



# UNDERSTANDING IMPACTS OF A TARGETED TOILET SUBSIDY IN GHANA

## FINAL REPORT

**DECEMBER 2021**

This publication was produced for review by the United States Agency for International Development. It was prepared by Tetra Tech.

Prepared for the United States Agency for International Development by the Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) project under Task Order Number AID-OAA-TO-16-00016 of the Water and Development Indefinite Delivery Indefinite Quantity Contract (WADI), contract number AID-OAA-I-14-00068.

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JANUARY 2022

## **DISCLAIMER**

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# ACRONYMS AND ABBREVIATIONS

|          |   |
|----------|---|
| CLTS     | Community-Led Total Sanitation  |
| cRCT     | Cluster Randomized Controlled Trial   |
| CTV      | Community Technical Volunteer   |
| CWSA     | Community Water and Sanitation Agency                                       |
| DA       | District Assembly   |
| DEHO     | District Environmental Health Officer                                       |
| DRP      | District Resource Person  |
| FI       | Financial Institution   |
| GHS      | Ghanaian Cedi Currency Code   |
| GOG      | Government of Ghana   |
| LEAP     | Livelihood Empowerment Against Poverty                                      |
| MBS      | Market-based Sanitation   |
| MOU      | Memorandum of Understanding   |
| ODF      | Open-Defecation Free  |
| PLA      | Participatory Learning and Action   |
| PMT      | Proxy-Means Test  |
| pp       | Percentage Point  |
| RSMS     | Rural Sanitation Model and Strategy   |
| USAID    | United States Agency for International Development                          |
| USD      | United States Dollars   |
| WASH     | Water, Sanitation, and Hygiene  |
| WASHPaLS | Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability |

# EXECUTIVE SUMMARY

The United States Agency for International Development Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (USAID/WASHPaLS) project partnered with the Government of Ghana (GOG)-UNICEF sanitation program and two District Assemblies in the Northern Region (Tatale and Kpandai districts) to examine whether subsidies targeted at the poorest and most vulnerable community members may serve to improve the sustainability and equity of sanitation gains from Community-Led Total Sanitation (CLTS). Targeted subsidies are one component of UNICEF-Ghana's sanitation-financing framework, which envisions a "Social Fund" to support toilet construction for the most vulnerable households. This research employed a cluster randomized controlled trial design in which 59 open defecation free (ODF)-declared communities were randomly assigned to the subsidy (treatment) group and 50 ODF communities to the control group, allowing for comparison of how the subsidy program impacted sanitation outcomes between the two groups.

The program identified eligible poor and vulnerable households using community consultation. District Assembly officials facilitated community meetings aiming to identify households that:

- Were unable to feed themselves throughout the year; or
- Included a vulnerable person (elderly person over 65 years of age, person with a severe disability or chronic illness preventing work, widow, orphan, or household head below 18 years of age) receiving no support from relatives.

On the same day, District Assembly officials conducted follow-up visits to selected households to verify that they met one of these criteria and that they did not already own<sup>1</sup> a durable toilet. In treatment communities, the community consultation process identified 17 percent of households as "poor and vulnerable." A small fraction of these identified households were classified as ineligible because follow-up verification visits revealed that they did not truly meet the "poor and vulnerable" criteria, already owned a durable toilet, or lived in a compound with another identified household. Following verification, 14 percent of households in treatment communities, or a total of 441 households, were classified as voucher-eligible.

These voucher-eligible households displayed more characteristics indicative of socio-economic vulnerability than ineligible households. For example, eligible households were more frequently headed by a woman (26 percent vs. 8 percent among ineligible households) or a person with no primary education (87 percent vs. 76 percent) and were more often in the bottom two wealth quintiles based on an asset index (53 percent vs. 34 percent). **Overall, these statistics validate that eligible households were poorer and more vulnerable than the rest of the community, suggesting that community consultations accurately targeted the most vulnerable households.**

Notably, however, baseline sanitation characteristics of eligible households were comparable to those of ineligible households, with similar proportions practicing open defecation (24 percent vs. 25 percent) and not owning a functional toilet (42 percent vs. 37 percent). Accordingly, identifying the poorest and most vulnerable households is not necessarily equivalent to identifying households that lack a functional toilet or practice open defecation.

In treatment communities, eligible households received a voucher enabling them to select one of three durable toilet substructure options to be installed by local artisans; all options included a durable slab,

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<sup>1</sup> For the purposes of this report, "ownership" refers to two possible scenarios: 1) one household built and manage the use of the facility, or 2) "co-ownership", in which multiple households contributed to construction of the facility. Co-ownership is different from a shared facility, where not all households contributed to construction.

pit lining, and ventilation pipe. Compounds with multiple eligible households only received one voucher (the household meeting the highest number of vulnerability conditions was selected). The three durable substructure options were the Digni-Loo (plastic slab and pit lining), pre-cast concrete, or masonry (USAID 2020). All eligible households (441) redeemed their vouchers, with roughly equal selection of toilet type across the three options. Households were responsible for digging the pit and building the superstructure themselves or with help, while the construction of the substructure was fully subsidized. The program paid artisans on a performance basis: 40 percent of the contracted fee as a down payment, 40 percent after completion and quality control (with the District Health Environmental Officer and District Engineer verifying that the substructure met quality standards and the superstructure was complete), and 20 percent after two months with no reported structural issues (USAID 2020). Ninety-eight percent of toilets passed the final verification stage. No household received a voucher in control communities.

The research team surveyed all households in study communities before and after the voucher program was carried out (5,615 baseline surveys were conducted between March–June 2019, and 5,863 endline surveys between November 2020–March 2021). The endline survey included 426 (97 percent) of the 441 voucher-eligible households identified in treatment communities during community consultation. **The team found that sanitation conditions in study communities had deteriorated considerably between baseline and endline, with increasing levels of open defecation and reduced ownership of functional toilets, primarily due to toilet collapse (substructure, superstructure, or both).** For example, in control communities, which had previously been declared open-defecation free, 25 percent of households reported practicing open defecation at baseline compared to 69 percent at endline. The subsidy program attenuated this decline in treatment communities to some degree: open defecation increased from 25 percent at baseline to only 54 percent at endline. **The program had a substantial impact on households that were eligible to receive vouchers, increasing this group’s toilet ownership and use (especially regarding toilets with durable substructures) and reducing open defecation significantly more than those in control communities.** Among voucher-eligible households in treatment communities, open defecation declined from 25 percent at baseline to 18 percent at endline, compared with an increase from 28 percent at baseline to 68 percent at endline among the same group in control communities. Similarly, voucher-eligible households that owned functional toilets in treatment communities increased from 59 percent at baseline to 75 percent at endline (while dropping from 56 percent to 21 percent in control communities). While no voucher-eligible households in treatment communities owned durable toilets at baseline, 70 percent did at endline (compared with none in control communities). **Non-eligible households in treatment communities also benefitted through sharing of subsidized toilets if a voucher-eligible household lived in the same compound. Beyond that, the team found limited evidence of subsidy spillover, as very few non-eligible households upgraded to a durable toilet.** In treatment communities, non-eligible households owning a durable toilet increased from 2 percent at baseline to 6 percent at endline, compared with values of 1 percent at baseline and 2 percent at endline in control communities.

