Background

Monitoring and Evaluation data is collected after every three months. The PDA provides the program with a sample of water points (equivalent to sampling dispensers) to be monitored Thus, data analysis is carried out by the end of March, June, September and December after the data is received from PDM. Various aspects of the program are tracked from three datasets: community, Promoter, and Spot check. Each data have specific factors that are tracked, see the discussion below.

1. **Dispenser spot-check survey:** Evaluation of the presence of the tank in the dispenser, chlorine in the tank, and any hardware issues that need repair. During the spot check, the data collector will also check the functionality of the water source. This data informs us of the effectiveness of our supply chain and hardware maintenance.

2. **Promoter survey:** Interview with the "promoter", the champion of the dispenser to understand their level of involvement in promoting the dispenser and to gauge community reception. The data collector visits the promoter at his/her home and conduct an interview to establish if there have been any problems with the dispenser, whether promoter has been encouraging the community to use the chlorine dispenser, and whether s/he has chlorine refills.

3. **Community survey:** In the community interview, the data collector visits four households that collect their drinking water from the sampled water source. These households are randomly selected from a list of all households using that specific water source (this list is generated by the promoter). In this interview, the data collector asks questions regarding household's water collection, treatment and storage practices; interaction with the promoter; knowledge of benefits of treating water with the chlorine and knowledge of dosage and operating the chlorine dispenser. Two other useful indicators are collected during the community data: 1) reported rate of diarrhea for children below five years and 2) objective test to confirm if the household's drinking water has traces of chlorine.

Sampling

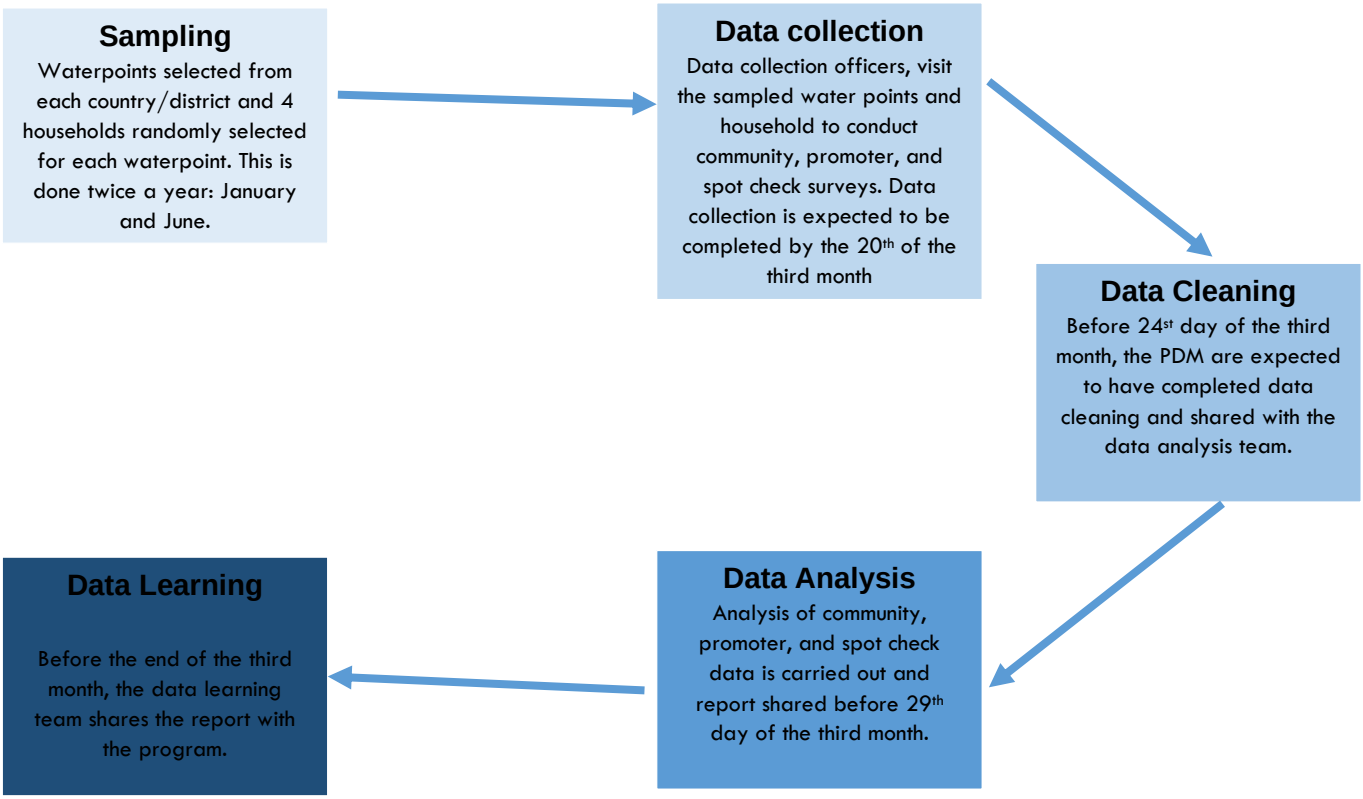
Multi-stage sampling method is employed when sampling dispensers (water points) and households. In each country, dispensers are first clustered into county (Kenya) or districts (Uganda and Malawi) and a sample is generated based on 80-85% confidence level and 10% margin of error using probability sampling without replacement ensuring each dispenser within a county/district has an equal chance of being selected. Four households are then randomly selected within the selected water points and visited for monitoring.

