

DIV Progress Report Guidelines

1. Provide a brief summary of project progress (max 1000 words). Please include:
 - a. A progress report of work completed during the quarter (If the grant agreement asks for specific updates, please provide these here)
 - b. Issues and challenges faced and recommended approaches to addressing them
 - c. Description of work planned for the upcoming quarter, highlighting any critical decisions to be made, potential obstacles or challenges that may be faced and how they may be addressed
 - d. Any proposed changes to dates or deliverables.
 - e. Please note any interactions with the local USAID Mission
2. If applicable, please update an M&E table with the most recent data collected, including any required indicators. Please provide a narrative that explains any data collection issues or notes of importance (max 250 words).
3. Please share any photos or videos that help to depict your project's work (email jpeg files not larger than 15MB per email or send hardcopies via post).
4. Is there anything else you want to tell USAID? Please feel free to tell us about any other unexpected issues, concerns or successes you have had during this reporting period.



Chlorine Dispensers: Bringing Safe Water to Scale

First Quarterly Progress Report: July - September 2012

Prepared by: Innovations for Poverty Action

Cooperative Agreement No.
AID-OAA-A-12-00018

Dispensers for Safe Water is an initiative
of Innovations for Poverty Action.



TABLE OF CONTENTS

Quarterly Project Highlights	3
Project Summary	4
Output 1: Provide 5 Million People with Access to Safe Water	4
Output 2: Increase Adoption in Successful Pilots	4
Output 3: Disseminate Project Results	5
Output 4: Supply of Commercially Manufactured Dispensers	5
Output 5: Optimize Quality of Operations	5
Interactions with USAID Missions	6
Monitoring and Evaluation Summary	7

QUARTERLY PROJECT HIGHLIGHTS

	Number of People w/ Access to Safe Water through Dispensers							
	Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Total To-Date	Year 1 Target	% Target
Kenya	420,000	420,000	-	-	-	420,000	975,000	43%
Uganda	2,000	10,000	-	-	-	10,000	100,000	10%
Rwanda	0	0	-	-	-	0	20,000	0%
Total	422,000	430,000	-	-	-	430,000	1,095,000	39%

Key Achievements:

- **74% of households had detectable levels of chlorine in drinking water** in Dispenser for Safe Water's (DSW) pilot program in Uganda - the highest adoption rate for an initial installation round in the history of the program.
- DSW's Kenya program has migrated all data to a **fully functioning and populated cloud database** allowing for quick data analysis and shorter feedback loops.
- A '**Boosting Adoption**' study was initiated to evaluate innovative mechanisms for increasing dispenser take-up rates in ongoing programs.
- The first draft of a **research paper** was completed, summarizing the results of the randomized controlled trials documenting the behavior change and increased adoption associated with chlorine dispensers.
- DSW developed and posted a job description for a **Product Engineering Manager** to lead efforts to improve the design and cost-effectiveness of the dispenser hardware.

PROJECT SUMMARY

Output 1: Provide 5 Million People with Access to Safe Water

Kenya

The Kenya team continues to document comprehensive "Best Practices" for initial implementation, dividing these best practices into five major activities: local stakeholder outreach, water point verification, community sensitization, installations, and community education. To facilitate current and future installation rounds and ensure the highest possible quality of service delivery, a total of 46 best practice tools have been developed and documented.

In the first quarter, tools for the first three activities – local stakeholder outreach, water point verification, and community sensitization meetings - were finalized and utilized in the field during preparations for the installation of approximately 1,100 dispensers in Nyanza Province beginning this November.

We are on track to have a complete working set of best practices by the end of the second quarter, with the finalization of tools for the remaining two activities – installations and community education meetings – currently underway. These best practices will be compiled into a toolkit that can be used in Kenya as well as in other Chlorine Dispenser System (CDS) programs across the globe.

Uganda

In Uganda, the successful 10-dispenser pilot was expanded with the installation of an additional 40 dispensers in Kibuku district in August. Preparations have begun for the large-scale roll out of 450 additional dispensers planned for Q1 2013. The next stage of preparation activities will be undertaken in Q4 2012, including meetings with District Health Officers to assess the suitability and local acceptability of dispensers, over 500 water source appropriateness inspections, and the hiring and training of eight additional field staff members to undertake the first phase of the roll out.

Prospective Countries

Discussions with two prospective partners for piloting dispensers in Rwanda were held in August, with final work plans and budgets to be submitted in November. Once plans are finalized, the sub-awards will be submitted to USAID for approval. This process is slightly behind schedule, with installations originally planned for the end of this year now occurring in early 2013.

Output 2: Increase Adoption in Successful Pilots

Kenya

DSW tested four new encouragement and incentive designs that are expected to impact adoption rates within existing programs, including:

- Performance-based incentive structures for local leaders to mobilize communities and achieve high attendance at community education meetings;
- Two new methods of low-cost mass-communication to community members and promoters (texting key messages and mobile platform surveying);
- Community-wide "village sensitization meetings" that will increase dispenser awareness even among households using private water sources;
- A trial of incentive-based prizes to volunteer promoters in our partnership program with One Acre Fund.

Previous analysis has demonstrated that survey respondents who report attending the initial community education meeting introducing the dispenser are 8-10% more likely to have household drinking water that tests positive for total chlorine residual. We believe that increased interactions and forums for communication will lead directly to higher usage of the CDS. We will collect survey data at the adoption evaluations conducted three months after installation. We will continue to gather and analyze data from adoption evaluations, incorporate the learnings, and introduce new innovations to improve the impact of dispensers on an ongoing basis.

Uganda

The best practice documents from Kenya have been adapted for Uganda and are ready for use in future installations. The team has also completed a standard initial 2-month spot check for the 40 dispensers installed in August, finding no serious hardware problems; a 4-month adoption survey of these dispensers will be conducted in November 2012. Results from the 2 and 4-month monitoring activities will be analyzed by the end of 2012 to inform the roll-out planned for 2013.

Prospective Countries

Our prospective country activities are still in the early stages. We expect that community engagement activities will begin in Rwanda in early 2013 in conjunction with our implementing partners. We continue to engage with our five NGO partners in Haiti to support the 139 dispensers they have installed. Additionally, Partners in Health / Zanmi Lasante has submitted a proposal to USAID DIV to scale up dispensers in Haiti with technical support and guidance from IPA.

Output 3: Disseminate Project Results

In partnership with the Principal Investigators on the original randomized controlled trial of the chlorine dispenser system, we have completed the first draft of a research paper summarizing their findings on the behavior change and increased adoption associated with chlorine dispensers. The paper will be edited and refined with the goal of publishing in Q2 of 2013.

We have developed promotional materials that use everyday language to explain the scientific and statistical aspects of our initial research and scale up of the program. These are designed to engage and interest a broad audience, and will be used in press releases and blog posts. Updated content, photographs, infographics, and dashboards have also been developed for the Dispensers for Safe Water website, which will be be relaunched by end 2012.

Output 4: Supply of Commercially Manufactured Dispensers

DSW continues to optimize the dispenser design, and we have taken significant steps toward developing the next generation of dispenser technology. We have developed and circulated a job description to recruit a Product Engineering Manager to start in early 2013; tested and piloted production of aluminum braces to reinforce the casing bracket and lid at vulnerable points; procured high-quality asset tags and stainless steel rivets; and continued iterations with engineers and mold manufacturers on an improved dispenser bracket mold that is expected to be finalized by November.

Output 5: Optimize Quality of Operations

Kenya

During this quarter we took successful steps on three quality control/optimization efforts: 1) integrating electronic data collection tools into our “best practices” system; 2) migrating program data to a fully functioning and populated cloud database; and 3) planning and concept development for a maintenance management and response system. These new systems will enable us to more efficiently store, analyze, and use operations and evaluations data, allowing us to intelligently manage an ever-growing number of chlorine dispensers in the field.

During the next quarter our information systems team will continue development of the software platforms, including field testing of new data collection tools. We plan to extend this testing and development into Q1 2013 to ensure the development of top-quality of data management tools.

Uganda

DSW invested in smart phones for use in monitoring and evaluation activities, and adapted surveys from Kenya to create a Ugandan electronic data collection system. We also investigated potential chlorine manufacturers in Uganda and determined that the only viable company was shut down in June 2012. As such, sourcing will be done from Kenya, and chlorine supply for Uganda will be included in the project-wide tender planned for 2013. Chlorine delivery will take the form of direct delivery, building on the experience and best practices of the successful pilots in western Kenya. During the selection of sites for new installations, the field team will work to develop the distribution model in Uganda.

Prospective Countries

DSW is evaluating shipping options for delivering dispensers to Rwanda once sub-awards have been approved by USAID and signed by the partners involved. The program will investigate local chlorine sourcing options in Q4 2012.

With support from IPA, the Haitian government’s safe water agency (DINEPA) will begin piloting 22 dispensers by the end of 2012. IPA will conduct a day-long training in October, including site visits to the prospective communities. A local company in Port-au-Prince has been approved by the Haitian Ministry of Health to manufacture chlorine for water treatment, overcoming a significant barrier that has existed in Haiti, and we are working with current partners to encourage them to use this source.

Interactions with USAID Missions

The DSW team had several opportunities to meet with USAID Mission representatives during the first quarter of the project. The objectives of these meetings were to introduce the DSW initiative and expansion plans in the respective countries, to build relationships with key Mission contacts, and to answer questions about the program.

- **Kenya** - On September 12th, the DSW Managing Director and Kenya management team met with Martin Mulongo, Rose Muturi, and Azharul Mazumder, the WASH and environmental officers at the USAID Mission in Nairobi. The reception from the mission was positive, and the DSW team and USAID Kenya officers discussed opportunities for future collaboration.
- **Uganda** - The program team met with Tamika Allen from the USAID Mission on September 19th in Kampala. The Mission is currently in the process of drafting a country-wide WASH strategy, and will look to include IPA’s program in their plans.
- **Rwanda** - DSW program staff met with Jennifer Slotnick and Solange Hakiba from the USAID mission on September 17th in Kigali. The Mission expressed support for the program and an

interest in being involved in any government meetings that DSW holds with the Ministry of Health.

MONITORING AND EVALUATION SUMMARY

Number of chlorine dispensers installed broken out by country							
	Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Baseline-to-date Cumulative	Year 1 Target
Kenya	2,100	2,100	-	-	-	2,100	3,750
Uganda	10	50	-	-	-	50	500
Rwanda	0	0	-	-	-	0	100
Total	2,110	2,150	-	-	-	2,150	4,350

		Number of people with access to chlorine dispensers, broken out by country and gender						
		Baseline	Q1	Q2	Q3	Q4	Baseline-to-date Cumulative	Year 1 Target
Kenya ¹	Male	208,775	208,775	-	-	-	420,000	750,000
	Female	211,225	211,225	-	-	-		
Uganda ²	Male	974	4,872	-	-	-	10,000	98,000
	Female	1,026	5,128	-	-	-		
Rwanda	Male	0	0	-	-	-	0	20,000
	Female	0	0	-	-	-		
Total	Male	209,749	213,647	-	-	-	430,000	1,095,000
	Female	212,251	216,353	-	-	-		

Currently, our program estimates that dispensers serve an average of 200 people each in Kenya and Uganda, and the gender composition of these users has been extrapolated using the population ratios provided by the Kenyan and Ugandan censuses, respectively. Starting in 2013, we will update our existing survey protocol to capture the breakdown of users by gender and include this information in future quarterly reports.

Quarterly Metrics:

Category	Baseline-to-date	Year 1 Target
Number of approaches piloted (new geographies, operational models, and partnerships consisting of at least 20 dispensers)	1	2
Number of published articles about the project and/or its findings	0	1
Number of reputable press mentions per year about the project and/or its findings	0	1
Number of conferences / workshops where dispenser programs are presented	0	4

¹ The 2009 census suggests that the Kenyan population is 50.29% female.

² The 2002 census suggests that the Ugandan population is 51% female.