**The research team compared the cost-effectiveness of implementing CLTS followed by this subsidy program with that of implementing CLTS alone. The team found that the combination benefitted more households, though at a higher cost per household.** Finally, the team documented several lessons learned which may be useful for the design and planning of future targeted subsidy programs in Ghana and elsewhere.



# I.0 INTRODUCTION

The United State Agency for International Development’s Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (USAID/WASHPaLS) project conducted research to investigate whether targeted subsidies are an effective way to help sustain the gains achieved by Community-Led Total Sanitation (CLTS). This report details the process, results and lessons learned from implementing a cluster randomized controlled trial (cRCT) of a targeted subsidy intervention in Ghana from 2019–2021. Section 1.0 provides an overview of the motivation and objectives and research questions. Section 2.0 covers the study design, while Section 3.0 provides an overview of the study location and population, based on baseline data. Section 4.0 discusses the design and implementation of the targeted subsidy intervention, including lessons learned from implementation. Sections 5.0 and 6.0 provide the results of the study in terms of the impact and costs of the intervention. Finally, the report concludes with a discussion on the implications of these results for the sector (Section 7.0). The information in this report draws from two previously published reports: the study [inception report](#) and the study’s [midline report](#), as well as several research briefs (the [baseline study brief](#), [policy brief on identifying eligible households for a sanitation subsidy](#), [technical brief on identifying households for a sanitation subsidy](#), and the [endline study brief](#)). Baseline results are presented in Delaire et al. (2022) and endline survey results are forthcoming (Trimmer et al., n.d.).

## I.1 MOTIVATION AND OBJECTIVES

**There is growing evidence that the poor do not benefit equally from CLTS programs**, as indicated by the fact that they tend to construct lower-quality toilets (House et al., 2017; Mukherjee, 2011; Singh and Balfour, 2015) and are more likely to revert to open defecation (Crocker, Saywell, and Bartram, 2017; Kullmann et al., 2011; Odagiri et al., 2017; Robinson and Gnilo, 2016a; USAID, 2017). Beyond the ethical concerns that such inequity raises, allowing the poorest segment to revert to open defecation (OD) can limit health benefits for the entire community, as reductions in enteric diseases and growth faltering from sanitation improvements may well be driven by herd protection (Fuller et al., 2016; Fuller and Eisenberg, 2016; Harris et al., 2017; Jung et al., 2017; Jung, Lou, and Cheng, 2017).

**In recognition of equity concerns, the sanitation sector’s aversion to subsidies may be easing, and several CLTS programs in East and South Asia have explored targeted subsidies.** Vernon and Bongartz (2016) write that while subsidies have long been a source of controversy within the CLTS community, “it is becoming increasingly evident that the poorest and most marginalized people will not necessarily be able to access sustained improved sanitation and climb the sanitation ladder without some form of external assistance.” Robinson and Gnilo (2016b) have observed that attaining open defecation free (ODF) communities often is linked to some form of pro-poor support—financial or in-kind.

**However, robust evidence on the impact of targeted subsidies on CLTS outcomes to date has been limited.** One randomized controlled trial in Bangladesh demonstrated the benefits of adding a targeted subsidy to a CLTS program. This targeted subsidy, which consisted of discount vouchers, increased overall toilet coverage by 9.4 percentage points (pp) and hygienic<sup>2</sup> toilet coverage by 12.4 pp, while decreasing open defecation by 6.9 pp compared to CLTS-only villages (Guiteras, Levinsohn, and Mobarak, 2015). Most notably, the subsidy produced positive spillover effects: i) subsidy beneficiaries were more likely to use their voucher to build a toilet when the subsidy coverage was high (i.e., targeting more than 50 percent of the poor—i.e., over a third of the population), and ii) non-beneficiaries were also more likely to build a toilet when subsidy coverage was high in the village

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<sup>2</sup> “Hygienic” = intact slab, sealed pit, and intact water seal.

(Guiteras, Levinsohn, and Mobarak, 2015). A second randomized controlled trial in Lao tested the effect of a different type of targeted subsidy (household rebates) on CLTS outcomes and found a 7-pp increase in individual toilet coverage (Cameron et al., 2021). Additional evidence from three market-based sanitation (MBS) programs in Southeast Asia have shown that different types of targeted subsidies (discount vouchers, household rebates, results-based payments) can increase access to improved sanitation among the very poor. (For additional information on previous studies, please see the [Inception Report](#)).

However, no study on targeted subsidies for toilets has been conducted in Africa to date.

## **1.2 RESEARCH QUESTIONS**

With the above context in mind, WASHPaLS sought to answer the following three research questions:

1. To what extent do targeted subsidies within ODF communities result in increased toilet coverage, quality, and use among the most vulnerable households?
2. To what extent do these benefits spill over to the rest of the community?
3. What are the costs and challenges of implementing a post-ODF targeted subsidy program?

Our hypothesis for the first question was that targeted sanitation subsidies in ODF communities would help increase toilet coverage, quality, and use amongst targeted households.

Our hypothesis for the second question was that sanitation improvements among targeted households may encourage the rest of the community to make similar improvements.

For the third research question, we collected actual cost data and recorded challenges throughout implementation.

