Carbon Baseline Sampling Methodology

Carbon Baseline WTQ Randomization Methodology

There are 1073 dispensers in the sampling frame for the 1st CPA for the Dispensers for Safe Water program. This includes all dispensers installed in Budaka and Kibiku Districts as well as the selected subcounties within Mafawa of Tsekukulu, Mukoto, Buwabala, Bukhabusi, Bukhaweka, Bupoto, Namabaya, Bumbu, Bukhoko. Below is a brief description of how the 30 water points for the Uganda carbon baseline WTQ was selected. The randomization was done in Stata.

The water point list with all 1,073 waterpoints was imported to Stata from the excel and random number assigned to the them using the ***runiform()*** command. The list was then sorted using the generated random numbers in ascending order and assigned numbers 1 to 1073. From the list of first 30 water points that that had been randomly selected, two (**7020425_Dambyo borehole & 7020425_Bulumbi**) were replaced by picking the next two in line(**7020018_ Iganga and 7020261_ Lyada**) i.e water point number 31 and 32 to keep the number at 30.

Step 2: Household Selection.

Step 2.1 In-Office Randomization

For the 16 water points for Kibuku 3 that were selected, the compound names of compounds that use the water point were collected and typed in to excel and then imported to Stata and merged using water the waterpoint ID. Each compound was assigned a compound ID based on the water point and then randomized by waterpoint using the ***runiform()*** command. The list of all compounds in a waterpoint was then sorted by the assigned random number and at most the first 30 household selected to allow for replacement.

Step 2.1: In-Field Randomization

For the waterpoints in this CPA that are from the selected sub-counties of Manafwa listed above and Kibuku 4 the list of household names will be collected on the same day that the surveys are conducted. To avoid the bias that might arise from a community leader creating a systematically ordered arrangement of households (i.e. their friends and relatives being listed first) an in-field randomization will be conducted to ensure that a random sample of houses is surveyed.

	A	B	C	D	E	F
1	Random_Order_30	waterpoint_name	order_id	household_name	respondent_found	sample_collected
2	27	Kajiado	1	Konyango Singa		
3	21	Kajiado	2	Kotieno Odhiambo/Kosolo		
4	4	Kajiado	3	Kanyagem	YES	YES
5	8	Kajiado	4	Kawaya/Nyamasiro	NO	NO
6	10	Kajiado	5	Kanyamagoya		
7	25	Kajiado	6	Raphael Juma		
8	14	Kajiado	7	Rose Oluoch Lelo		
9	28	Kajiado	8	Domnic Owino	YES	NO
10	12	Kajiado	9	Frida Adongo		
11	26	Kajiado	10	Maurine Atieno		
12	3	Kajiado	11	Monica Achieng'		
13	13	Kajiado	12	Caroline Atieno	YES	YES
14	23	Kajiado				

➤ An infield randomization follows the following steps:
  ○ First a random order is generated in excel that can accommodate either 10, 30, 50, or 80 households. The need for multiple lists comes from the fact that in a water point with only 9 households, it would be difficult to follow a randomly ordered set of 80 numbers. An example of a randomly ordered list of numbers for 30 households in Column A of the above image
  ○ The enumerator will write out the waterpoint name (always the same) and each household name as it is provided by the community leader. These names will be next to an "order_id" which is how you can pull out the households to survey
  ○ The enumerator should start with the first number on the "Random_Order" list. In this case that would be the household with "Order_id" = "27". Since there are not 27 households, that number should be skipped. In the example above I have highlighted in Pink every number that must be skipped. You will note that it is every number greater than 12 (since there are only 12 households at this waterpoint).
  ○ Moving down the "Random Order" list, start with the first number for which there is a household. In this case that is the number "4". Go to the Household with the "order_Id" equal to 4 (in this case Kawaya/Nayamsiro)
  ○ Indicate whether a respondent was found at that household (in this case you can see that the answer is "NO"
  ○ Continue on down the list of "Random_Order" until the next number that has a corresponding household (in this case it is Household 8, Dominic Owino)
  ○ Visit that house, record whether the respondent was found, and whether or not a sample was collected
  ○ Continue in this fashion until:
    ▪ All households have been visited
    ▪ Or the day is over
    ▪ Or you have collected the requested number of household visits (usually 8-10)

Step 3: **Water Sample Collection**

Water samples are collected from drinking water at the different households that meet any of the following criteria:

➢ The first household at each waterpoint that mentioned not treating their water.

➢ Any household that mentioned treating their drinking water with a chlorine-based product e.g. WaterGuard, Pur, AquaGuard etc. but turned negative when tested for Free Chlorine Residual.

➢ Any household that mentioned either filtering, boiling, Solar Disinfection (SODIS) etc. i.e. non-chlorine based methods.