Chlorine Dispensers: Bringing Safe Water to Scale

Second Quarterly Progress Report: October - December 2012

Prepared by: Innovations for Poverty Action

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TABLE OF CONTENTS

Quarterly Project Highlights	3
Project Summary	4
Output 1: Provide 5 Million People with Access to Safe Water	4
Output 2: Increase Adoption in Successful Pilots.....	4
Output 3: Disseminate Project Results	5
Output 4: Supply of Commercially Manufactured Dispensers	6
Output 5: Optimize Quality of Operations	6
Additional Updates	7
Monitoring and Evaluation Summary	7

QUARTERLY PROJECT HIGHLIGHTS

	Number of People Provided Access to Safe Water through Dispensers ¹							
	Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Total To-Date	Year 1 Target	% Year 1 Target met
Kenya	420,000	0	90,600	-	-	510,600	750,000	68%
Uganda	2,000	8,000	0	-	-	10,000	100,000	10%
Rwanda	0	0	0	-	-	0	20,000	0%
Total	422,000	8,000	90,600	0	0	520,600	870,000	60%

Key Achievements:

- **DSW installed 453 dispensers** during Q4 of 2012. The installations are part of an expansion roll-out in Nyanza province of Western Kenya.
- DSW was awarded the **Stone Family Foundation Award for Innovation and Entrepreneurship** in water. Over 170 projects from 37 different countries applied for the £100,000 prize.
- Over **400 household interviews** were conducted as part of the adoption surveys in Uganda in November 2012.
- A **Product Engineering Manager** was hired to oversee DSW's efforts to develop a supply of commercially manufactured dispensers as well as lead on research and development of the hardware design.
- **Ten staff members** were recruited to the permanent Uganda team in preparation for the first large scale rollout of 450 dispensers in the country.
- The planned **Rwanda** roll-out was halted due to the national expansion of a competing intervention at the request of the Rwandan Ministry of Health. Potential countries to replace Rwanda are being explored.

¹ This assumes an average of 200 people using a water source where a dispenser is installed.

PROJECT SUMMARY

Output 1: Provide 5 Million People with Access to Safe Water

Kenya

During this quarter, the Kenya team focused on installation of dispensers in Nyanza province of Western Kenya. By end December 2012, 453 dispensers were installed with 468 village sensitization and 453 community education meetings organized with communities to train them on the dangers of diarrhea and correct dispenser use. The team is on track to achieve its goal of installing 1,100 dispensers by February 2013. With this round of installations, the program will reach an additional 220,000 people.

Uganda

In Q4 2012, the Uganda team began preparations for the upcoming rollout of 450 dispensers. This included researching and scoping out potential areas for expansion. Of the 32 districts considered in Eastern Uganda, two were selected according to their need, the incidence of diarrhea, their geographic location, and the enthusiasm of local government officials to have the program in their district. The team met with the District Health Officers and Chief Administrative Officers of the two selected districts, Kibuku and Budaka, and received approval to work in their area.

The team began visiting potential water points in December 2012 and completed 34 inspections. The remaining 585 will be inspected in Q1 of 2013.

During Q4, over 60 candidates were invited for interviews in order to expand DSW's field presence in preparation for the coming rollout. Ten candidates were identified to join the team and all preparations were made to ensure they could start work at the beginning of Q1 2013.

Prospective Countries

In Q3 of 2012, Rwanda was selected as the next pilot country with two implementing partners already identified. However, in October 2012 the Rwandan Minister of Health requested that a competing intervention distribute household water filters at no cost to the poorest 30% of communities nationwide. While DSW had been aware of a household filter program in Rwanda, it had been confirmed as recently as September 2012 that the target areas would only include districts in the south and west of the country, and as such would not overlap with DSW's proposed programs. DSW discussed the implications of this change in the roll-out strategy of the other organization at length with the USAID Rwanda Mission, the local partners and the Rwandan Ministry of Health in November and December 2012, and concluded it would be an unwise investment of DSW's and the government's resources to roll-out two programs with the same purpose and target population.

As a result of these circumstances, Rwanda will no longer be a target country for piloting and has been removed from the workplan. Instead, two new countries will be identified by the end of Q1 2013 for piloting, as potential countries for scale-up.

In Haiti, DSW offered a two-day training to the National Directorate for Safe Water and Sanitation (DINEPA) team in October 2012, who will be overseeing the installation and maintenance of the 22 DINEPA dispensers. The dispensers have been transferred to DINEPA and are awaiting installation.

Output 2: Increase Adoption in Successful Pilots

Kenya

In Q4 of 2012, efforts to boost adoption began in the form of targeted promotional activities with communities to encourage dispenser use. We increased the frequency of interactions with promoters – both in person and using phone calls and text messages – to remind and motivate them to talk about the dispenser with their community and to refill the chlorine tank as necessary. Our survey data has indicated that initial high adoption rates are a good predictor of future usage, thus we are focusing on boosting adoption promptly post-installation. Later efforts through direct contact and via mobile phones will aim to sustain regular and correct use of the technology.

In late November, DSW conducted surveys for the four new encouragement and incentive designs that began in Q3 of 2012 - performance-based incentive structures for local leaders, low-cost mass communication, village sensitization meetings, and incentive-based prizes to volunteer promoters. We expect to complete the final analysis on this data in Q1 of 2013, after which time we will incorporate the lessons learned to increase adoption rates for all dispensers programs going forward.

Uganda

In November 2012, a team of five people undertook an evaluation for the 40 pilot dispensers that were installed in July and August of 2012 in Kibuku, Uganda. In total, they conducted 40 spot checks, 40 promoter surveys and 436 household surveys. An analysis of the results showed a 41% adoption rate, lower than the original 10-dispenser pilot as expected, but on par with results seen in larger pilots in Kenya. Further analysis will be conducted to investigate the nuances of the adoption rate, and to target communities needing further education.

In addition, the information from this initial pilot served to adapt the Best Practices Manual, developed in Kenya, to the Ugandan context, in preparation for the forthcoming larger rollout. The new team was trained on the DSW best practices in December 2012.

Prospective Countries

Remote technical assistance was provided to the Clorox team managing the dispensers program with the local organization PRISMA in Peru. A further five dispenser tanks were supplied to Clorox for replacement and potential expansion. Adoption surveying is expected in 2013, however the decision to survey communities, as well as the decision to expand the program, rests entirely with The Clorox Company.

Output 3: Disseminate Project Results

In November, DSW presented “Monitoring and Evaluation for Sustainable Scale-up: The Case of Dispensers for Safe Water” at the Water & Health Conference at the University of North Carolina. The presentation described how internal monitoring and evaluation has highlighted several correlates of adoption, including: community engagement with the dispenser, the quality of hardware and service delivery, and demographic factors such as the presence of children under 5 in a household. DSW has also been accepted to present at the Global Health and Innovation Conference in March 2013.

We continue to draft a research paper for publication. The draft is being reviewed by several of the Principal Investigators from the original RCT for dispensers. We expect to iterate and improve this document in Q1 of 2013. In Q1 of 2013, we will also look into publications that might provide a suitable forum for publishing the paper. We expect to start the submissions process in Q2 of 2013.

In Q4 2012, DSW launched an updated website (www.poverty-action.org/safewater), which included up-to-date program highlights, statistics, partners and photographs.

In November, DSW was awarded the Stone Prize for Innovation and Entrepreneurship in Water, which received significant publicity including on the [Global Water Challenge website](#), the [WaterAid website](#), the [Rural Water Supply Network Blog](#), and the [Huffington Post](#). DSW also wrote a blog post describing our progress in 2012 on the [WASHPlus Household Drinking Water Quality updates blog](#). Chlorine dispensers were also the focus of the WASHPlus Household Drinking Water Quality updates [e-newsletter](#) in September.

Output 4: Supply of Commercially Manufactured Dispensers

The Generation 3.5 chlorine dispenser model, designed to address issues with the previous model, began successful deployment as part of our Nyanza province roll-out in November. We continue to monitor its use in communities to ensure the desired usage improvements are fully realized. A Product Engineering Manager was hired with a start date of 16 January 2013. She has extensive experience in WASH product design for the African context – formerly having worked for International Development Enterprises in Ethiopia designing a water pump which became their most successful product in Africa.

Output 5: Optimize Quality of Operations

Kenya

During this quarter we took successful steps on two quality control/optimization efforts: (1) the online data portal; and 2) the Issue Tracker:

- 1) In October we launched an online data portal that built on our previous progress with our database migration project. The data portal houses a chlorine delivery dashboard and several real-time and static reports that are helping our field teams keep track of key indicators in each regional office.
- 2) By the end of December, we finished development the first Open Source Definition (OSD) tool, the Issue Tracker, which will allow field teams to track issues with dispensers in the field, allowing for faster response and resolution. We completed a desktop version for the regional offices and mobile smartphones versions to be used in the field. We are starting pilot testing in two regional offices in early January.

Uganda

Because the only manufacturer of chlorine in Uganda was shut down by the government in June 2012, chlorine will be imported from Kenya for the first rollout to take place in 2013. A short-term consultant was hired in December 2012 to improve supply chain management, assist with export / import logistics and to research the most efficient and cost-effective chlorine delivery system for Uganda in the future.

For the evaluation activities that took place in November 2012 and the site inspection activities that took place in December 2012, the appropriate survey forms from the Best Practice Manual were digitalized. This will continue into Q1 2013 to ensure all the adapted Uganda forms exist in an electronic format.

Prospective Countries

The Haitian Ministry of Health and Public Health (MSSP) certified the liquid sodium hypochlorite solution made by La Perle S.A. in Haiti, making it officially available for use in household water treatment. A new chlorine manufacturer has also been established in Port au Prince, Haiti (Les industries digO). Partners are being encouraged to source chlorine from either La Perle S.A. (the

existing chlorine manufacturer) or Les industries digO, as a more reliable form of liquid chlorine than decentralized localized production.

Additional Updates

Interactions with USAID Missions:

- **Kenya** – no meetings in Q4.
- **Uganda** - In November 2012, DSW and IPA Uganda met with a delegation from the USAID Mission in Uganda and from the WASH team in Washington DC, in Kampala, to present the Dispenser Program for the Mission’s WASH strategy development.
- **Rwanda** – The DSW team met with the USAID Rwanda mission on each trip to Rwanda (September, October, and November 2012) in Kigali to discuss the evolution and eventual discontinuation of the program.
- **Other prospective countries** – no meetings in Q4.

Program Sustainability:

In Q4 of 2012 DSW signed an Emissions Reductions Purchase Agreement (ERPA) with Impact Carbon. The ERPA outlines the roles, responsibilities, and revenue-sharing for the dispensers carbon credits project in Kenya. In December, 2012 DSW and Impact Carbon submitted the redesigned Project Design Document (PDD) to the Gold Standard (the relevant regulatory body). The updated PDD now incorporates chlorine dispensers into Impact Carbon's existing cookstoves and water treatment carbon project, which was registered with the Gold Standard in 2011. We expect the first issuance of dispenser carbon credits to take place in May 2013. DSW is in talks with South Pole Carbon, a carbon broker based in Zurich, to sell the issued credits. We expect to finalize and sign this contract in Q1 of 2013. Also in Q1 of 2013, DSW will investigate the options for carbon financing of dispensers in Uganda, either through the UN system or the voluntary market.

MONITORING AND EVALUATION SUMMARY

Currently, our program estimates that dispensers serve an average of 200 people each in Kenya and Uganda, and the gender composition of these users has been extrapolated using the population ratios provided by the Kenyan and Ugandan censuses, respectively. Starting in 2013, we will update our existing survey protocol to capture the breakdown of users by gender and include this information in future quarterly reports.

	Number of chlorine dispensers installed broken out by country						
	Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Baseline-to-date Cumulative	Year 1 Target
Kenya	2,100	0	453	-	-	2,553	3,750
Uganda	10	40	0	-	-	50	500
Rwanda	0	0	0	-	-	0	100
Total	2,110	50	453	0	0	2,613	4,350

		Number of people with access to chlorine dispensers, broken out by country and gender						
		Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Baseline-to- date Cumulative	Year 1 Target
Kenya ²	Male	208,782	0	45,037	-	-	510,600	750,000
	Female	211,218	0	45,563	-	-		
Uganda ³	Male	974	3,898	0	-	-	10,000	100,000
	Female	1,026	4,102	0	-	-		
Rwanda	Male	0	0	0	-	-	0	20,000
	Female	0	0	0	-	-		
Total	Male	209,756	3,898	45,037	0	0	520,600	870,000
	Female	212,244	4,102	45,563	0	0		

Quarterly Metrics:

Category	Baseline-to- date	Year 1 Target
Number of approaches piloted (new geographies, operational models, and partnerships consisting of at least 20 dispensers)	1	2
Number of published articles about the project and/or its findings	0	1
Number of reputable press mentions per year about the project and/or its findings	1	2
Number of conferences / workshops where dispenser programs are presented	1	5

² The 2009 census estimates that the Kenyan population is 50.29% female.

³ The 2002 census estimates that the Ugandan population is 51.28% female.