## **1.3 COLLABORATION WITH LOCAL STAKEHOLDERS AND POLICY MAKERS**

This research was conducted in close collaboration with UNICEF Ghana as part of their ongoing sanitation programming with the GOG. The subsidy study was launched officially during a meeting of national water, sanitation, and hygiene (WASH) stakeholders and representatives from the Ministry of Sanitation and Water Resources, called a National-Level Learning Alliance Platform (NLLAP), in Accra on March 19, 2019. The presentations were followed by a panel debate featuring WASHPaLS, USAID, Global Communities, UNICEF, and the Coalition of NGOs in Water and Sanitation in Ghana (CONIWAS). The launch revealed significant interest from Ghanaian stakeholders in post-ODF targeted subsidies. A study launch was also conducted in collaboration with regional stakeholders in Tamale, Ghana in May 2019. Throughout the study, WASHPaLS kept local stakeholders informed on progress and results of the study. WASHPaLS also worked with UNICEF Ghana to write a policy brief and develop a short documentary describing the approach that the two organizations co-developed to identify the poorest and most vulnerable households in rural communities. According to UNICEF Ghana, the findings on subsidy targeting methods could influence revisions of the National Pro-Poor Guidelines, which currently lack specific guidance on how to target subsidies. In November 2020, WASHPaLS presented the protocol developed jointly with UNICEF to administer targeted sanitation subsidies in rural Ghana at the Mole XXXI conference in Ghana. In addition, baseline and midline findings were presented at Ghana's Rural Sanitation Model and Strategy (RSMS) Review Workshop in June 2021. This workshop was organized by UNICEF Ghana and was attended by NGOs and government officials working in the WASH sector, as well as a consultant team tasked with reviewing the country's RSMS. WASHPaLS presented during a session focused on sanitation financing, and the presentation was well-received. Audience members noted that the findings related to post-ODF declines in sanitation conditions and latrine collapse agreed with their observations in the field.

## 2.0 STUDY DESIGN

### 2.1 OVERVIEW

WASHPaLS implemented a cRCT to understand the impacts of targeted toilet subsidies in communities that received the intervention (treatment) relative to communities in a control group that did not receive the intervention. The research team randomly selected 109 communities in two districts of Northern Ghana that had been declared ODF in 2016-2018 to participate in the trial. Of these, 59 were randomly assigned to the subsidy (treatment) group and 50 to the control group (Figure 1. Study Design).

The study took place in four phases: baseline data collection (March–June 2019), identification of poor and vulnerable households (September 2019–January 2020), implementation of targeted subsidy in treatment communities (February–August 2020), and endline data collection (November 2020–March 2021). Though the team identified poor and vulnerable (voucher-eligible) households in all communities (control and treatment alike), subsidy vouchers were distributed in treatment communities only.

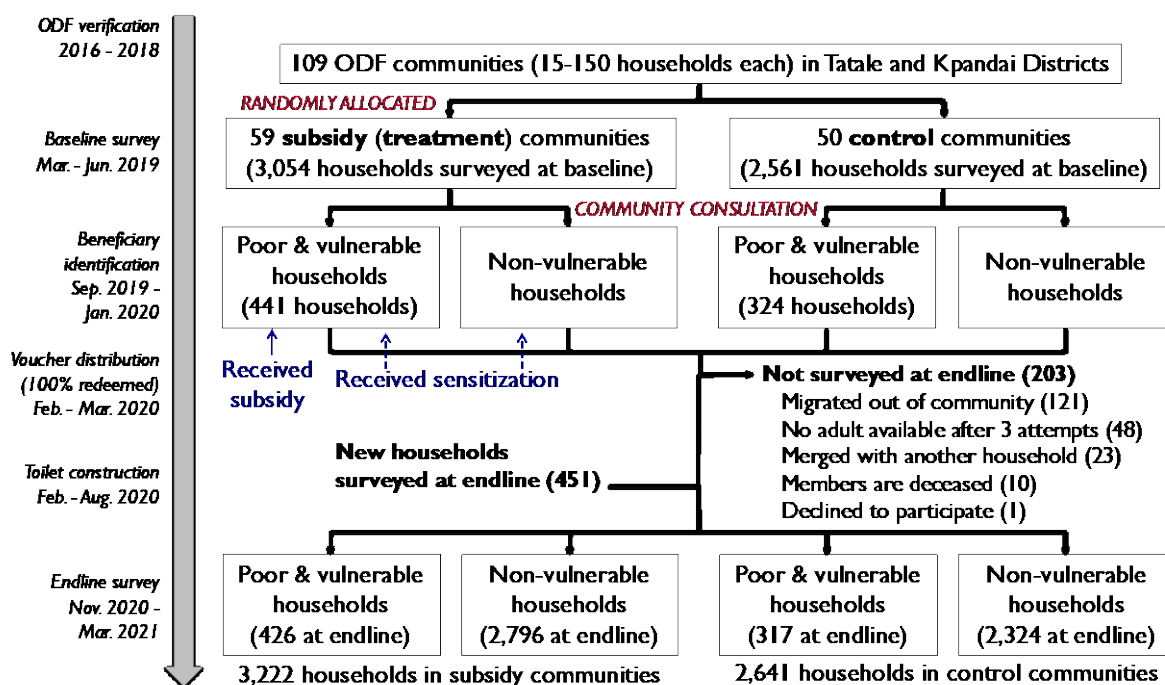


Figure 1. Study Design

### 2.2 DATA COLLECTION

Both at baseline and endline, the research team surveyed all households in study communities (5,615 at baseline, 5,863 at endline) to document sanitation behaviors of both voucher-eligible and non-eligible households. The team also surveyed a chief or elder in every study community. Surveys were administered by enumerators in local languages (Lekpapa, Dagbani, or Twi). There was an average of 21.3 months between baseline and endline surveys in treatment communities and 20.3 months in control communities. Data collection tools are included in Appendix 1.

The research team collected detailed process data on the identification of eligible households and the administration of the subsidy using a thorough monitoring system. Soon after the subsidy rollout, the

team also interviewed 37 community members to hear their perspectives and any changes to the community consultation and voucher distribution processes they would recommend.

The research team obtained written informed consent from all survey and interview participants. The study protocol was approved by the Western Institutional Review Board in the United States (20190382) and by the Council for Scientific and Industrial Research in Ghana (RPN 001/CSIR-IRB/2019). The trial protocol was registered with ClinicalTrials.gov under ID NCT03822611.

## 2.3 OUTCOME METRICS AND DATA ANALYSIS

The research team tracked sanitation outcomes using the following indicators:

1. Households reporting that they practiced open defecation as their primary sanitation behavior when at home.
2. Households owning<sup>3</sup> and using a *functional* toilet. The team defined a functional toilet as having a complete or partial superstructure and a usable pit that was not collapsed or full (verified through observation).
3. Households owning and using a *durable* toilet. The team defined durable toilets as functional toilets with full superstructures and durable substructures (plastic, rock, brick, or concrete pit lining, and concrete or plastic slab).
4. Households owning and using an *unshared durable toilet*. In our study areas, many households that owned a toilet shared it with others (non-owners). This indicator shows the degree of individual (single-household) ownership and use (excluding any co-ownership by multiple households and any facilities that are also used by non-owners); it is a subset of Indicator 3.

To help understand factors that might influence our outcomes, the team also collected data on several demographic and socio-economic characteristics (Table 1).

