keep the latrines clean.*

- |  |              |                                 |                                 |                                 |               |
|--|--------------|---------------------------------|---------------------------------|---------------------------------|---------------|
| 5. Number of hand washing stations with soap | none visible | One within 45 feet of a latrine | One within 30 feet of a latrine | One within 15 feet of a latrine | 1 per latrine |
|--|--------------|---------------------------------|---------------------------------|---------------------------------|---------------|

*Some schools have hand washing stations but people report that they normally wash their hands at home in a bucket. This was not scored. Except at schools, which usually had a tap on the rainwater tank, WASH did not install hand washing stations.*

- |   |   |   |    |    |    |
|---|---|---|----|----|----|
| 6. In a 15 minute period of observation, how many people used the hand washing station and properly washed their hands? (did not observe _____) | 0 | 5 | 10 | 15 | 25 |
|---|---|---|----|----|----|

*While we did as a few people to demonstrate how they wash their hands, we rarely saw people actually washing their hands. Therefore this item was not scored.*

- |                                       |          |            |                    |               |                       |
|---------------------------------------|----------|------------|--------------------|---------------|-----------------------|
| 7. Who used the hand washing station? | men only | women only | Women and children | Men and women | Men, women & children |
|---------------------------------------|----------|------------|--------------------|---------------|-----------------------|

*Women report washing their hands several times a day and children also wash before meals and other times. Most people report washing after defecating and when returning from farm work. As this was not observed, it was not scored.*

- |  |          |           |        |          |          |
|--|----------|-----------|--------|----------|----------|
| 8. Average Length of time pumps were broken without repair       | 1 month+ | 2 weeks + | 1 week | 3-5 Days | 1-2 days |
| 9. Average Length of time latrines were not used before repaired |          |           |        |          |          |

1 Month+      2 weeks+      1 week      3-5 days      1-2 days

*As latrines have little that can go wrong (until they get full), this was no scored.*

10. Functioning of WASH committee  
 Low      fair      Medium      good      excellent  
*The ranking here was based on focus group interviews and general conversation with WASH members and community leaders.*
11. How do people feel about the quality (color/taste/odor) of the water complaints  
 fair      Medium      good      very good
12. In general, do the community members seem satisfied with the water system?  
 Low      some complaints      fair      satisfactory      no complaints
13. In general, do the community members seem satisfied with the latrines?  
 Low      some complaints      fair      satisfactory      no complaints
14. Is there an adequate system for collecting funds for water maintenance?  
 No      yes but doesn't work      sort of works      Works with some problems      works fine
15. Has anyone in the community innovated in latrine/water systems?  
 No      limited      few      Several      Quite a few  
*A few people have built their own private latrines. Some communities have built community latrines. A few families have built hand dug wells without pumps.*
16. Does anyone in the community report a higher income or new business because of the available water?  
 No      limited      few      Several      Quite a few  
*This was not scored as the answer was almost always NO. A few people reported having a little more money now that they get sick less often and spend less on medicine and doctors.*
17. If there have been external sources (such as GWASH) were the interventions effective?  
 low      uneven      medium      helpful      excellent  
*This was the team's opinion based on the focus groups and other interviews. In very few of the control communities had there been any interventions.*
18. Is water of consistent quality all year round?  
 Very uneven      some complaints      fair      satisfactory      Yes, consistent
19. Is the quantity of the water consistent all year round?  
 Very uneven      some complaints      fair      satisfactory      yes, consistent  
*For the quality/quantity questions above, the men's and women's answers often differed, with women rating both lower than men. The teams ranking was a compromise.*

Total Points: \_\_\_\_\_

**Extra information (Do not count in the final score)**

20. Schools with latrines for every 30 children: # school visited \_\_\_\_\_ # children \_\_\_\_\_  
 \_\_\_none \_\_\_some \_\_\_about half \_\_\_most \_\_\_all

21. Schools with wells/latrines that have safe drinking water (Number tested \_\_\_\_)  
\_\_\_\_ none \_\_\_\_ some \_\_\_\_ about half \_\_\_\_ most \_\_\_\_ all

*These two items were not scored. The team did visit a few schools, with and without water and latrines but we were not able to score this with any accuracy.*

22. Do any health personnel or teachers report a reduction in water borne illness since the system was installed:

\_\_\_\_ none \_\_\_\_ limited \_\_\_\_ some \_\_\_\_ very noticeable \_\_\_\_ very positive changes in health

*This was not scored. The people we interviewed only had occasional anecdotal evidence of a reduction in water borne illness. In fact in some cases, an increase was reported due to the use of water sachets (which may be contaminated) and the increase in stagnant water around wells and bath houses.*

Completed by: West \_\_\_\_ Central \_\_\_\_ Team

## **Analysis of Community Ranking Scores**

Each community was ranked between one and five (see above) by the whole team at the end of each community visit. The community ranking scores were grouped into the three categories of water, sanitation, and sustainability to provide a means to summarize and interpret the data. The interview questions were each assigned to one of the categories.

### **Water**

Water availability (Question 1)

Length of time that pumps were broken before repair (Question 8)

**Water quality** (Question 11)

Overall satisfaction with water (Question 12)

Consistent year-round water quality (Question 18)

Consistent year-round water quantity (Question 19)

### **Sanitation**

Number of latrines per household (Question 2)

Latrine use (Question 3)

Overall latrine satisfaction (Question 13)

### **Sustainability**

Functioning of WASH committee (Question 10)

Collection of funds for maintenance (Question 14)

Innovation in WASH interventions (Question 15)

GWASH effectiveness (Question 17)

The raw scores for each of the visited GWASH and control communities are provided in the following table. The colored headings indicate the category (blue = water, tan = sanitation, and green = sustainability).