Chlorine Dispensers: Bringing Safe Water to Scale

Third Quarterly Progress Report: January – March 2013

Prepared by: Innovations for Poverty Action

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TABLE OF CONTENTS

Quarterly Project Highlights.....	3
Project Summary.....	4
Output 1: Provide 5 Million People with Access to Safe Water	4
Output 2: Increase Adoption in Successful Pilots	5
Output 3: Disseminate Project Results	6
Output 4: Supply of Commercially Manufactured Dispensers	6
Output 5: Optimize Quality of Operations	6
Interactions with USAID Missions.....	7
Program Sustainability	7
Monitoring and Evaluation Summary.....	8

QUARTERLY PROJECT HIGHLIGHTS

	Number of People Provided Access to Safe Water through Dispensers ¹							
	Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Total To-Date	Year 1 Target	% Year 1 Target met
Kenya	420,000	0	90,600	111,400	-	622,000	750,000	83%
Uganda	2,000	8,000	0	0	-	10,000	100,000	10%
Country #3	0	0	0	0	-	0	20,000	0%
Total	422,000	8,000	90,600	111,400	-	632,000	870,000	73%

Key Achievements:

- **DSW Kenya installed 557 dispensers** during Q1 2013, providing access to safe water to 111,400 people. The installations are part of an expansion roll-out in Nyanza province of Western Kenya.
- **Adoption and functionality rates are 46.57% and 95.7%** for the 1,010 dispensers installed in Nyanza, Kenya in Q4 2012 and Q1 2013. These exceed the target rates of 45% adoption and 94% functionality.
- **DSW Uganda selected 464 dispenser installation sites** for an upcoming roll-out in the Kibuku and Budaka districts of Uganda, and reached **12,275 people through Village Community Sensitization meetings** in the villages selected for installations.
- **Tanzania and Malawi were selected as potential Country 3 scale-up countries**, and a two-week scouting trip was conducted in each.
- **The dispenser hardware was improved** with new reinforcements and UV protected casing to ensure the longevity of the dispensers. 1,312 dispenser retrofits are planned for Q2 2013.
- **The Standard, a national newspaper in Kenya, featured the DSW program** in an extensive three-page cover story, describing DSW's efforts to halve the number of deaths from waterborne diseases.

¹ This assumes an average of 200 people using a water source where a dispenser is installed.

PROJECT SUMMARY

Output 1: Provide 5 Million People with Access to Safe Water

Kenya

The DSW Kenya team installed 557 dispensers and conducted 611 community education meetings in the Nyanza province of western Kenya during Q1 2013. In total, 1,010 dispensers were installed in Nyanza during this wave of expansion, providing 111,400 people access to safe water. These installations are just short of the initial target of 1,100 dispensers, primarily because some water sources were later deemed inadequate for dispenser use.

Field activities were reduced in this quarter due to preparations for potential heightened tensions during the presidential and county elections. The program used this opportunity to evaluate learning from the latest round of installations, update best practices, and plan for expansion activities for Q2 2013. The team identified Siaya and Gem in Nyanza and Vihiga in Western province as potential areas for dispenser expansion and met with local government officials. In-depth exploratory surveys and field visits are planned for the period immediately after the elections.

Uganda

The DSW Uganda team hired 11 permanent staff – one Associate Area Coordinator, one Field Officer, and nine Field Associates – to join the Mbale office in preparation for the 450-dispenser rollout in Kibuku and Budaka. The team met with government officials in 23 sub-counties and 90 parishes in these districts, and hosted 101 stakeholders in district-level meetings in Kibuku and Budaka. Additionally, the team carried out 224 Village Community Sensitization Meetings with village elders, opinion leaders, village health workers, and community members to introduce the program and gather feedback from the local communities. In total, 12,275 village members attended these meetings.

The team inspected and verified all water points across the two districts. Of the 1,022 sites inspected, 678 water points met the appropriate criteria (e.g. turbidity of the water, number of households using the source, etc.). Dispensers will be installed at these water points in Q2 and Q3 2013.

Four masons were hired in March and trained on how to install the current Generation 3.5 dispensers and how to retrofit the Generation 3 dispensers from the pilot installations with the new additions (please see Q1 report and Output 4 below for additional information).

Prospective Countries

The DSW Global Expansion team created a framework to identify new potential countries for expansion. The framework includes factors such as population density, under-5 population proportion, percentage of rural population, liquid chlorine availability, national chlorination rates, national under-5 diarrheal incidence rates and logistical support (e.g. proximity to Kenya or the existence of an IPA office in country).

Tanzania and Malawi were identified as countries with strong potential for DSW expansion, and a two-week scouting trip was conducted in each. During these trips, meetings were held with various ministry officials, sector stakeholders, and other start-up organizations to better understand the general WASH and operating environments. The DSW team is using this information to choose the next country for scale-up activities and will present its suggested selection to USAID when finalized.

Output 2: Increase Adoption in Successful Pilots

Kenya

A three-month evaluation survey is underway for the 1,010 dispensers installed in Nyanza province in Q4 2012 and Q1 2013 with the survey scheduled to be completed in April. Preliminary results are as follows –

	Three-Month Evaluation Preliminary Results²			
	Rate	Target Rate	HHs Surveyed	Number of dispensers
Adoption	46.57%	45%	204	30
Functionality	95.7%	94%	--	737

We attribute these high rates of adoption and functionality to the targeted promotional activities conducted after installations and the improved service delivery system (see Q2 report and Output 5 below). The team is also exploring additional promotional activities to encourage dispenser use, such as using radio and women's groups. These activities will be piloted in the coming quarters and, depending on results, may be expanded to other dispensers and incorporated into program best practices.

Uganda

The DSW Uganda team conducted baseline surveys at 24 randomly selected water points from the 678 sites chosen for installation in Kibuku and Budaku. Approximately eight households were surveyed at each water point resulting in a total of 204 community surveys. The team tested water quality for faecal coliform and *E.Coli* counts in the respondents' water. The analysis of this survey is ongoing, and results will be available in the next quarter.

A 12-month evaluation survey is underway for the first 10 pilot dispensers installed in Uganda in early 2012. The results of the 3-month survey of this pilot showed adoption rates of 73%, which is significantly higher than the target rate. The DSW Uganda team conducted a panel survey for each water point which specifically included the respondents who were initially surveyed after 3 months and 5 randomly chosen households. In total, 10 spot-check surveys, 10 promoter surveys, and 144 community surveys were conducted. This report is expected to be complete in the next quarter.

Prospective Countries

DSW continued to provide remote technical assistance to the Clorox team managing the dispensers program with the local partner PRISMA in Peru. Initial adoption results range from 21-56% and are comparable to rates seen in Kenya and Uganda. As previously noted, the decision to expand the program rests entirely with The Clorox Company.

² These preliminary results include only data collected through March 31, 2013. We expect that the adoption and functionality rates will remain comparable to the figures above when all data are included in the analysis.

Output 3: Disseminate Project Results

DSW received a number of press mentions in Q1 of 2013. *The Standard*, one of the largest national newspapers in Kenya, published a cover story and 3-page spread on dispensers in March (see Annex A). Also in March, one of our suppliers wrote [an article](#) on DSW's use of barcode labels to locate and monitor dispensers. Finally, Linda Khachadurian highlighted the role of dispensers in Haiti in her article "[Making Water Safe in Haiti](#)", which appeared in *Revista - Harvard Review of Latin America*.

DSW has been actively disseminating information about the dispensers program this quarter. DSW staff attended events in Washington DC for World Water Day on March 22, 2013. A blog post called [Water Mythbusting](#), which highlighted dispensers, was also published on World Water Day. The 2013 WASH Sustainability Forum organized by SustainableWASH.org included a presentation by the program's Managing Director. DSW also presented an overview of carbon financing for dispensers in a webinar focusing on "Developing Financially Sustainable Approaches to WASH." This webinar brought together a diverse range of award winning organizations to discuss payment mechanisms, prices, and profitability for safe water services.

In Q1 2013, DSW's abstract was accepted for presentation at the WEDC international conference at Egerton University in Kenya. The presentation will focus on DSW's use of mobile technology to monitor programs. DSW will also present at the Global Health and Innovation Conference in New Haven in April 2013.

In Uganda, as a follow-up to a meeting held with the Ministry of Health in Kampala in December 2013, a concept note was submitted to the Ministry for consideration, outlining program expansion plans and potential areas for collaboration between DSW and the Ministry (see Annex B).

Output 4: Supply of Commercially Manufactured Dispensers

The engineering work has focused on two main areas in Q1 of 2013. First, DSW started the process to retrofit all Generation 3 dispensers with the security improvements made in the Generation 3.5 model. These include upgrading the lid to UV resistant plastic, reinforcing the lid and hinge with aluminum braces, replacing the lock with custom-made corrosion-resistant padlocks, and replacing the inner bracket with a redesigned tamper-resistant bracket. Retrofits are complete for all G3 dispensers in Uganda and will soon be rolled out in Kenya. The DSW team is currently assessing bids from local and global manufacturers for the production of the Generation 3.5 parts. Additionally, the installation process was significantly improved through a new mold and tool design, resulting in a decrease in installation time by up to 30%.

Secondly, the team began plans for an initial design work on the Generation 4 hardware. After identifying key areas for improvement (i.e., durability and dosing accuracy), DSW is undergoing research to inform the direction of the G4 hardware. The team is also refining the design for the solid chlorine dispenser. The initial prototypes will be ready for lab testing in Q2 and field testing shortly thereafter.

Output 5: Optimize Quality of Operations

Kenya

The DSW Kenya team successfully piloted the 'Issue Tracker', an ongoing service delivery tool that allows field teams to report, respond, and resolve issues with dispensers in the field. The team implemented both a web/desktop version for field office coordinators and a mobile version for field

assistants. We believe this contributed to high adoption rates after staff training and the timely reporting and resolution of issues during the pilot. The data collected from the 'Issue Tracker' also allowed the team to begin thorough analysis on frequently recurring issues to inform hardware improvements.

Additionally, the DSW Kenya team expanded and improved the electronic survey program by purchasing additional smart phones for field staff to use in surveying and revising the monitoring and evaluation surveys. The revised surveys have been standardized across countries and incorporated into the M&E best practices of the program.

Uganda

The DSW Uganda team currently sources its chlorine from Kenya as liquid chlorine is not yet available in Uganda. A consignment of 2,000 jerricans of 5 litres of liquid chlorine was delivered in Uganda in March to refill the existing 50 dispensers and to fill the new dispensers that will be installed in Q2 and Q3 2013. The supply chain consultant hired in Q4 2012 is compiling a report which includes pricing information on import/export components and major challenges and bottlenecks in the shipment route. This report will be used to improve our chlorine delivery system in Uganda in the future.

Prospective Countries

One of the selection criteria for new countries for expansion is a reliable chlorine manufacturer in-country. Both Tanzania and Malawi have experienced companies that could be potential suppliers as we consider expansion in these areas.

Interactions with USAID Missions

- **Kenya** – meeting with Ms. Lucy Kimuhu on February 4 to discuss VAT and import duty exemption procedures and paperwork; ongoing email conversations to determine process for income tax exemption for expatriates
- **Malawi** – meeting with Ms. Monica Villanueva, Health Officer at Malawi mission in early March to introduce the DSW program and to learn more about USAID's WASH strategy in country and supported programs
- **Tanzania** – meeting with Mr. Gilbert Kajuna, Deputy Team Leader, NRM/Water at Tanzania mission in early March to introduce the DSW program and learn more about USAID-supported WASH programs in country

Program Sustainability

DSW began conversations with South Pole Carbon, a for-profit company based in Zurich, Switzerland, regarding the sale of carbon credits (VERs) generated by dispensers in Kenya. This agreement sets out terms for South Pole to act as the exclusive seller for the VERs on the voluntary carbon market. South Pole will receive commissions based on the sales they are able to realize. DSW is negotiating the final terms of this agreement and plans to sign the contract in Q2 2013.

Following investigation into carbon financing for dispensers in Uganda in Q1 2013, DSW has decided to focus on the compliance market for future carbon programs. One of the main reasons for this is the small size of the voluntary market, which represents less than 1% of the total global carbon market. DSW has concluded, through research and conversations with market experts, that the voluntary market would be unable to absorb large volumes of dispenser credits and still retain high sales prices. In line with this strategy, DSW has developed a model to calculate the costs and revenues of four project options under the compliance system for carbon crediting dispensers in

Uganda. This model will be used to guide strategic decision-making for carbon programs in Uganda in 2013 and beyond.

For future scale-up countries, DSW will use its carbon calculator tool to estimate the volume of carbon credits expected in different country contexts, in order to make determinations about the efficacy of carbon as a sustainable financing mechanism in each target country.

MONITORING AND EVALUATION SUMMARY

For the results reported below, we continue to rely on an extrapolated gender breakdown drawn from the Kenyan and Ugandan censuses. Standard evaluation surveys which capture the actual gender breakdown of the target population are generally conducted 3-4 months after installation. Data from dispensers installed in Q4 2012 and Q1 2013 containing gender ratios will be available next quarter. The figures in the tables below will be updated accordingly in the next report.