To analyze the effect of the subsidy program on sanitation outcomes, the team compared differences in sanitation conditions between baseline and endline, and also applied chi-squared tests and regression analyses to examine differences between households at endline in subsidy and control groups. For more details on the statistical analysis, please see Trimmer et al., n.d.

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<sup>3</sup> For the purposes of this report, “owning” refers to two possible scenarios: 1) one household built and manage the use of the facility, or 2) “co-ownership”, in which multiple households contributed to construction of the facility. Co-ownership is different from a shared facility, where not all households contributed to construction.

## 3.0 STUDY LOCATION AND POPULATION

### 3.1 RATIONALE FOR SELECTING GHANA

WASHPaLS investigated partnership opportunities with CLTS implementing organizations in three USAID priority-aligned African countries: Ghana (Global Communities and UNICEF), Senegal (USAID/Catholic Relief Services), and Malawi (Global Sanitation Fund/Plan). WASHPaLS had the following selection criteria for identifying a study country and implementation partner: 1) large-scale implementation of CLTS; 2) challenges sustaining the quality of toilets, especially for the poorest; 3) a national sanitation strategy that permitted pro-poor subsidies; 4) the presence of an implementing partner willing to engage in experimental research (and use its own funds for subsidy implementation); and 5) an opportunity for our study to influence decision-making. Results from two scoping visits revealed that Ghana met all our selection criteria, with UNICEF as the implementation partner. The research team thus signed a memorandum of understanding (MOU) with UNICEF Ghana on October 5, 2018.

### 3.2 THE SANITATION SITUATION IN GHANA

Ghana began implementing CLTS in 2006 and the approach was officially included in the National Environmental Sanitation Strategy in 2010. CLTS has been implemented in approximately 5,000 communities by Ghana's Community Water and Sanitation Agency (CWSA), UNICEF, and other international development organizations (Oxford Policy Management, 2017), and approximately half have been declared ODF (Stuart et al., 2021). In Ghana, a community is considered ODF if at least 80 percent of households have a toilet (Ghana Ministry of Sanitation and Water Resources, 2018). With the highest proportion of ODF communities, the northern part of the country appears to have seen the best CLTS results (UNICEF, 2019), possibly because this region had less exposure to WASH interventions prior to the introduction of CLTS (Crocker et al., 2016). However, 30 percent of Ghana's rural population still practices open defecation, meaning that Ghana is not on track to achieve universal access to sanitation by 2030, the objective set forth by Sustainable Development Goal 6.2 (WHO/UNICEF JMP, 2019). Recognizing the challenges to achieve universal access to sanitation, the GOG introduced National Pro-Poor Guidelines promoting targeted subsidies for sanitation in 2018 (Ghana Ministry of Sanitation and Water Resources, 2018).

### 3.3 UNICEF PROGRAMS IN GHANA

In Ghana, UNICEF has been implementing CLTS through District Assembly staff since 2011. UNICEF's support covers 50 districts in five regions (out of a total of 216 districts and 10 regions). In collaboration with the Ministry of Sanitation and Water Resources, UNICEF developed a sanitation-financing framework that includes a "Social Fund," the aim of which is to provide "poor and vulnerable households with financial and non-financial support to acquire household toilets." The Social Fund is, in effect, a targeted subsidy and formed the basis of the intervention for this research. UNICEF's financing framework also includes a revolving loan fund for households and village savings groups, and a revolving loan fund for sanitation entrepreneurs, though these were not the focus of this research. UNICEF received a grant of approximately 250,000 USD from Global Affairs Canada to scale up the Social Fund in the Northern Region, which provided the opportunity for WASHPaLS to conduct this research. Prior to our study, UNICEF had piloted elements of the Social Fund concept in 2017 in flood-prone areas of the country, where the poorest households were eligible for subsidized toilet substructures through a "voucher + supplier results-based payment" program. WASHPaLS conducted case studies in five pilot communities during the formative research and used these findings to inform study design. More information on these findings can be found in the [Inception Report](#).

UNICEF also has an MBS program in most districts in the Northern Region. In the Fall of 2017, this program trained approximately 30 artisans and roughly 100 Community Technical Volunteers (CTVs) per district in toilet construction and business and marketing. WASHPaLS also collected insights from 50 trained artisans in three districts during the inception phase of this study.

### 3.4 STUDY LOCATIONS

WASHPaLS established two criteria for selecting study districts: 1) areas where UNICEF Ghana was already implementing sanitation programs; and 2) districts that were not included in a concurrent sanitation subsidy program managed by CWSA. As a result, WASHPaLS selected two districts in Ghana's Northern Region, Tatale and Kpandai. Within Tatale and Kpandai districts, we only considered communities that 1) had received CLTS interventions implemented through District Assembly staff with support from UNICEF in 2012–2018, 2) had been declared and verified ODF between 2016–2018, and 3) had between 15–150 households according to UNICEF data. The research team then randomly selected 109 communities (79 in Tatale and 30 in Kpandai). The random selection of communities was conducted in the presence of district officials to ensure transparency.

### 3.5 STUDY POPULATION CHARACTERISTICS

At baseline, the average household size among study households was seven individuals. In Northern Ghana, it is common for two or more households to live in the same compound, characterized by a plot of land enclosed by a wall. The majority (64 percent) of households were part of a multi-household compound, with each compound comprising an average of 1.7 households. The primary occupation of household heads was agriculture. In terms of poverty, 26 percent of households were beneficiaries of Ghana's Livelihood Empowerment Against Poverty (LEAP) program (Box 1. Ghana's LEAP program). Nearly all homes were constructed with mud walls and corrugated zinc roofs. Results from the baseline survey revealed that the treatment and control groups were comparable (Table 1). Notably, rocky soil was found more commonly among communities in the control group, which might have meant that toilets were more difficult to (re)build in those locations. We accounted for this potential confounder in the final analysis.