Analysis

Data analysis is majorly descriptive in nature and the descriptive statistics are used for report the performance of the program by data learning team. The main areas of analysis include; household water collection, treatment and storage practices; interaction with the promoter; knowledge of benefits of treating water with the chlorine and knowledge of dosage and operating the chlorine dispenser. Two other useful indicators are collected during the community data: 1) reported rate of diarrhea for children below five years and 2) objective test to confirm if the household's drinking water has traces of chlorine. From the spot check, analysis of hardware status of the dispenser and the proportion of dispensers has chlorine and if the dispenser valve releases chlorine when the knob is turned. From promoter survey, promoter chlorine usage, engagement with the community, and challenges with the dispensers and the community is analyzed. Operational data, chlorine delivery data, will also be analyzed to track supply and demand of

chlorine. Causal analysis will also be conducted to identify any patterns or trends in the data, and addressing the causes and its effect on the key outcome.

Figure 1: DSW's M&E Quarterly Data analysis Cycle



Indicators Tracked during M & E Data analysis and Chlorine delivery.

The table below shows the indicators and their associated variables that are considered when carrying out continuous data analysis: (in bracket is the variable code)

Community survey	
	Indicator
Diarrhea incidences	% of children with diarrhea in the last 48 hours - analyze with seasonality % of children with diarrhea in the last 2 weeks
	Causes of diarrhea
	Prevention of diarrhea
	Diarrhea causes and prevention knowledge score (c321 & c323) - Trend
Water	
Practices	
	Collection
	Time taken to walk to the water point and back to the homestead (c202)
	Source of drinking water (c406)
	Who is collecting the water (c407)
	Jerrican size (c408)

	Storage
	Households using jerrican to store drinking water (c403)
	Households accessing drinking water through pouring or tap (c404)
	Households whose drinking water container cover is a lid or enclosed (c405)
	Jerrican with lid or enclosed (c404, c405)
	Households with recommended water storage practices – generated from c403 –c405)
	Treatment
	Self-reported water treatment (c411)
	When water was treated (c412)
	Mixing treated with untreated water (c413)
Knowledge	
	Ways respondent knows the water is safe (c415a)
Water chlorination	
Knowledge	
	Benefits of using chlorine dispenser
	Correct steps
	Correct wait
	Correct turns
	Knowledge score – generated from the three knowledge variables
Practices /Usage	**Practices /Usage**
	Attrition - Dispenser usage Never use dispenser Ever used Used last week Used last time
	Reasons for treating water at the dispenser
	Reasons for not treating water at the dispenser
	Pay to use chlorine dispenser
	Sources of water treatment information (c207)
	Promoter interaction with community in the past 30 days
	Promoter rating
	Reasons why promoter is doing a good job
	TCR adoption
	FCR adoption
Promoter Survey	
Promotion activities	% Promoters who performed activities in the past 30 days (p611)
	Activities performed (p612)
Dispenser Knowledge	
	Correct steps (p703)
	Correct wait (p702)
Problems with dispenser	**With Community**
	Problems with community or their reception of the program (p908, p909a)
	Rumors spread about the dispenser (p910)
	Supply Chain
	Proper storage (away from light and/or child reach) (p505, p506)
	Problems with chlorine delivery (p511, p512)
	Dispensers hardware
	Reasons for hardware issue (p903, p907)
Chlorine adoption	TCR adoption (p803)
	FCR adoption (p806)
Spot Check	
Empty Rates	% of dispensers with chlorine in tank during spot check
Functionality	% of dispensers that can dispense chlorine when valve is turned
	% of water point that are functional
Hardware Problems	% of dispensers with hardware problems
	Specific problem –

	% of dispensers with tank issue % of dispensers with valve issue % of dispensers with casing issue % of dispensers with pvc/base issue % of dispensers with padlock issue
Vandalism	% of dispensers with cases of vandalism
Chlorine Delivery	
	Amount of chlorine delivered vs amount of chlorine used
	Average chlorine use per water point per month
	% of chlorine delivery done per dispenser per round
	% of dispensers where more than one deliveries was done per round