	Number of chlorine dispensers installed broken out by country						
	Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Baseline-to-date Cumulative	Year 1 Target
Kenya	2,100	0	453	557	-	3110	3,750
Uganda	10	40	0	0	-	50	500
Country #3	0	0	0	0	-	0	100
Total	2,110	40	453	557	0	3160	4,350

		Number of people with access to chlorine dispensers, broken out by country and gender						
		Baseline	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Baseline-to-date Cumulative	Year 1 Target
Kenya ³	Male	208,782	0	45,037	55,377	-	622,000	750,000
	Female	211,218	0	45,563	56,023	-		
Uganda ⁴	Male	974	3,898	0	0	-	10,000	100,000
	Female	1,026	4,102	0	0	-		
Country #3	Male	0	0	0	0	-	0	20,000
	Female	0	0	0	0	-		
Subtotal	Male	209,756	3,898	45,037	55377	-	632,000	870,000
	Female	212,244	4,102	45,563	56023	-		
Total		422,000	8,000	90,600	111,400	-		

Quarterly Metrics:

Category	Baseline-to-date	Year 1 Target
Number of approaches piloted (new geographies, operational models, and partnerships consisting of at least 20 dispensers)	1	2
Number of published articles about the project and/or its findings	0	1
Number of reputable press mentions per year about the project and/or its findings	2	2
Number of conferences / workshops where dispenser programs are presented	3	5

³ The 2009 census estimates that the Kenyan population is 50.29% female.

⁴ The 2002 census estimates that the Ugandan population is 51.28% female.



Chlorine Dispensers: Bringing Safe Water to Scale

Year 2, Quarter 1 Progress Report: July - September 2013

Prepared by: Innovations for Poverty Action

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TABLE OF CONTENTS

Quarterly Project Highlights	3
Project Summary	4
Output 1: Provide 5 Million People with Access to Safe Water.....	4
Output 2: Increase Adoption in Successful Pilots.....	6
Output 3: Disseminate Project Results.....	7
Output 4: Supply of Commercially Manufactured Dispensers.....	7
Output 5: Optimize Quality of Operations.....	8
Interactions with USAID Missions.....	9
Program Sustainability.....	10
Monitoring and Evaluation Summary.....	10

QUARTERLY PROJECT HIGHLIGHTS

Number of People Provided Access to Safe Water through Dispensers ¹								
	Baseline (Year 1 End)	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Total To-Date	Year 2 Target	% Year 2 Target met to date
Kenya	682,200	350,800	-	-	-	972,800	1,882,200	52%
Uganda	99,600	47,800	-	-	-	147,400	592,200	25%
Malawi	0	0	-	-	-	0	20,000	0%
Total	781,800	398,600	-	-	-	1,120,200	2,494,400	45%

Key Achievements:

- In the last quarter, DSW achieved a key milestone: DSW now provides access to safe water to over 1 million people.
- DSW-Kenya continued dispenser scale up in Western Kenya with a target of installing 3,000 dispensers by December 2013. A total of 1,754 dispensers have been installed as of September 2013, enabling an additional 350,800 people to access safe water.
- The Kiva loan project was operationalized in Vihiga County, Kenya and will provide much needed financing to defray the upfront costs of dispenser installations. All dispenser loans that were posted to Kiva.org in September were fully funded by Kiva lenders, and the total raised online from Kiva loans in the month of September was \$25,500.
- In Uganda, 1250 evaluation surveys were carried out at 140 dispensers to determine the take up rate and drivers of adoption in Kibuku and Budaka districts. Lessons learned from this round of surveys will be translated to best practices to increase adoption in the future.

¹ Uses program assumption that 1 dispenser provides access to 200 people, as indicated by program data averages

PROJECT SUMMARY

Output 1: Provide 5 Million People with Access to Safe Water

Kenya

During the first quarter of Year 2 the Kenya team focused on preparations for Phase 2 dispenser scale up, with the goal of installing 3000 dispensers in Siaya and Vihiga counties. 1,754 dispensers have been installed, enabling an additional 350,800 people to access safe water. As of September 30, 2013, a total of about 972,000 people have been provided access to safe water in Kenya.

The Kenya program carried out a review of Year 1 dispenser installations to identify key lessons that could be incorporated to enhance Phase 2 of the scale up. For example, we have learned that involving community health workers during outreach increases attendance at awareness meetings. In addition, we are changing the timeline of discrete dispenser installation activities and will be conducting the different activities on a rolling basis to improve efficiency. By undertaking more than one activity at once we can maximize staff time and reduce costs. We have also made improvements to lessen staff hiring times and more quickly get the teams installing dispensers in the field. These lessons were recorded in our best practices tool kit and implemented in refresher trainings that were conducted for field teams as Phase 2 of the installations began.

In order to improve service delivery to communities with dispensers, the circuit rider model developed by the Kenya team during Year 1 will be replicated for scale up. Over the last quarter DSW has mapped dispenser locations to determine optimal circuit routes and analyzed data gathered from chlorine delivery from March – August 2013. This chlorine delivery and dispenser maintenance system allows 400-500 dispensers to be served by one DSW-employed community service assistant

The Kenya team has conducted surveys to identify new expansion areas for scale up through 2014. Five counties were scouted and surveyed, with results showing good potential for scale up in two counties. In the next quarter we will continue activities in Vihiga, and we will move into Lugari for expansion and to Kilifi for exploratory survey. Scale up activities will ramp up during the first half of 2014 with another 3000 dispensers.

We continued to focus on the long-term sustainability of the program through our partnership with Kiva. The partnership enables Kiva lenders to loan money on www.kiva.org to finance the upfront costs of installing dispensers (\$300 per dispenser). The loan will be repaid using revenues from carbon financing, beginning in 2016. By the end of September, Evidence Action had raised \$25,500 in loans from Kiva, with each loan being fully funded in an average of less than 10 hours. To strengthen and improve the efficiencies of the Kiva project, loan protocols were developed and integrated into the best practices tool kit. Field teams were trained to collect and process the data required by Kiva from dispenser promoters. The teams also met with community groups to explain the Kiva loans and foster good will for the project.

Uganda

This quarter we made significant progress on achieving financial sustainability for the Uganda program through carbon financing. We held discussions and finalized the partnership contract (Emissions Reduction Purchase Agreement) with South Pole Carbon. Additionally, DSW and South Pole Carbon began work on the Local Stakeholder Consultation, developing the baseline survey and annual monitoring plan as well as other requirements under the Clean Development Mechanism and the Gold Standard. This preparatory work will allow us to register the dispensers to begin generating carbon credits for already installed dispensers as well as planned installations.

During the first quarter of Year 2, the Uganda team continued its rapid installation of dispensers while simultaneously identifying new areas for expansion and maintaining dispensers installed the previous year. The team exceeded its goal of installing 213 dispensers. DSW Uganda completed the installations of dispensers in the remaining sub-counties of Budaka District for a total of 239 dispenser installations and corresponding community education meetings. Additionally, in July and August 2013, the Uganda team delivered chlorine to the 498 dispensers that had been installed during Year 1.

The Uganda team prepared for further scale-up in Year 2 by analyzing secondary data to determine which districts in Eastern Uganda are suitable for dispensers and determined there are six more districts that can be reached from the Mbale field office. The data indicate that the total dispenser potential in these districts is between 2500-3000 dispensers. One of these districts, Manafwa, was selected for the next expansion phase. Water point verification activities to collect primary information on all the water points in the district began in September 2013.

Outside of Eastern Uganda, we also started exploring potential districts in Western Uganda to launch a pilot. During the research phase, the team met with Water for People, an organization currently operating in Kamwenge district. There are various potential areas for synergies across the two programs, and we are currently exploring the possibility of carrying out a joint pilot.

Country 3

In the last quarter we hired a Country Expansion Manager, Nabil Mansouri, to lead activities in Malawi and investigate opportunities for dispensers in Tanzania. The DSW Malawi team has been building the groundwork to install the first chlorine dispensers in Malawi. Over the last quarter, the team has conducted various meetings with the Ministry of Water and Irrigation and Ministry of Health to present DSW and secure support from the Ministries. Both Ministries seem very optimistic about DSW's potential for success in Malawi. As the result of these meetings, the Ministries suggested the southern region of Malawi, Zomba and Phalombe as possible sites for the pilot. In addition, an official from the Ministries accompanied the DSW team to the district offices to introduce DSW to local officials and to secure buy-in from the district offices. The DSW team is in the process of evaluating these districts and will soon decide which district will be chosen for the Malawi pilot.

We began to investigate the opportunities in Malawi and Tanzania for carbon financing of future dispensers to learn how we might be able to sustainably finance a program to be taken to scale following a successful pilot stage.

Output 2: Increase Adoption in Successful Pilots

Kenya

Monitoring and Evaluation-specific Field Associates (M&E FAs) were hired in each DSW-Kenya field office. These M&E FAs are responsible for tracking how local patterns such as rainfall impact dispenser use and to monitor the impact of localized interventions designed to boost adoption. Throughout September the Kenya team piloted two new efforts to boost adoption across four sublocations in Ugunja. One program consisted of an educational program to provide students with knowledge about the health impact of using the dispensers and drinking clean water. Another intervention brought all promoters from one sublocation (about 20) together for a “refresher training program” that reviewed the best practices for promotion activities and encouragement messaging within their communities. These pilots, alongside others will be evaluated after 2-3 months to determine the most cost-effective initiatives to boost adoption.

DSW-Kenya also successfully developed and deployed a new device called “Turbitubes” to improve the program’s accuracy in determining appropriate locations for dispenser installation. Turbidity, or cloudiness, is a measure of how much suspended matter is in the water. When water is turbid, the chlorine is less effective as it is inactivated more rapidly. Previously, DSW field associates would visually assess the cloudiness level of the water. The Turbitubes provide a low-cost method to more subjectively measure whether or not a dispenser is appropriate and is an example of how DSW continuously seeks ways to improve program delivery.

Uganda

The Uganda team is pleased to report that the 10-dispenser pilot installed in Kibuku District in February 2012 had the highest adoption rates (73%) we have seen across DSW. This adoption rate was sustained 12 months after installation. In order to understand what caused this high adoption rate, the Uganda team piloted various activities and combinations of activities designed to improve adoption between June and August 2013. These included additional education for promoters, education for local leaders, weekly calls to the promoters, and water point visits.

In August and September 2013, the Uganda team carried out spot-check surveys, promoter surveys and community adoption surveys on dispensers that had been installed four months earlier. We would like to see a significant increase in adoption (5 percentage points or more) for dispenser communities that received one or more adoption intervention. If this is the case, we will then evaluate the increase in adoption against the cost of the intervention, to determine the potential cost of this intervention at scale. To evaluate whether dispensers are being used on a consistent basis we also carried out 12-month surveys for the 40 pilot dispensers that were installed in Kibuku district in July and August 2012. We hope to see those households that were using the dispenser at

the 4 month mark to be continuously using it at 12-months, and also that we see an increase in new users.

In consideration of the Ugandan school year, the Uganda team decided to move the school communications pilot to quarter 3, at the start of the Uganda school year, as this is when we anticipate having the largest impact. Carrying it out now would conflict with students' study schedules for exams.

Output 3: Disseminate Project Results

DSW has been actively disseminating information about our work this quarter. Our new partner, Kiva, published a blog post "[Carbon as Currency](#)" in September, which explained the way carbon markets work, and how we are using carbon financing to sustainably fund dispensers using Kiva loans to cover the upfront costs of installation and refilling.

This July, DSW presented at the WEDC conference "Delivering Water, Sanitation, and Hygiene Services in an Uncertain Environment", which was held at Egerton University in Kenya. The presentation focused on how DSW uses mobile technology to assist with monitoring of our programs. Also in July, DSW also presented chlorine dispensers at the Gates Foundation's Urban Sanitation Workshop in Nairobi.

We launched the Evidence Action website at www.evidenceaction.org this quarter. Additional content for the website is currently being developed, and we expect to have a full site live towards the end of 2013/early 2014. Evidence Action had a soft launch at the end of August, when IPA circulated a [press release](#) about Evidence Action and the transition of the dispensers program from IPA to this new organization.

Output 4: Supply of Commercially Manufactured Dispensers

The engineering and supply chain work for this quarter has focused on developing and strengthening the domestic and international supply chains. We successfully imported our second container of dispenser components from international suppliers and have developed internal capacity to ensure compliance with Kenyan and USAID import regulations. We also developed an inventory tracking system to monitor the goods from the point of order, through the importation process, into our warehouse, out to field offices and finally to field installation. Our supply chain work has ensured we had zero days of stock-outs in the last quarter despite significant delays in importation, resulting in lower costs due to maximized staff time. In the near future we will change our model to maintain larger inventories and minimum stock levels so we can have parts on demand and back fill as necessary. This will drastically reduce lead times for our field programs and allow us to better serve our end users.

Initially we planned to finish the final alterations to the generation 3.5 dispenser design during the last quarter. We have been unable to find a CNC milling machine in Nairobi large enough to work on our dispenser molds, which means we have been unable to finalize the design. We are continuing to look for a suitable shop and will make adjustments to the design if and when we find one.