**Table 1. Comparison of control and treatment communities at baseline**

|  | Control<br>(baseline) | Subsidy<br>(baseline) |
|--|-----------------------|-----------------------|
| <b>Community characteristics</b>                             |                       |                       |
| Number of communities  | 50                    | 59                    |
| Mean number of households per community (min, max)           | 51 (14-153)           | 52 (8-150)            |
| Community has internal conflicts                             | 2%                    | 10%                   |
| Community has a Village Savings and Loans Association (VSLA) | 42%                   | 32%                   |
| Community is enrolled in LEAP                                | 56%                   | 59%                   |
| <b>Groundwater depth</b>                                     |                       |                       |
| Less than 15 feet  | 23%                   | 31%                   |
| More than 15 feet  | 77%                   | 69%                   |
| <b>Soil type</b>   |                       |                       |
| Community has locations with sandy/unstable soil             | 80%                   | 85%                   |
| Community has locations with rocky soil                      | 42%                   | 24%                   |
| <b>Flooding</b>  |                       |                       |
| Annually   | 6%                    | 24%                   |
| Less than annually   | 6%                    | 10%                   |
| Never  | 88%                   | 66%                   |
| Mean distance to main road (min, max) (km)                   | 6 (0-20)              | 5 (0-21)              |
| Mean time since ODF verification (min, max) (months)         | 17 (4-32)             | 15 (3-31)             |
| <b>Sanctions for open defecation</b>                         |                       |                       |

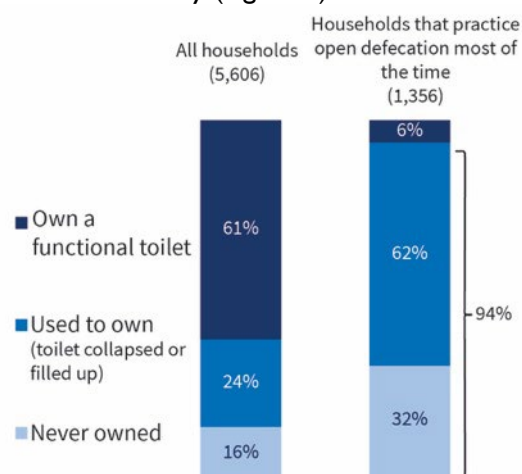
|  | Control<br>(baseline) | Subsidy<br>(baseline) |
|--|-----------------------|-----------------------|
| Community has a system of fines for open defecation                  | 82%                   | 88%                   |
| Community has applied fines in the past year                         | 58%                   | 58%                   |
| Community has volunteers trained on latrine construction (by UNICEF) | 46%                   | 43%                   |
| <b>Household characteristics</b>                                     |                       |                       |
| Number of households   | 2559                  | 3056                  |
| Mean number of household members (min, max)                          | 6.9 (1-39)            | 7.0 (1-53)            |
| Household is part of a multi-household compound                      | 62%                   | 65%                   |
| Mean number of households in compound (min, max)                     | 1.6 (1-12)            | 1.7 (1-10)            |
| <b>Gender of household head</b>                                      |                       |                       |
| Female   | 11%                   | 10%                   |
| Male   | 89%                   | 90%                   |
| Mean age of household head (min, max)                                | 41 (18-97)            | 41 (18-96)            |
| <b>Education level of household head</b>                             |                       |                       |
| No primary education   | 78%                   | 78%                   |
| Completed primary school   | 14%                   | 15%                   |
| Completed high school  | 6%                    | 5%                    |
| Completed post high school degree                                    | 2%                    | 2%                    |
| <b>Marital status of household head</b>                              |                       |                       |
| Married or in a union  | 87%                   | 87%                   |
| Single or separated  | 4%                    | 4%                    |
| Widowed  | 9%                    | 9%                    |
| <b>Primary occupation of household head</b>                          |                       |                       |
| No occupation  | 2%                    | 2%                    |
| Agriculture  | 94%                   | 93%                   |
| Other occupation   | 4%                    | 5%                    |
| <b>Head of household is vulnerable</b>                               |                       |                       |
| Single woman   | 9%                    | 9%                    |
| Elderly (65 years or older)  | 10%                   | 10%                   |
| Physically/mentally challenged                                       | 4%                    | 4%                    |
| Chronic illness  | 2%                    | 3%                    |
| Household has children under five of age                             | 69%                   | 71%                   |
| Household has children between five and fourteen years of age        | 80%                   | 79%                   |
| Household is a beneficiary of LEAP program                           | 23%                   | 29%                   |
| Mean number of rooms per household member (min, max)                 | 0.4 (0.1-3.7)         | 0.4 (0.1-2)           |
| <b>Main construction material for the dwelling walls</b>             |                       |                       |
| Mud or mud bricks  | 99.6%                 | 99.7%                 |
| Other  | 0.4%                  | 0.3%                  |
| <b>Main construction material for the dwelling roof</b>              |                       |                       |
| Zinc   | 91%                   | 91%                   |
| Other  | 9%                    | 9%                    |
| <b>Primary source of lighting</b>                                    |                       |                       |
| Electricity  | 26%                   | 29%                   |
| Solar light  | 6%                    | 4%                    |
| Flashlight   | 68%                   | 67%                   |
| Household owns livestock   | 76%                   | 81%                   |
| Household own mobile phone   | 69%                   | 72%                   |
| <b>Land for farming/pastoralism</b>                                  |                       |                       |
| Household owns land  | 85%                   | 88%                   |
| Household has access to land   | 14%                   | 11%                   |
| Household doesn't own or have access to land                         | 2%                    | 1%                    |
| <b>Wealth quintile</b>   |                       |                       |
| First quintile (poorest)   | 22%                   | 18%                   |



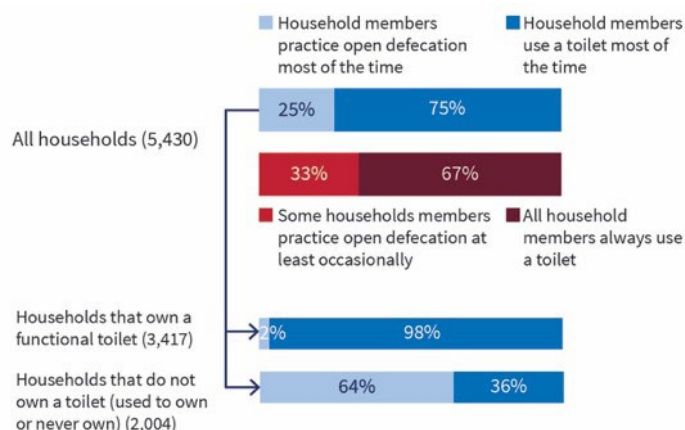
|   | Control<br>(baseline) | Subsidy<br>(baseline) |
|---|-----------------------|-----------------------|
| Second quintile                         | 22%                   | 19%                   |
| Third quintile                          | 20%                   | 20%                   |
| Fourth quintile                         | 19%                   | 21%                   |
| Fifth quintile (wealthiest)             | 17%                   | 22%                   |
| <b>Primary source of drinking water</b> |                       |                       |
| Piped water                             | 1%                    | 3%                    |
| Improved, non-piped                     | 80%                   | 72%                   |
| Unimproved                              | 3%                    | 1%                    |
| Surface water                           | 16%                   | 25%                   |

### 3.6 SANITATION CHARACTERISTICS AT BASELINE

Although all study communities had been verified ODF 3-32 months prior to our baseline survey, the majority had not maintained their ODF status by the time our study started. In three-quarters of communities, the proportion of households owning a functional toilet was below 80 percent, the threshold required to qualify for ODF status in Ghana. Of all households across the 109 study communities, 61 percent owned a functional toilet (Figure 2). An additional 24 percent reported that they had owned a toilet in the past but had not rebuilt one after it collapsed or filled up. On average, we estimated that toilet coverage had declined by approximately 12 pps annually in the period following ODF certification. Correspondingly, open defecation was not uncommon at baseline: 25 percent of households reported that their members practiced open defecation most of the time and 33 percent at least occasionally (Figure 3).