Exhibit 10. Community Scores for Water, Sanitation, and Sustainability

District	Community	GWASH Project	Control	Water Availability	Length of times pumps broken	Water Quality	Overall water satisfaction	Consistent year-round water quality	Consistent year-round water quantity	Number of latrines per household	Latrine use	Overall latrine satisfaction	WASH committee functioning	Maintenance funding	Total
Central GWASH	Abrafo	X		5	4	5	3	5	4	3	5	2	4	5	45
	Adaa	X		2	NA	1	1	1	1	1	4	3	3	NA	17
	Akoako	X		1	1	1	2	3	3	5	5	5	3	3	32
	Aserekewa	X		4	5	5	3	5	5	3	4	4	4	4	46
	Bentum	X		1	NA	1	1	1	1	3	5	4	3	1	21
	Dankwa	X		4	5	1	2	2	4	3	4	4	1	1	31
	Krobro	X		5	1	5	4	5	3	2	5	3	3	4	40
	Kuberkro	X		5	NA	5	5	5	5	2	5	2	5	5	44
	Obempo	X		3	3	2	2	4	4	4	5	4	2	1	34
Central Control	Bremang		X	2	1	5	2	1	1	3	5	1	3	3	27
	Canan		X	1	NA	1	1	1	1	1	1	1	NA	1	9
	Frami		X	1	4	4	2	5	2	1	1	1	4	5	30
	Fuhyia		X	5	5	5	5	5	5	2	3	1	4	5	45
	Sraha		X	1	1	1	1	1	1	1	1	1	3	1	13
Western GWASH	Adobewura	X		2	5	1	1	1	1	3	2	4	3	1	24
	Alata	X		1	3	3	2	2	1	5	5	5	4	5	36
	Asuokolo	X		3	4	4	4	3	3	4	5	3	4	2	39
	Bokobo	X		3	3	5	3	4	4	2	3	2	4	3	36
	Brebre	X		4	3	5	3	4	4	3	5	4	4	3	42
	Elluokrom	X		3	3	5	3	4	4	2	3	2	4	3	36
	Gyampokrom	X		3	3	4	4	4	3	5	5	3	4	3	41
	Sefwikrom	X		3	5	5	5	5	5	5	5	3	3	3	47
	Sefwi-Nkonya	X		3	2	4	3	4	4	2	5	4	1	2	34
	Suibo	X		4	5	4	3	5	4	4	5	3	3	2	42
Western Control	Abochikrom		X	1	1	1	1	1	4	2	2	1	1	1	16
	Bisease		X	1	3	2	1	1	2	3	2	2	1	1	19
	Kwamebikrom		X	1	5	4	1	1	3	1	1	1	1	3	22
	Kwametaawiakrom		X	1	1	1	1	2	2	3	5	1	1	1	19
	Manhyia		X	3	1	1	2	3	4	2	2	1	1	1	21
	Nyame Bekyere II		X	1	1	1	1	2	2	3	5	1	1	1	19
	Nyanin Camp		X	1	1	2	1	1	1	1	2	1	1	2	14

The points were summed for each of the three categories and then adjusted to a 0-100% scale. Not-applicable questions for a particular community were removed from the calculation and the denominator was adjusted so that the total range remained at 0-100%. The following table presents the results.

The team noted the following observations from reviewing these data:

1. For the Western Region, the GWASH project communities scored considerably higher than the control communities.
2. The same general trend was true for the Central Region, although the differences between project and control communities were not as pronounced.
3. GWASH project communities have uneven results—there are no communities that scored high (above 80%) in all three categories of water, sanitation, and sustainability.
  - a. For example, there were four Central Region communities that scored relatively high for sanitation (Akoako, Bentum, Dankwa, and Obempo) but all of these scored low for water or sustainability or both.
  - b. Two Western Region communities scored well for water and sanitation but not for sustainability (Suibo and Sefwikrom).
4. These observations suggest that more comprehensive work in a smaller number of communities could have been beneficial.

**Exhibit 11. Community Ranking Summary (data normalized to %)**

<b>Central Community</b>	<b>Water</b>	<b>Sanitation</b>	<b>Sustainability</b>
Abrafo	87%	67%	67%
Adaa	24%	53%	80%
Akoako	37%	100%	47%
Aserekewa	90%	73%	73%
Bentum	20%	80%	47%
Dankwa	60%	73%	33%
Krobro	77%	67%	53%
Kuberko	100%	60%	73%
Obempo	60%	87%	27%
Bremang (control)	40%	60%	60%
Canan (control)	20%	20%	20%
Frami (control)	60%	20%	73%
Fuhyia (control)	100%	40%	67%
Sraha (control)	20%	20%	60%
<b>Western Community</b>	<b>Water</b>	<b>Sanitation</b>	<b>Sustainability</b>
Adobewura	37%	60%	40%
Alata	40%	100%	67%
Asuokolo	70%	80%	60%
Bokobo	73%	47%	67%
Brebre	77%	80%	53%
Elluokrom	73%	47%	67%
Gyampokrom	70%	87%	60%
Sefwikrom	93%	87%	47%
Sefwi-Nkonya	67%	73%	40%
Suibo	83%	80%	53%
Abochikrom (control)	30%	33%	27%
Bisease (control)	33%	47%	20%
Kwamebikrom (control)	50%	20%	33%
Kwametaawiakrom (control)	27%	60%	27%
Manhyia (control)	47%	33%	33%
Nyame Bekyere II (control)	27%	60%	27%
Nyanin Camp (control)	23%	27%	33%