We also identified a warehouse in Nairobi and will move all assembly and storage operations to Nairobi by the end of November. This will allow us to centralize assembly functions, formalize quality control procedures, and minimize transport costs. It also allows us to have closer relationships with local manufacturers, ensuring prompt delivery and more attention to quality. The Nairobi warehouse will be the regional hub for dispenser supply, and will facilitate export of the technology to Malawi, Tanzania, Uganda as well as domestic use in Kenya.

The growth of the program has raised the profile of the dispenser technology and led to a demand to make dispenser hardware available to outside organizations. While this is an exciting opportunity, we do not have a mechanism to supply these organizations with dispensers as there is no private sector supply of the assembled dispenser kit. It is prohibitive for new or experimenting buyers to purchase individual components to assemble their own dispensers due to high minimum order quantities and a lead time of many months. In addition, there is currently little interest from a private supplier to assemble and stock dispensers, as it requires significant working capital. We are exploring options to support the private sector in building the necessary capacity to meet the projected demand of dispensers.

Output 5: Optimize Quality of Operations

Kenya

The IS and the Operations teams are working hand-in-hand to implement a teleconferencing system to enable effective weekly communications between management and field teams. This will be particularly useful during the upcoming time-sensitive and communication-heavy phase(s) of scaling up. In addition, the IS team is developing an online reporting portal through which each field team will update their weekly goals and progress to provide a comprehensive, real-time overview of expansion progress to DSW management.

To effectively monitor the cost of motorcycle operations in the field, the IS team is developing a motorcycle management system which will help to generate reports on fuel consumption and maintenance costs. This will provide essential information to the program to help optimize long-term motorcycle management and inform operational budget allocations to individual field offices.

Uganda

During quarter one, the Uganda team prioritized the implementation of information management systems that will improve efficiency and track work done in the field. All the Uganda data was transferred to the centralized database system to increase cost-effectiveness, improve cross-program analysis, and facilitate the development of applications that can be implemented across all countries.

Adoption of some of these applications began during the last quarter. The Uganda team began to implement the Issue Tracker, a tool that allows us to record hardware issues reported from the field and assign them to field staff. This allows us to track the length of our response time and to more effectively manage the increasing number of dispensers in operation. We also began

implementation of real time dashboards. For example, the Activity Tracker will allow field offices to monitor the forms and information being uploaded to the cloud database in real time and compare these to the paper forms submitted for increased accuracy. This will reduce the amount of errors and also alert the field team sooner if issues occur while uploading surveys. The Activity Tracker will be piloted as part of the village community sensitization meetings which are set to take place in the second quarter.

In August 2013 the Uganda team hired an Information Systems (IS) Officer, who is responsible for maintaining and updating the Uganda database and programming the survey rounds. We also hired a Monitoring and Evaluation (M&E) Officer who is responsible for running the survey rounds and basic analysis of the data. In September we hired an Operations Manager, based in Mbale, to lead the operational components of the Uganda program and support the Associate Area Coordinators with field activities.

Country 3

The Malawi team has prioritized developing a cost-effective method for delivering chlorine to rural villages. The first part of the supply chain is to identify the best manufacturer to produce the chlorine. Contacts with two local manufacturers have been made, and the Malawi team has made site visits to their installations. In addition, significant research has been done on identifying possible logistical and operational options for the last mile of distribution. As a result, the Malawi team has started a partnership with the Ministry of Health in Malawi to use their health service assistants to serve as the last mile of distribution. The details of how best to incorporate the health service assistants are currently being evaluated and their involvement will be an integral part of the Malawi pilot.

Interactions with USAID Missions

- **Kenya** – DSW developed a program summary document and coordinated with the mission in preparation for Christian Holmes’ visit to USAID Kenya in October.
- **Uganda** - The DSW program presented at the USAID Mission in Uganda on the 24th of September, as part of a larger presentation by the USAID DIV team. Attendees included members of the USAID Mission: Leslie Reed, Mission Director; Tamika Allen, Deputy Sub-Team Leader - HIV/AIDS and from USAID DIV: Peter Khaemba, Grants Manager; Kristen Gendron, Program Specialist. On the 28th of September a team from DIV visited DSW project sites in Kibuku, Manafwa and Mbale.
- **Malawi** - In September, DSW Malawi, represented by Nabil Mansouri, had two meetings with the mission. The first meeting was with Ruth Madison, Family Health Cluster Lead, and the purpose of the meeting was to let the mission know DSW’s intention to pilot in Malawi. The second meeting was with Monica Villanueva from the Health, Population and Nutrition Office, who is the assigned USAID liaison with DSW. During the meeting, DSW provided an update on advancements since the last meeting. Also, USAID helped DSW make connections with other stakeholders in the HWTS sector and gave guidance on proper USAID branding.

Program Sustainability

As described above, the successful launch of the Evidence Action – Kiva partnership in Vigiga County, Kenya is a big step in program sustainability, as it allows us to finance the up-front costs of dispensers.

We continued to make progress on the development of a carbon asset for Uganda. We finalized the terms of the Emission Reductions Purchase Agreement with South Pole Carbon, and this contract is now ready to be signed by both parties. In parallel, we began to formulate the monitoring plan and initiated preparations for the local stakeholder consultation and baseline surveys, which will take place in November.

In Kenya, The Gold Standard has expressed its confidence that DSW can receive crediting in line with the submitted monitoring plan. Since DSW has multiple funding streams, it is the first Gold Standard project to request funding without incurring a stoppage in operations. They are currently drafting guidelines that define under which circumstances projects are permitted to obtain funding without a stop in operations. These guidelines should be completed before the end of 2013, at which point DSW will be able to receive carbon credits.

We have developed a business plan for DSW in which we have identified the revenue needed to bring dispensers to scale and the gap that exists given our current funding levels. We are proactively seeking a way to bridge this gap and are exploring creative ways to bring our program to scale in a sustainable way.

MONITORING AND EVALUATION SUMMARY

Number of chlorine dispensers installed broken out by country							
	Baseline	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Baseline-to-date Cumulative	Year 2 Target
Kenya	3,411	1754	-	-	-	5,165	9,411
Uganda	498	239	-	-	-	737	2961
Malawi	0	0	-	-	-	0	100
Total	3,909	1993	0	0	0	5902	12,472

Number of People Provided Access to Safe Water through Dispensers								
	Baseline (Year 1 End)	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Total To-Date	Year 2 Target	% Year 2 Target met to date
Kenya	682,200	350,800 ²	-	-	-	972,800	1,882,200	52%

² Uses program data average of 55.03% of population as female

Uganda	99,600	47,800 ³	-	-	-	147,400	592,200	25%
Malawi	0	0	-	-	-	0	20,000	0%
Total	781,800	398,600	-	-	-	1,120,200	2,494,400	45%

Quarterly Metrics:

Category	Baseline-to-date	Year 2 Target
Number of approaches piloted (new geographies, operational models, and partnerships consisting of at least 20 dispensers)	12	14
Number of published articles about the project and/or its findings	2	3
Number of reputable press mentions about the project and/or its findings	4	6
Number of conferences / workshops where dispenser programs are presented	6	15

³ Uses DHS assumption that the population served is on average is 51.28% female, program data will be used in upcoming reports



Chlorine Dispensers: Bringing Safe Water to Scale

Year 2, Quarter 3 Progress Report: January – March 2014

Prepared by: Innovations for Poverty Action

Cooperative Agreement No.
AID-OAA-A-12-00018



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Evidence
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Dispensers for
Safe Water

Dispensers for Safe Water is an initiative
of Innovations for Poverty Action.

Table of Contents

Quarterly Project Highlights	3
Project Summary	3
Output 1: Provide 7 Million People with Access to Safe Water	
Output 2: Increase Adoption in Successful Pilots	
Output 3: Disseminate Project Results	
Output 4: Supply of Commercially Manufactured Dispensers	
Output 5: Optimize Quality of Operations	
Interactions with USAID Missions	8
Program Sustainability	9
Monitoring and Evaluation Summary	9

Quarterly Project Highlights

	Number of People Provided Access to Safe Water *** ¹							
	Baseline (Year 1 End)	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Total To-Date	Year 2 Target	% Year 2 Target met to date
Kenya	576,459	296,426	147,706	106,639	-	1,127,230	1,882,200	60%
Uganda	177,786	85,323	0	337,008	-	600,117	592,200	101%
Malawi	0	0	9,460	0	-	9,460	20,000	47%
Total	754,245	381,749	157,166	443,647	-	1,736,807	2,494,400	70%

Key Achievements:

- Dispensers were showcased as a sustainable, low-cost, innovative safe water solution for rural underserved communities on World Water Day courtesy of USAID development innovation ventures.
- Cumulatively, Dispensers for Safe Water Kenya has installed 6,448 dispensers, 631 in the last quarter, providing an estimated 1.29 million people with access to safe water.
- In Kenya the team operationalized a county engagement strategy to secure partnerships to finance dispenser scale up in counties viable for dispensers.
- The Uganda team has already surpassed the Y2 target for the number of people with access to safe water with the installation of 985 dispensers in Manafwa district. The team has installed a total of 1,722 dispensers, serving more than 600,117 people.
- In Malawi, the team completed the second round of dispenser installations, bringing the total number of dispensers in Malawi to 87.
- The first 54,000 Gold Standard Voluntary Emissions Reduction (VER) carbon credits from Kenya were issued at the end of March and are now available for sale to end-buyers through our brokerage agent, South Pole Carbon.
- A survey completed in Uganda revealed that children collect 30% of water, but that children are 19.9% less likely to treat their water than adults. Given these findings, and the high likelihood that similar statistics exist in other program settings, Dispensers for Safe Water will work on targeting children to communicate the importance of chlorinating water in coming quarters.

Project Summary

Output 1: Provide 7 Million People with Access to Safe Water

Kenya

In Y2, Q3, the Kenya program continued to scale up in Western Kenya with the goal of maximizing access to dispensers. The program added new areas in Migori County. Rongo, Awendo and Migori sub-counties completed the first of dispenser roll out activities and local stakeholder meetings.

¹ **Note:** Figures for the number of individuals with access to safe water broken out by country have recently been updated. While Dispensers for Safe Water had been assuming an average of 200 persons served per dispenser across regions, an analysis conducted on all dispensers installed as of March 15th, 2014 – with information on the number of using households weighted by region as of December 31st, 2013 gives the following results: Kenya – 169 persons provided access per dispenser, Uganda – 357 persons provided access per dispenser, Malawi – 430 persons provided access per dispenser. These figures have also been used to edit the figures for previous quarters to enable consistency of measurement across time.

Water point verifications under way show lower-than-expected pass rates. This is due to low numbers of households per water point and higher-than-acceptable turbidity for effective chlorination without flocculation. Nevertheless, we expect to reach our June 2014 target of 1,500 dispensers in Migori County.

During the quarter, the Kenya program created a plan to install 7,300 dispensers in year 2014. The plan encompasses installations in Migori, Lugari, Vihiga and Homa Bay counties. 657 dispensers have already been installed in 2014: 295 in Vihiga and 362 in Lugari.

The ongoing chlorine delivery and dispenser maintenance model (circuit rider model) was operationalized in both Siaya and Vihiga counties. This model has proven very effective, leading to high chlorine adoption rates observed within the last 3 months (45-53%) in those counties, likely as a result of the increased consistency of both chlorine refills and dispenser functionality.

We operationalized a county engagement strategy with the aim of securing partnerships with the devolved governments formed as a result of the new Kenyan national constitution. Busia county has shown interest in providing KSH 700,000 to support chlorine purchase for dispensers in Busia county. DSW's policy team has also met with the Migori and Homa Bay county governments regarding possible financial support during the next budget cycle.

The last batch of 250 dispensers installed in Vihiga was fully funded by Kiva lenders. Cumulatively, 1,000 dispensers in Vihiga county have been funded through loans from Kiva, totaling \$300,000.

Pilot activity in Kilifi County continued as planned, with the first three activities (stakeholder meetings, water point verifications and village community sensitization (VCS) meetings) complete. The team will install 100 dispensers by the end of April 2014.

Uganda

At the beginning of January, the Uganda team completed the final 33 VCS meetings for Manafwa District, with over 1,700 participants in attendance. Following this, the Uganda team carried out 985 installations and Community Education Meetings (CEMs) for all the eligible water points in Manafwa district. This district has difficult terrain in which to install dispensers, and provided many lessons for the program as we continue to expand into increasingly varied environments. By the end of Q3, the Uganda team installed a total of 1,722 dispensers, serving over 600,000 people.

In Kibuku and Budaka districts, the Uganda team re-verified water points that had not passed during first round testing using turbidimeters, a device to measure turbidity, which were not available during the initial verification exercise in early 2013. They also visited water points that had been broken at the time of verification but had since been fixed. In total, 153 new site locations were identified as suitable for dispensers and dispensers will be installed at the beginning of Q4.

Sironko and Mbale were identified as the districts for the next rollout of dispensers in Eastern Uganda. In preparation, Associate Area Coordinators conducted various meetings with the leadership in these districts and organized a full district stakeholder consultation for the beginning of Q4.