**Figure 2. Toilet ownership among surveyed households (data were missing for 9 out of 5,615).**



**Figure 3. Defecation practices among surveyed households (data were missing for 9 out of 5,615).**

It is important to note that toilet ownership generally translated into use (which is not always the case in ODF communities (Kendra, 2017; Odagiri et al., 2017)). The vast majority (98 percent) of households that owned a functional toilet also reported using it (Figure 3). Additionally, approximately a third (36 percent) of households that did not own a functional toilet reported using a neighbor's toilet (Figure 3). Open defecators were primarily households without a functional toilet (94 percent), either because theirs had collapsed or filled up (62 percent) or because they had never built one (32 percent) (Figure 2). Lack of toilet ownership was thus the primary cause of open defecation.

Toilet collapse was widespread and was the primary reason ODF status was not sustained. Most toilets were pit latrines with a platform made of wood and mud, walls made of mud, and no pit lining (Figure 4). Many toilets were thus not structurally durable as they were vulnerable to rains and strong winds.



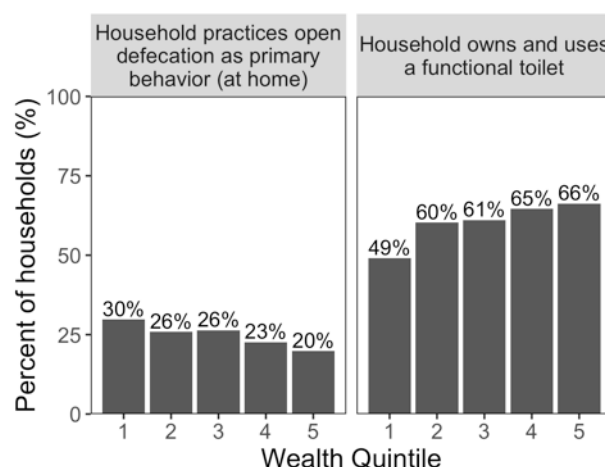
Among households that had built a toilet, approximately half had experienced toilet collapse. Those that owned a toilet previously but did not rebuild had largely reverted to open defecation, indicating that toilet collapse (and lack of rebuilding) was a primary barrier to ODF sustainability.

**Poorer households were the most likely to revert to open defecation (Figure 5).** Poorer households were less likely to own a functional toilet and less likely to rebuild their toilet if it collapsed or filled up. Poorer households were thus the most likely to revert to open defecation over time.

Additional information is available in Delaire et. al., 2022.



**Figure 4.** Typical latrine in the study area



**Figure 5.** Typical latrine in the study area Household defecation practices

## 4.0 IMPLEMENTATION OF THE TARGETED SUBSIDY INTERVENTION

### 4.1 TARGETED SUBSIDY OVERVIEW

Practitioners in the rural sanitation sector have utilized several approaches to design and implement targeted subsidies. Interventions differ in terms of the subsidy type, coverage, amount, targeting method, and timing. Prior to initiating this study, WASHPaLS conducted a thorough review of the characteristics of previous subsidy interventions and the lessons learned to date. These are described in detail in the [Inception Report](#). Ultimately, **every subsidy characteristic (type, targeting, coverage, timing, and amount) is a strategic decision that can only be made with the implementing partner for a specific context.**

For the scale-up of the Social Fund, UNICEF selected subsidy characteristics consistent with Ghana's National Pro-Poor Guidelines. WASHPaLS' recommendations were considered to determine the conditions for the results-based payment, as well as some other aspects of implementation.

**Table 2: UNICEF's Targeted Subsidy Intervention and National Pro-Poor Guidelines**

|                           | UNICEF's targeted subsidy   | National Pro-Poor Guidelines   |
|---------------------------|---|--|
| <b>Subsidy type</b>       | Voucher with artisan results-based payment (upon verification of substructure and superstructure by UNICEF staff).  | Not specified.   |
| <b>Timing</b>             | When a community has verified "ODF status" (minimum 80 percent latrine coverage).   | When a community reaches "ODF Basic" status (no visible feces).  |
| <b>Targeting method</b>   | Community consultation based on criteria consistent with LEAP and National Pro-Poor Guidelines.   | <ul style="list-style-type: none"> <li>• LEAP beneficiaries.</li> <li>• Other vulnerable households (female-headed, widow(er), outcast groups, terminally ill, unemployed) without support.</li> <li>• Entire community if difficult terrain.</li> </ul> |
| <b>Subsidy coverage</b>   | Not constrained. As determined by community consultation. Ended up being 18 percent on average in our study communities, but with a range from 3 percent to 37 percent (and one outlier at 88 percent).   | Not specified.   |
| <b>Latrine technology</b> | Three dry, lined pit latrine options <ol style="list-style-type: none"> <li>1. Digni-Loo</li> <li>2. Pre-cast concrete rings and slab</li> <li>3. Concrete slab + masonry lining</li> </ol>   | <ul style="list-style-type: none"> <li>• Improved pit latrine</li> <li>• Digni-Loo</li> <li>• Pour-flush toilet</li> <li>• Aqua-privy toilet</li> <li>• Biodigester</li> </ul>   |
| <b>Subsidy amount</b>     | Full subsidy on substructure (slab, pit lining, ventilation pipe): <ul style="list-style-type: none"> <li>• 103-135 USD depending on toilet option, district, and distance to town.</li> <li>• Beneficiary contribution: excavation of the pit and construction of superstructure.</li> </ul> | Not specified. Guidelines are flexible on what the subsidy can cover (materials for substructure and/or superstructure, labor, toilet products, tools).  |

|                               | UNICEF's targeted subsidy   | National Pro-Poor Guidelines   |
|-------------------------------|---|--|
| <b>Implementation process</b> | <ul style="list-style-type: none"> <li>• Community meeting to sensitize on importance of durable substructures.</li> <li>• Beneficiary identification by District Assemblies in consultation with the community.</li> <li>• Beneficiaries receive a voucher that can be redeemed with identified artisans/suppliers.</li> <li>• District Assemblies verify toilet construction.</li> <li>• Financial institutions (contracted by UNICEF) pay artisans (for labor and transport) and suppliers (for materials).</li> </ul> | <ul style="list-style-type: none"> <li>• Beneficiary identification by District Assemblies in consultation with the community.</li> <li>• User education on sustainability of sanitary facilities.</li> <li>• Involve Natural Leaders.</li> <li>• Combine targeted subsidy with post-ODF action plan.</li> </ul> |

## 4.2 BENEFICIARY IDENTIFICATION

### 4.2.1 GUIDING PRINCIPLES

In collaboration with UNICEF and the Tatala District Assembly (DA), WASHPaLS developed a protocol to identify the most vulnerable households in study communities. We did not directly rely on the government's LEAP program (Box 1) because it had not yet been rolled out in 39 percent of our study communities. Our protocol adhered to the following guiding principles:

1. The protocol applied to all ODF communities, whether or not they were included in the LEAP program.
2. The protocol followed the principles of the LEAP program and the Pro-Poor Guidelines (Ministry of Employment and Social Welfare, 2012). For reference:
  - a. LEAP targets households that are extremely poor AND have a vulnerable member (elderly over 65 years of age, a person with severe disability and no productive capacity, an orphan or vulnerable child).
  - b. The Pro-Poor Guidelines introduce other types of vulnerabilities, such as female heads-of-household, widows/widowers, marginalized groups, and terminally ill persons without support from relatives.
3. The protocol provided a list of clear and well-defined steps for identifying eligible households, easily reproducible by field facilitators.
4. The protocol adopted the philosophy of "Participatory Learning and Action" (PLA) (Coghlan, D., & Brydon-Miller, M., 2014), an approach in which community members analyze their own situation and make decisions to tackle their problems.

### **Box 1. GHANA'S LIVELIHOOD EMPOWERMENT AGAINST POVERTY (LEAP) PROGRAM**

#### **LEAP: Ghana's national poverty identification tool**

The Livelihood Empowerment Against Poverty (LEAP) program is a social cash transfer program administered by GOG since 2008. The program targets households meeting two criteria: i) they should be extremely poor according to a national proxy-means test (PMT); and ii) have a vulnerable member (older than 65, person with disability, orphan or “vulnerable” child) (Ministry of Employment and Social Welfare 2012). LEAP is regarded as a relatively effective poverty targeting tool: the latest evaluation of the LEAP program found that 91 percent of beneficiaries are under the poverty line, and 67 percent are under the extreme poverty line (defined as a consumption per adult equivalent of 268 USD and 162 USD per year, respectively) (Ministry of Gender, Children and Social Protection, 2016).

Registering beneficiaries in the LEAP program requires, first, a community consultation to pre-screen households meeting vulnerability criteria, followed by a survey of pre-selected households to conduct a PMT (Ministry of Employment and Social Welfare 2012). Within enrolled communities, the coverage of LEAP is variable: according to our formative research in the Northern Region, it ranged between 5 percent and 61 percent of households (33 percent on average).

Because LEAP did not cover all communities in our study region at the time of implementation, we did not use it as our tool to identify beneficiaries for the study.

#### **4.2.2 OPERATIONAL DEFINITION OF POVERTY**

LEAP defines “extreme poverty” using a national PMT. However, we did not have access to the threshold PMT score under which a household is considered to be “extremely poor.” It is also important to note that this threshold is defined nationally. Because the Northern Region is significantly poorer than the rest of the country (e.g., the prevalence of extreme poverty as defined by the Ghana Living Standards Survey is 2.7 times higher than the national prevalence), it is likely that a large proportion of rural households in the Northern Region fall below LEAP's national PMT threshold.

We therefore needed an operational definition of “extreme poverty” applicable to the study area. Through consultations with the District Environmental Health Officer (DEHO) and the UNICEF District Resource Person (DRP), we defined “extreme poverty” to refer to households that either were not able to feed themselves all year round or included a “vulnerable” member (e.g., elderly person, person with a severe disability or chronic illness resulting in inability to farm or work, widow, or orphan/child-household head) and received no support from relatives. We then validated this operational definition through a pilot community consultation in Tatale district (in a non-study community), which convened approximately 30 community members, including a mix of men and women.

#### **4.2.3 APPROACH**

Our protocol relied on a guided community consultation to identify households meeting the above criteria. This approach remained in the spirit of the LEAP protocol, which encourages community consultation to validate the households identified through the PMT. In each community, the procedure was carried out over the course of two days by two District Assembly field facilitators who conducted community entry, led the consultation process to identify potential beneficiaries, and verified household eligibility using an electronic questionnaire. The step-by-step protocol in Appendices 2 and 3 outline how we proceeded. This activity took place in September 2019 in Tatale district and in January 2020 in Kpandai district.

#### 4.2.4 IMPLEMENTATION

District Assembly facilitators applied the protocol in all 109 study communities, ranging in size from 15 to 150 households. In “treatment” communities, which totaled 3,075 households, the community consultation process designated 508 households (17 percent) as “poor and vulnerable.” After reviewing the electronic verification questionnaires, the research team confirmed that 444 households (14 percent) were eligible for the targeted subsidy; 64 households were ineligible for the targeted subsidy because:

- 21 households did not actually qualify as “poor and vulnerable,” i.e., the follow-up household visit revealed that they were able to feed themselves all year round and had no vulnerable person (widow, elderly, person with severe disability/chronic illness, or orphan) without support from relatives.
- 13 households already owned a toilet with a durable substructure (slab and pit lining).
- 30 households were part of a compound that had another eligible household.

The proportion of eligible households varied from 3 percent to 37 percent across treatment communities (except one outlier at 88 percent), with a mean of 18 percent and a median of 15 percent. These proportions were comparable in control communities.

The community consultation process was typically led by two District Assembly field facilitators with the support of two WASHPaLS field staff. The duration of the community consultation ranged from approximately 0.5 to 2.5 hours. In 33 percent of communities, the consultation had good attendance, defined as having more than 40 percent of households represented (as estimated by WASHPaLS field staff); 47 percent of communities had a balanced ratio of men to women in attendance, 30 percent had a majority of men, and 23 percent had a majority of women. The community meeting was attended by 57 adults on average. Children were also present as observers, in some cases in larger numbers than adults. 96 percent of communities had at least one vulnerable person (elderly or physically/mentally challenged or chronically ill person) in attendance. 21 percent of communities had disagreements over the definition of a poor person or the identification of poor community members, but most of them resolved these disagreements by the end of the meeting. Even when available for a given community, District Assembly field facilitators typically did not consult the LEAP list. In some cases, this was because the Social Welfare Officer had not given them the list; in other cases, the list combined LEAP beneficiaries from several communities and was therefore not convenient to use in the field. After community consultation, District Assembly field facilitators conducted a follow-up survey with designated households, which required an average of 13 min per survey.