The Uganda team continues to pursue carbon credits for dispensers. As part of the registration process for our Program of Activities with the Clean Development Mechanism (CPA), Evidence Action, in conjunction with South Pole Carbon, submitted the required documents for a pre-feasibility assessment to The Gold Standard. This assessment will allow us to retroactively credit dispensers installed before we registered our CPA. Additionally, the team collected quotes from various Designated Operational Entities (DOE), and through a careful screening and selection process, selected one to conduct a validation exercise of our carbon credit baseline. The DOE will be visiting the project in Uganda at the beginning of Q4 and this will be one of the final steps before the Uganda dispenser program can be registered with the Clean Development Mechanism (CDM) and the Gold Standard and start generating carbon credits.

Malawi & Tanzania

During Q3 we completed our second cycle of Health Surveillance Assistant (HSA) training, to provide new staff with the knowledge necessary to successfully install dispensers in Malawi. Training included information on water point verifications, community sensitization meetings, installations and community education meetings. Each training session included a practical component that allowed participants to complete an installation and community education meeting. Over the last quarter we completed 65 installations and CEMs, for a total of 87 installations during the pilot phase.

DSW Malawi has continued to foster its relationship with Abt Associates. During the quarter, Abt and DSW conducted a one-week workshop with communities in which dispensers have been installed to remind communities of the benefits of safe water practices and the advantages of using chlorine. Participants at the workshop included members of water point committees, community health workers, and community promoters.

In Tanzania our prospects of carbon crediting the dispensers look bleak, as no carbon program has been approved in the country for more than a year and a half. In preparation for a potential pilot, we organized an introduction meeting at the district level in Mago with the District Commissioner, head water engineer and five other members of the water team to discuss the potential for dispensers, completed an introduction meeting at each ward with the Ward Executive Leader and village elders to introduce dispensers and secure local support.

Output 2: Increase Adoption in Successful Pilots

Kenya

Adoption rates for the first quarter of 2014 show strong potential for higher levels of sustained adoption in regions where the program has expanded recently. As seen in the table below, from a sample of 20 dispensers each (approximately 160 households) in the three counties with the most recent installations, Ugunja, Siaya, and Vihiga, the average adoption rate was 50% or higher.

	January	February	Average
BSA	38%	31%	35%
SYA	64%	48%	57%
UJA	50%	51%	50%
VHG	53%	54%	54%
KKM	34%	28%	31%
Total	48%	43%	45%

Efforts in Kenya to improve adoption in the last quarter include an analysis of the relative performance of each field officer. This analysis provides insight into the correlation between a field officer conducting community meetings and promoter trainings with the total dispenser adoption rate. DSW is using the findings to adopt best practices from top performers and give more guided instruction for field officers whose community-facing efforts correlate with lower adoption rates.

Uganda

In February 2014, we concluded a five-month adoption evaluation and promoter survey of the dispensers installed in Budaka District. During an earlier spot-check survey in November 2013, we found these dispensers to have higher-than-average chlorine consumption from dispensers. To understand this we conducted focus group discussions with water point users. The adoption survey

showed that adoption among communities was 52%, while for promoters it was 71%. In terms of chlorine consumption, both the survey and the focus group discussion showed that a very high percentage (53%) of people use chlorine for purposes other than drinking, for example washing clothes or giving it to their livestock. Therefore, the Uganda team is looking at how it can revise the CEM scripts to emphasize more strongly that chlorine should only be used for drinking water.

The survey also confirmed that a high percentage of children collect water – 30% of water is collected by children with an average age of 12.59 years. However, children are 19.9% less likely to treat their water than adults. The program piloted a school based communications and education activity to increase treatment by children. Pilot data is being analyzed to check suitability of the activity across Uganda.

The program also completed a feasibility assessment of a radio campaign. Community members in Kibuku, Budaka and Manafwa districts often cite radio as their main source of information. The report concluded a radio campaign would be a strong addition to our communication strategy.

In addition, during the roll-out of the Manafwa dispensers, the Uganda team piloted two additional methods of communication with the potential to increase adoption. The first was to perform hydrogen sulfide (H₂S) tests at the water point to show communities if their untreated water contains *E.Coli* bacteria. The tests were carried out at a series of randomly selected water points. The second was a promoter-calling pilot in which field officers called a set of promoters on a regular basis for two weeks following the conclusion of the CEM. Both of these are cost-effective communication methods that can be easily scaled across the program if they show a positive effect on adoption.

Malawi

The Malawi team held a number of meetings with district officials to brainstorm the best possible supply chain for chlorine distribution during the pilot and beyond. The current agreed-upon method has the following distribution scheme:

Chlorine manufacturer → DSW field office → Zomba health center → Community Health Workers → community.

This model allows the program to save significant supply chain costs by using the existing government infrastructure and network of health workers. With this supply chain method we conducted a two-month evaluation of the first 22 dispensers installed in Malawi, yielding very encouraging results. A total of 68% of the 182 households randomly selected for an unannounced survey tested positive for the presence of total chlorine residual in their water. Hardware spot checks also provide a strong indicator of early success in the program – 100% (22 out of 22) dispensers had chlorine present in the tank at the time of inspection and all dispensers were fully operational.

Output 3: Disseminate Project Results

This quarter, we have used several new media to relay information about Dispensers for Safe Water. We have used our new website to good effect to share news updates and success stories from the field, we have disseminated numerous updates on the progress of scale-up via our [Facebook page](#) (which has ~1000 likes) and [Twitter account](#) (which has ~1000 followers).

Dispensers for Safe Water was featured on the Giving What we Can [blog](#), which states that they are investigating the research to determine whether they would like to recommend the dispensers program as a top charity to their readers/donors. The Malawi pilot program was highlighted on Abt Associates' [website](#) and also in their World Water Day [update](#). The success of dispensers in Kenya

was featured in the Kenyan newspaper “[Business Daily](#)” in January 2014, we provided an update on programs on the [Global Giving](#) website in February, and we were also featured on the [Bright blog](#).

Yale professor and IPA Founder Dean Karlan presented at the [CGAP-Ford Graduation Program](#) in Paris in February, noting that dispensers were one of a handful of projects that had been rigorously tested and found to be suitable for scale-up.

On World Water Day in March, Alix Zwane (Evidence Action Executive Director) [presented](#) dispensers at the US State Department H2.0 Meeting, and staff presented dispensers at a booth at the event.

Output 4: Supply of Commercially Manufactured Dispensers

This quarter the engineering and supply team focused on building capacity for rapid program scale-up in 2014. This involved assessing points for improvement in our supply chain and evaluating lead times. We have made significant improvements in our supply chain in the following areas:

- 1) **Efficiency improvements in imported parts:** Imported parts require long lead times and significant staff time. Currently, we have parts that require as much as eight months of lead time. We have identified and are in process of negotiating with new suppliers to reduce that lead time to a maximum of three months.
- 2) **Systemizing export processes:** We have made huge gains in our exporting process due to systemization and better understanding of the process. Our export to Uganda from Kenya in January took one month, from order to delivery, including processing the duty exemptions with USAID and the Ugandan Revenue Authority. The total cost to export was 6% of the value of the consignment. This represents a huge improvement from our status one year ago when shipments were taking two months without the USAID duty exemption and URA process and the export cost was 27% of the shipment’s value. We are looking to make similar efficiency gains in our exports to Malawi and Tanzania.
- 3) **Elimination of single suppliers:** In this quarter, we have identified secondary suppliers for some of our key products. In the past, we have had six suppliers, each responsible for a different component. To allow for the benefit of competition, we have identified 1-2 secondary suppliers for three different components. We will continue this process so that we have a secondary supplier identified for each component.

The Engineering team has also continued our product design and improvement work, with a focus in two areas:

Solid Chlorine: We have finished the alpha prototype design after three revisions and it has been shipped to Kenya for field trials. We have faced significant challenges in shipping the solid chlorine itself due to airline chemical and hazardous materials regulations. In order to maximize cost effectiveness of the study, we have divided it into two phases. The first will be to do a qualitative study on user reaction to the chlorine. This will happen in Q2 2014. If this result is positive, we will then invest significant engineering design time to ensure the product is durable enough for long term use. We will then engage in a longer 10-20 piece field evaluation in late 2014 or early 2015.

Liquid Chlorine: We had originally planned to do a new ground-up redesign of the current liquid chlorine dispenser. Based on low rates of hardware failures and potential gains to be had in the Generation 3.5 dispenser, we have decided to defer our redesign plans. Our current liquid chlorine design work is focused on systemizing field level maintenance and improving assembly work.

Output 5: Optimize Quality of Operations

Kenya

During the quarter, the Kenya team continued to improve operations through an enhanced technology platform. The period saw the launching of the issue tracker system in Kenyan field offices to manage information on dispenser hardware failures. Similarly, the team did a pilot launch of a fleet management system in Kenya to handle information regarding use of program motorcycles and vehicles. In the same period, the Information Systems (IS) team sought to consolidate program survey data collected from the field into a refined database for efficient access.

To effectively provide information to other program teams, the IS team embarked on the process of developing a cloud-based management information system (MIS) for DSW. The team consolidated program operation processes into a document detailing DSW's MIS requirements, and this document is guiding the development of the program-wide MIS.

During the quarter, the monitoring and evaluation team in Kenya made an adjustment to the algorithm used in determining water points that are eligible for installation of dispensers. While previously a water point that served 10 households in at least one season (*i.e.*, rainy season) was eligible, the criteria was re-defined to use a weighted average of households, taking into consideration the length of each season and the number of regular users. A brief analysis was conducted to determine how these measures improve cost-efficiency for the program.

Uganda

At the beginning of Q3, we evaluated the results of the chlorine delivery pilot conducted earlier this year. Although the hub-and-spoke model was the least costly way of delivering chlorine, it was also the least effective method of ensuring promoters received chlorine refills. The direct delivery model through the circuit riders on motorbikes was shown to be more cost effective than delivering by car and also more efficient as motorbikes are more able to reach dispensers not on the main road. Therefore, moving forward, the Uganda program, similar to the Kenya program, will implement the circuit rider model using motorbikes.

As we finished our rollout in Manafwa District, we identified a Field Officer (FO) who will work with a team of three Community Service Assistants (CSAs) to conduct the on-going supply and maintenance for dispensers installed in the district. Additionally, we hired an Area Coordinator for Eastern Uganda to be responsible for overseeing future rollouts in the Eastern region as well as working with the FOs and CSAs to ensure that all dispensers are adequately operated and maintained.

As part of the rollout in Manafwa District, we started conducting back checks on our installations and CEMs. The aim of the back-checks is two-fold: to assist in the completion of field staff activities and to ensure higher-quality data collection. As this was the first time that back checks had been done in Uganda, the team provided feedback on the process. This feedback will be used to improve the back checks and moving forward we will back check most activities to improve the quality of our data and activities.

Interactions with USAID Missions

- **Uganda:** Mr. Daryl Martyris, Health Officer at USAID Uganda, reached out via email to inquire about private sector distribution networks and the potential for financing these through USAID's DCA sector.
- **Global:** Alix Zwane, Evidence Action Executive Director, presented Dispensers for Safe Water at the World Bank on World Water Day as a representative of USAID DIV, and later in the month she gave a similar presentation at Yale University.

Program Sustainability

We continued our successful partnership with Kiva this quarter and have now raised a total of \$300,000 in loans for dispensers since September 2013. Next quarter we will discuss our plans to move ahead with the second tranche of loan funding (\$600,000) in 2014.

We made significant progress on the carbon assets in Kenya and Uganda. The first 54,000 Gold Standard Voluntary Emissions Reduction (VER) carbon credits from Kenya were issued at the end of March and are now available for sale to end-buyers through our brokerage agent, South Pole Carbon. We have had significant interest in the project from small retailers and larger buyers, which we hope to translate into sales next quarter. In Uganda, we submitted the carbon project to the Gold Standard and finalized the process of registration of the project through an auditor site visit, which will take place in April 2014. We are still on track to register the project in July 2014.

We have been able to secure additional funds outside of carbon revenue in the form of recyclable grants. We are targeting high net worth individuals who find our impact, sustainability model, and commitment to metrics and cost-effectiveness attractive. These donors agree to fund the up-front costs of a certain number of dispensers. In future years, when carbon revenue is regularly coming in for those dispensers, Evidence Action will retain a predetermined amount for the on-going costs of servicing each dispenser. Any carbon funds in excess of that per dispenser cost will become a "dividend" of sorts. However, unlike a dividend in a private company, these funds will not go back to the donor. Evidence Action will re-invest those dividend funds into dispensers, another Evidence Action program, or another non-profit doing similar charitable work. The donor's impact is quantified and multiplied by the recycling of these "dividend" funds. In Q1 we secured \$155,000 in recyclable grants from two individual donors.

In addition, we hope that our new county engagement strategy will encourage greater ownership from our government partners in Kenya. The 2013 March general elections marked the beginning of a new, devolved county government structure in Kenya. Given that county governments are receiving public funding to provide public health and water services, DSW recognized an opportunity to create a funding partnership with counties. The goal of increased county partnership is to form agreements with county governments so that they fund long-term purchase and delivery of chlorine for dispensers in their jurisdiction. The response has been positive. The two counties have already committed to fund chlorine supply for a number of dispensers. One county, Busia, is at the point where it is preparing to procure chlorine for about 4500 dispensers.

Monitoring and Evaluation Summary

	Number of chlorine dispensers installed, broken out by country						
	Baseline	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Baseline-to-date Cumulative	Year 2 Target (w/ ceiling increase)
Kenya	3,411	1754	874	631	-	6,670	9,411
Uganda	498	239	0	944	-	1681	2961
Malawi	0	0	22	0	-	22	100
Total	3,909	1993	896	1575	0	8373	12,472

		Number of people with access to chlorine dispensers, broken out by country and gender						
		Baseline	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Baseline-to-date Cumulative	Year 2 Target
Kenya	Male	317,225	163,123	67,556	48,773	-	1,127,230	1,882,200
	Female	259,234	133,303	80,150	57,866	-		
Uganda	Male	91,169	43,754	0	158,381	-	600,117	592,200
	Female	86,617	41,569	0	178,627	-		
Malawi	Male	0	0	4,706	-	-	9460	20,000
	Female	0	0	4,754	-	-		
Subtotal	Male	408,394	206,877	72,262	207,154	0	1,736,807	2,494,400
	Female	345,851	174,872	84,904	236,493	0		
Total		754,245	381,749	157,166	443,647	0	1,736,807	2,494,400

Quarterly Metrics:

Category	Baseline-to-date	Year 1 Target
Number of approaches piloted (new geographies, operational models, and partnerships consisting of at least 20 dispensers)	1	2
Number of published articles about the project and/or its findings	0	1
Number of reputable press mentions per year about the project and/or its findings	1	2
Number of conferences / workshops where dispenser programs are presented	3	5

Cost per Beneficiary:

Last year we reported our fully-loaded cost/beneficiary as \$1.70. This figure continues to reduce as the program expands and reaches more people. Our fully loaded cost per beneficiary for Q1 2014 is \$1.48. Another measure that we use internally to address this question is on-going costs, or the cost of servicing dispensers after the one-time installation cost. The current on-going cost per beneficiary is \$1.07.

We look forward to working with USAID in coming months to get an even better understanding of our true costs and refine our business model further.



Evidence
Action

Chlorine Dispensers: Bringing Safe Water to Scale

Year 3, Quarter Performance Report: October 2014 – December 2014

Prepared by: Evidence Action

Cooperative Agreement No.
AID-OAA-A-12-00018



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Table of Contents

Quarterly Project Highlights	3
Project Summary	3
Output 1: Provide 6 Million People with Access to Safe Water.....	3
Output 2: Increase Adoption in Successful Pilots	4
Output 3: Disseminate Project Results	6
Output 4: Supply of Commercially Manufactured Dispensers	7
Output 5: Optimize Quality of Operations.....	8
Interactions with USAID Missions.....	8
Program Sustainability	8
Monitoring and Evaluation Summary	9

QUARTERLY PROJECT HIGHLIGHTS

Number of People Provided Access to Safe Water¹

	Cumulative as of Q2 ² 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Total to Date	Year 3 Target	% Year 3 Target met to date
Kenya	1,087,287	228,298	258,035	-	-	1,573,619	2,654,374	59%
Uganda	575,908	307,235	270,555	-	-	1,153,697	2,364,092	49%
Malawi	35,857	0	260,173	-	-	296,030	983,119	30%
Total	1,699,052	535,532	788,762	-	-	3,023,346	6,001,585	50%

Key Achievements:

Achieving operational targets: In achieving 50% of the set targets by the end of 2014, the program has achieved 154% year-on-year growth of dispenser operations.

Overall increase in adoption: The 3rd quarter of 2014 saw an overall adoption rate of 37.2%. Results from the 4th quarter of 2014 show an average of 41% adoption, reflecting a return to earlier results. The calendar year-to-date program wide adoption figure for 2014 is 40.8%.

Expansion in Malawi: Scale-up activities in Malawi this quarter led to a seven-fold increase in the number of dispensers installed and an additional 260,173 people with access to safe water via dispensers in that country.

Monitoring and evaluation methodology update: In order to further empower the dispensers program to adapt operations based on informative, timely information, we have increased M&E sample sizes and streamlined data sharing processes.

PROJECT SUMMARY

Output 1: Provide 6 Million People with Access to Safe Water

Kenya

Operational expansion: Capitalizing on the expansion activities that we began in the previous quarter, including the opening of two new offices, we completed new rounds of installations for the year. During the last quarter of 2014, we installed a total of 1,909 dispensers in Migori and Kakamega counties, bringing safe water to a total of 258,035 new people.

Consistent with our best practices, these new dispensers will receive chlorine deliveries and maintenance as needed in 2015. Against our target of 7,500 dispensers to be installed in 2014, we installed a total of 5,543 this calendar year for a cumulative program total of 11,642 throughout Kenya.

In December 2014, we replaced our country lead with an experienced staff member who we feel will bring strong leadership to the Kenya program. Moses Baraza has been an effective area coordinator and has served the program for several years, and we are pleased that he will take on primary responsibility for program operations in 2015.

¹ Figures presented are accurate as of 15 December, 2014.

² Quarters in table are calendar year quarters

Uganda

Operational Expansion: The Uganda team installed 863 dispensers this last quarter, expanding into two new districts in Western Uganda, Nautumba and Buteleja. We currently have 3,680 dispensers across Uganda and are serving a total of 1,153,697 Ugandans. This is slightly behind our schedule due to a delay in customs to import core materials needed for operation, which caused a three week delay in installations. After addressing this, the registrations were resolved and we can now import goods more smoothly.

Planned operational expansion: We also started our pilot in Western Uganda in Ntangamo. We have received a positive reception from the chief administrative officer to the village elders, and strong support for our entry to the new district. We have completed all scoping and engagement activities through to the village community sensitization meetings and will be installing dispensers in early 2015.

Malawi

Operational Expansion: This quarter we achieved the highest number of new installations of any quarter in Malawi, taking the total number of installations from 86 dispensers to 710 dispensers. This has been achieved with great coordination and collaboration with the Government of Malawi. With this quarter's expansion into Domasi and Likangala health clusters, we currently have dispensers in two out of seven health clusters in the District of Zomba. In total, we are currently providing 296,030 people with access to safe water through dispensers in Malawi.

Planning for operational expansion: With rapid program growth in Malawi, Evidence Action decided to invest in an experienced local leader to drive future growth and expand partnerships. During this quarter the program successfully recruited and hired an experienced Malawian for the position of Malawi Program Director. He will join the team in early February.

Output 2: Increase Adoption in Successful Pilots

Kenya

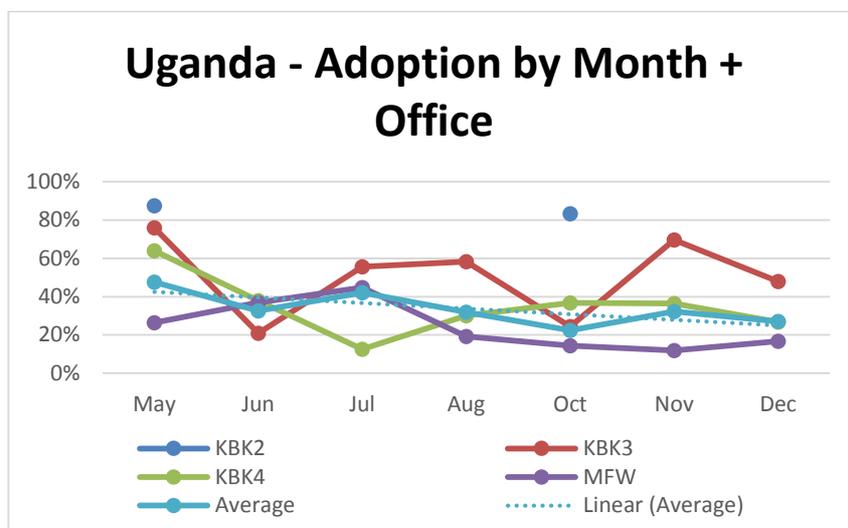
Keeping adoption and continued usage of dispensers consistently high is essential for Evidence Action to deliver on its mission of people drinking safe water and also maximizing program cost-effectiveness. At the beginning of 2014, we set a target of 45% program-wide adoption for Kenya. We entered Q4 2014 at 40% cumulative year-to-date adoption. Between October and November 2014, monthly adoption rates rose from 34% to 46%, in turn increasing year-to-date adoption rates to 44%. This increase was driven in part by 84% adoption in dispensers served by our Rongo office, as well as increased efforts of our Community Service Assistant – Promoter Engagement team throughout several offices. To help drive adoption, Community Service Assistants call a list of dispenser promoters every day to answer questions, check on chlorine supplies, and ensure that promoters are actively supplying dispensers with chlorine.

Additionally, given the wide variance of month to month adoption figures in Kenya, we will be increasing our sample size for chlorine residual testing in 2015 for newly installed dispensers to have a more refined view of our actual adoption that lets us make more targeted programmatic decisions to increase adoption (see "Monitoring and Evaluation Summary" for more information).

Uganda

Adoption rates have decreased in comparison to our past quarter's results, dropping from a 35.5% adoption rate to 27%.

The adoption results reported below represent the first 1,827 dispensers installed in Uganda for the second half of 2014 and adoption from the most recent 1,498 dispensers installed in Sironko and Mbale will be available starting in the first quarter of 2015.



2014 Uganda Total Chlorine Residual Adoption by Month and Office									
	May	Jun	Jul	Aug	Oct	Nov	Dec	Average	# Dispensers
Kibuku_2	88%				83%			80%	40
Kibuku_3	76%	21%	56%	58%	24%	70%	48%	45%	498
Kibuku_4	64%	38%	13%	30%	37%	36%	27%	45%	309
Manafwa_1	26%	37%	45%	19%	14%	12%	17%	23%	980
Average	48%	33%	42%	32%	22%	32%	27%	34%	1,827

% of dispensers with chlorine at unannounced visits		
Program	%	# dispensers
Kibuku_2	100%	40
Kibuku_3	84%	498
Kibuku_4	62%	309
Manafwa_1	74%	980
Mbale_1	69%	794
Sironko_1	89%	704
Total	77%	3,325

2014 - Q4 Adoption by Year of Dispenser Installation				
	2012	2013	2014	Average
Kibuku_2	83%			83%
Kibuku_3		40%		40%
Kibuku_4		34%		34%
Manafwa_1			14%	14%
Average	83%	38%	14%	26%

Adoption among recently installed dispensers has been lower than dispensers installed earlier in the programs history.

Potential causes for the lower adoption rates include:

- 1) **Supply Chain Issues:** We have identified that one of the key barriers to low adoption is having the dispenser be empty at any point in time. Uganda has seen a lower percentage of dispensers (77%)

that have chlorine in the tank at the time of unannounced visits in comparison to Kenya (93%) and Malawi (100%), well below our goal of 95%.

To address this issue, we have hired a Community Service Assistant for Promoter Engagement. She will be in charge of engaging with promoters to ensure sufficient chlorine is consistently delivered to the promoters. We have also hired six other general Community Service Assistants to support the ongoing maintenance of the dispensers and decrease chlorine outages and supply gaps, and in the upcoming quarter will test whether this model helps with promoter engagement.

- 2) **Program Manager Transition while Scaling:** Dispensers for Safe Water generally sees a higher adoption rate during pilots and smaller roll-outs because of the higher staff-to-dispensers ratio. Adoption rates at scale are sustained by taking lessons learned in previous rounds and applying best practices to large-scale roll-outs. Over the second half of 2014 Uganda's program leadership saw multiple transitions that likely reduced the ability of the program to effectively document and implement new learnings.
- 3) **Short-term Field Officers:** Recent installations required new field staff to speak the local dialect in the regions where dispensers have been installed. The requirement of new staff for language purposes means that the individuals leading community education meetings and engaging the promoter had less prior experience than is usually the case in the program's larger roll-outs.

The dispensers team made an effort to develop and train our new staff to compensate for their lack of prior experience. We leveraged our Kenya team to collaborate and understand the differences between our programs and through this dialogue identified and corrected weaknesses in the newly recruited Ugandan staff.

- 4) **Rumors surrounding USAID programs:** Additionally, although we do not have direct evidence to back up this hypothesis, through anecdotes we believe that rumors fueled by anti-gay rhetoric were possibly discouraging the use of USAID funded programs. Some domestic media sources began to spread rumors that USAID promotes homosexuality and thus creating a negative association with USAID.

In response we have taken steps to increase the frequency of communication with promoters, communities, and staff training. It does, however take time to change behavior after an initial shock and we believe this quarter's figures are still a product of the residual effects of these rumors.

Malawi

Given the prioritization to expand our dispenser coverage and the focus on our carbon credit needs, our staff this quarter were dedicated to installation, maintenance and developing the carbon credit asset, and were not able to hire sufficient capacity to conduct adoption surveys during the quarter. As such, this quarter we are without adoption rate figures for Malawi. Next quarter, however, the new Malawi Program Director will be able to help facilitate the search for a suitable candidate and resolve this problem. In the meanwhile, we have delegated one of our staff to start collecting the data and this quarter's results will be shared next quarter.

Output 3: Disseminate Project Results

Evidence Action continued to promote Dispensers for Safe Water and its impact. We focused the last quarter of 2014 particularly on publicity in support of our fundraising efforts in order to take full advantage of the American holiday giving tradition.

Dispensers for Safe Water was featured as a behaviorally-based approach to rural safe water access in the following publications.

- Dispensers for Safe Water was featured in an in-depth article in SciDevNet featuring on [“How Behavioral Science Could Revamp Development.”](#)
- The Innovative Development Blog [features us with a piece on “Clean, Safe Water for All.”](#)
- We published the last blog post in the three-part series on the Wash Funders blog, [taking a close look at how Dispensers for Safe Water works.](#)

For the holiday giving season, we highlighted Dispensers for Safe Water to increase retail donations to the program. Below is a list of venues and media that featured us:

- The Life You Can Save featured Evidence Action as one of the [“best charities for 2015”](#) to give to on its new recommended charity list.
- Nicholas Kristoff of the New York Times highlighted Evidence Action and Dispensers for Safe Water in his new book “A Path Appears” in a chapter about evidence-based development.
- Kristoff also named Evidence Action on his annual holiday list in the New York Times, [“Gifts That Inspire,”](#) noting that we are “spending money in the most cost-effective ways.”
- We were featured by Gawker as one of the [“The Three Most Effective Charities for Helping the Poor.”](#)
- The PBS News Hour, in a piece about [“Making Sense: Where to Give Your Money this Holiday Season, According to Behavioral Economics,”](#) highlighted Dispensers for Safe Water.
- Vox.com featured Evidence Action in a piece on [“Choosing Where to Donate to Charity is Tough. Here’s a Simple Guide to Help.”](#)
- We were the featured project in a small social responsibility promotion with a clothing company that focused on Dispensers for Safe Water in Uganda ([Projects.Runjanji.com](#))

Output 4: Supply of Commercially Manufactured Dispensers

Solid chlorine: We will start a pilot test a solid chlorine dispenser in Malawi. If successful, this would decrease our supply chain costs. The purpose of this pilot is to test the technical functionality of the newly designed prototype of chlorine dispensers. There are a few operational advantages with the use solid chlorine over liquid chlorine, such as reduction in cost of transportation, reduction in the cost of the product, and the longer shelf life of solid chlorine. This pilot in Malawi has been funded through the support of Abt Associates through their SHOPS program with USAID.

Hardware modification: The Evidence Action engineering team follows closely and acts rapidly on feedback received from field officers on the challenges and issues experienced in relation to dispenser hardware in the field. We have recently faced issues with the dispenser lip (where the padlock is attached to the dispenser) cracking and breaking. This was initially addressed with a temporary solution: attaching a 90 degree aluminum reinforcement riveted onto the lip of the dispenser. This quarter, the engineering team found a long-term solution to this issue. The new dispenser design eliminates the use of the aluminum reinforcement by modifying the basket mold and introducing ribs underneath the lip to reinforce it without exerting any pressure to the plastic parts. This modification has been completed and we have produced 3,000 pieces, 1,400 of which have been assembled and sent to the field. This modification will eliminate the extra aluminum part and therefore reduce manufacturing processes costs.

Improvement in Manufacturing Process: We have hired three new staff members on the engineering team and have completed the dispenser hardware material, manufacturing, and final hardware assembly quality inspection procedures. These standardized procedures and best practices help guide the team in all the activities that are undertaken in the workshop, helping to reduce the damage/failure rate of new dispenser assemblies. We have trained the workshop staff in these procedures and quality control, which enable them to work with confidence and to identify areas that require improvement. These improvements in the manufacturing process have enabled the increase in production rates from 2,482 dispensers in Q3 to 5,165 dispensers in Q4.

Improvement in Supply Chain: This quarter we hired a dedicated supply chain manager to oversee all international and domestic orders to minimize supply times. This staff member will ensure that hardware is imported, assembled, and shipped to our field programs in the most cost-effective manner. Their time will be shared equally between imports, exports, and domestic logistics, with a particular focus on finding cost-savings in our supply chain. Their initial focus will be on cutting costs in our international imports, as this has the biggest opportunity for cost savings. As our international programs grow, there will be an increasing need to coordinate export logistics, examine new supply chain structures, cost out different regional manufacturing options, and be a client-serving face to the overall order process.

Output 5: Optimize Quality of Operations

Kenya

In the last quarter of 2014, Dispensers for Safe Water Kenya focused primarily on building operational efficiencies by ensuring smooth cash flows to our field teams conducting dispenser installations. From October to December, we worked to ensure close coordination between our programs and finance teams, and collaborated on systems improvement. This helped ensure that field activities continued running smoothly and efficiently in order to keep our average dispenser installation costs low.

Uganda

This quarter, we invested significant time in improving the quality of our team and its operations. Dispensers for Safe Water Uganda recognized the need to improve our staff knowledge and spent two weeks working with the Kenya Dispensers team to collaborate and understand the differences between the programs. Through this exercise we identified and corrected weaknesses in the newly recruited staff in their work interacting with communities during the village community sensitization meeting and community education meeting. We expect that addressing these weaknesses will improve our adoption figures for dispensers installed in 2015. We also worked on systematic improvements to the program, such as improving our data collection procedures. This was achieved through staff training and incentivizing staff to minimize their data collection mistakes. Staff now receive weekly feedback on their data collection performance to ensure they are achieving a high standard of work.

Interactions with USAID Missions

Malawi: On November 25, 2014 we met with Chimwemwe Chitsulo, Monitoring & Evaluation and Learning Specialist at the Malawi USAID mission. During this meeting we shared our scaling plans for Zomba and invited them to our local stakeholder consultation meeting for carbon credits.

There were no interactions with the USAID missions in Uganda or Kenya this past quarter.

Program Sustainability

This quarter marked a significant milestone for the overall program's long-term sustainability. We secured a forward contract with the Swiss Climate Cent Foundation to purchase two million carbon credits from our Kenya and Malawi operations. This contract will enable us to provide safe drinking water to more than 3

million people across the two countries, and will ensure the program's financial sustainability to 2021. After revenue sharing, Evidence Action will receive approximately \$10 million in revenue from these carbon credit sales.

We also sold the remainder of the first issuance of voluntary carbon credits from Kenya this quarter. The 51,097 credits (GS VERs) were sold to multiple buyers at a weighted average price of \$5.06. We expect to receive the final tranche of income from those sales in January 2015.

This quarter we continued discussions with the Gold Standard for the second issuance of voluntary carbon credits from Kenya. We are in the process of submitting second round responses to queries from them. We expect that the third round review and the issuance of 80,000-100,000 carbon credits will be finalized in Q1 2015. At this time, we will work with South Pole Carbon to sell these credits to secure a revenue stream for the program to support 2015 operational costs.

In Uganda specifically, we conducted the validation site visit with the carbon auditor in Uganda in December. This is part of the process of registering a new carbon project under the existing umbrella structure. The site visits were successful and we expect to be able to finalize the registration of this second carbon project in Uganda in the first quarter of 2015, following liaison with the auditor and the Gold Standard.

Evidence Action and Kiva continued a successful partnership this quarter. Evidence Action's loan ceiling was increased from \$300,000 to \$800,000. We began the roll-out of this second tranche of dispensers to be funded by Kiva lenders in Kuria East and Ndhiwa sub-counties. The additional \$500,000 in funding will be used to install and service 1,111 dispensers until carbon revenue is received and can sustain the ongoing costs of operation and maintenance. As of December 31, 156 loans, worth a total of \$272,500 have been fully funded on Kiva.org. The remainder will be posted and funded in January 2015. These loans will be repaid with carbon revenues beginning in 2017.

This quarter we expanded our relationship with Abt Associates, through USAID's Strengthening Health Outcomes through The Private Sector (SHOPS). SHOPS has strong belief in the role of carbon credits for program sustainability and they have agreed to fund the carbon registration process in Malawi.

This quarter, retail fundraising (online giving, personal and corporate check donations, including donor-advised funds) totaled \$17,343 (for dispensers-specific donations), and \$983,834 in unrestricted donations to Evidence Action.

MONITORING AND EVALUATION SUMMARY

Dispensers for Safe Water relies on data-driven decision making to maintain and improve program operations, and we decided better adoption data precision at the sub-national level (counties and districts) would help program managers make more timely decisions of where adoption might be lagging and where to invest resources. To provide sufficient precision at the sub-national level, the following changes were made to the methodology:

1. *Increase monthly dispenser sampling:* An increase was made from the current 1 in every 100 dispensers (1%) to 1.5 in 100 every month (1.5%). This increased sample sizes will mean that each county/district has at least 360 household surveys completed in each quarter.
2. *Additional sampling in new expansion areas:* During the first 3 months following the installation of dispensers in any new sub-national geography, an even higher bar of 2 in every 100 dispensers will be monitored each month. This "surplus" of data will provide further precision during this critical early stage of operation in which most long-term behavior patterns are set by potential users.
3. *Consistent updating of program data:* Program teams are now accessing monthly adoption rates and other key operational data figures through Evidence Action's dedicated Management Information

System, enabling a staff to take a more proactive approach to using data to addressing the need for changes in operations.

All changes in sample sizes take effect in January 2015.

Number of chlorine dispensers installed broken out by country:

	Cumulative as of Q2 2014 ³	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Total to Date	Year 3 Target (with ceiling increase)
Kenya	8,044	1,689	1,909	-	-	11,642	16,250
Uganda	1,837	980	863	-	-	3,680	6,250
Malawi	86	0	624	-	-	710	2,500
Total	9,967	2,669	3,396	-	-	16,032	25,000

Number of people with access to chlorine dispensers, by country and gender

		Cumulative as of Q2 2014 ⁴	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Total to Date	Year 3 Target
Kenya	Male	498,492	104,668	118,302	-	-	1,573,619	2,654,374
	Female	588,795	123,629	139,733	-	-		
Uganda	Male	274,925	146,667	129,156	-	-	1,153,697	2,364,092
	Female	300,983	160,568	141,398	-	-		
Malawi	Male	17,464	0	126,715	-	-	296,030	983,119
	Female	18,393	0	133,458	-	-		
Subtotal	Male	790,881	251,335	374,173	-	-	3,023,346	6,001,585
	Female	908,171	284,197	414,589	-	-		
Total		1,699,052	535,532	788,762	-	-	3,023,346	6,001,585

Total chlorine residual (adoption rate):

	TCR Adoption	
	Q3 ⁵ 2014	Q4 2014
Kenya	37.5%	44%
Uganda	35.5%	26%
Malawi ⁶	75%	75%
Average⁷	37.2%	41%

³ Quarters in table are calendar year quarters.

⁴ Quarters in table are calendar year quarters.

⁵ Quarters in table are calendar year quarters.

⁶ Figures for Malawi represent evaluations conducted between Feb-June, 2014. Continuous surveying in Malawi will begin in Q1 of 2015.

⁷ Figure weighted by number of people served in each country.

Quarterly Metrics:

Category	Year to date	Year 3 Target
Number of published articles about the project and/or its findings	4	4
Number of reputable press mentions per year about the project and/or its findings	5	5
Number of conferences / workshops where dispenser programs are presented	3	5

Cost per beneficiary:

In June 2014 we changed the methodology by which we calculated our cost per beneficiary to better reflect the true cost of doing business. Whereas previously we were considering primarily country level costs in this calculation, we have updated our approach to include all costs that contribute to the program taking place, including global costs. One implication of this is that our cost per beneficiary, starting with our June 2014 report (which reflected our USAID Y2, July 2013 – June 2014), increased from the period prior, and was higher than the target.

For the calendar year 2014 (January – December 2014), our cost per beneficiary was \$1.43 per person with access to a dispenser per year⁸. This figure is broadly aligned with our business plan, and we remain on track to serve people for \$0.50 per person per year by 2018.

⁸ Note that given the transition of Dispensers for Safe Water from IPA to Evidence Action on October 1, 2014, the program worked in two different accounting systems with different structures and categories over the course of the year. This meant that some additional analysis was required to categorize expenses for 2014.