More details on the challenges met during implementation can be found in Box 2.

#### 4.2.5 COMMUNITY PERCEPTIONS OF THE IDENTIFICATION PROCESS

The research team conducted 37 interviews among eligible households, ineligible households, and community leaders to hear their perspectives and any changes they would recommend. Both eligible and ineligible households reported appreciation of the program for supporting poor and vulnerable households, and most felt that the selection process was fair. Still, a few believed that some households in need of support were left out or that more should have benefitted. This may be because a facilitator failed to visit all households mentioned during the community consultation. In some cases, facilitators had to navigate disagreements during beneficiary identification.

## 4.3 CHARACTERISTICS OF ELIGIBLE HOUSEHOLDS

### 4.3.1 SOCIO-ECONOMIC CHARACTERISTICS OF ELIGIBLE AND INELIGIBLE HOUSEHOLDS.

To evaluate the performance of the identification process, our research team compared the socio-economic characteristics of eligible and ineligible households. Households determined to be eligible for the targeted subsidy displayed more characteristics indicative of socio-economic vulnerability than households determined to be ineligible (Table 3). Eligible households were more frequently headed by a woman (26 percent vs. 8 percent among ineligible households) or a person with no primary education (87 percent vs. 76 percent), more likely to exhibit a vulnerability such as old age, disability, or severe chronic illness (32 percent vs. 11 percent), and more likely to have no occupation (6 percent vs. 1 percent). They were also more likely to include other members with a vulnerability (60 percent vs. 31 percent), own no farmland or cattle (8 percent vs. 4 percent), and belong to the bottom two wealth quintiles based on an asset index (53 percent vs. 34 percent). Eligible households were also more likely to have multiple vulnerability factors (80 percent vs. 49 percent) (Table 3). Overall, these statistics validate that eligible households were poorer and more vulnerable than the rest of the community. A smaller proportion of ineligible households did still exhibit vulnerabilities but were classified as ineligible because they were able to feed themselves all year round, were receiving external support from relatives, already owned a durable toilet, or had another eligible household in their compound.

**Table 3. Characteristics of eligible households, ineligible households, and LEAP recipients**

|  | In 59 treatment communities <sup>1</sup> |                                | In 37 LEAP-enrolled treatment communities <sup>2</sup> |                         |
|--|--|--------------------------------|--|-------------------------|
|  | Eligible households (n=433)              | Ineligible households (n=2623) | Eligible households (n=279)                            | LEAP recipients (n=866) |
| <b>SOCIO-ECONOMIC CHARACTERISTICS</b>  |  |                                |  |                         |
| Female household head  | 26%                                      | 8%                             | 28%  | 9%                      |
| Household head with no primary education                                     | 87%                                      | 76%                            | 84%  | 80%                     |
| Household head with vulnerability <sup>3</sup>                               | 32%                                      | 11%                            | 32%  | 18%                     |
| Household head with no occupation  | 6%                                       | 1%                             | 5%   | 2%                      |
| Household member with vulnerability <sup>3</sup>                             | 60%                                      | 31%                            | 59%  | 46%                     |
| Household doesn't own farmland or cattle                                     | 8%                                       | 4%                             | 9%   | 4%                      |
| Household belongs to the bottom two wealth quintiles based on an asset index | 53%                                      | 34%                            | 54%  | 37%                     |
| Household has at least two of the above vulnerability factors                | 80%                                      | 49%                            | 79%  | 59%                     |
| Household has a recipient of the LEAP program <sup>4</sup>                   | 57%                                      | 42%                            | 57%  | 100%                    |
| <b>SANITATION CHARACTERISTICS</b>  |  |                                |  |                         |
| Reported practicing open defecation as primary practice                      | 24%                                      | 25%                            | 24%  | 18%                     |
| Does not own or co-own a functional toilet <sup>5</sup>                      | 42%                                      | 37%                            | 43%  | 32%                     |
| Owns or co-owns a functional toilet that is not durable                      | 58%                                      | 60%                            | 57%  | 67%                     |
| Owns or co-owns a durable toilet <sup>6</sup>                                | 0%                                       | 3%                             | 0%   | 1%                      |

<sup>1</sup> The 59 treatment communities had a total of 3075 households. Out of those, we had socio-economic data for 3056 (433 eligible and 2623 ineligible households).

<sup>2</sup> The 37 LEAP-enrolled treatment communities had a total of 1946 households. Of those, 279 (14%) were eligible for the subsidy and 866 (45%) were LEAP recipients.

<sup>3</sup> Elderly, physical/mental disability, or severe chronic illness.

<sup>4</sup> Computed in the 37 treatment communities that were enrolled in LEAP.

<sup>5</sup> A functional toilet has some form of superstructure and a pit that is not full or collapsed.

<sup>6</sup> A durable toilet is a functional toilet with a concrete or plastic slab and a pit lined with bricks, rocks, concrete, or plastic.

### 4.3.2 SANITATION CHARACTERISTICS OF ELIGIBLE AND INELIGIBLE HOUSEHOLDS.

It is important to note that baseline sanitation characteristics of eligible households were comparable to those of ineligible households. Similar proportions reported practicing open defecation (24 percent vs. 25 percent) and did not own a functional toilet, defined as a pit that is not collapsed and/or full, and with some form of superstructure (42 percent vs. 37 percent) (Table 3). These results suggest that identifying the poorest and most vulnerable households is not equivalent to identifying households that lack a functional toilet or practice open defecation. Nevertheless, prior research suggests that the poor and vulnerable are less likely to build, repair, or upgrade their toilets over time (Crocker, Saywell, and Bartram, 2017; Odagiri et al. 2017; Robinson and Gnilo, 2016a).

### 4.3.3 COMPARISON WITH LEAP

In the subset of 37 treatment communities enrolled in the LEAP program, the community consultation process was more selective than LEAP, identifying a smaller proportion of households as poor and vulnerable (14 percent, as compared to 45 percent for LEAP). Involving community members in the process may result in a smaller proportion of selected households due to a desire to avoid tensions within the community, selecting only the most vulnerable to ensure broad agreement. Community consultation may also reveal a different understanding of local poverty not captured by national metrics or other approaches. LEAP uses observable household characteristics as a proxy to determine a national threshold for “extreme poverty” (a PMT). In poorer regions (such as the Northern Region), a large proportion of rural households are expected to fall under this national threshold. Furthermore, households identified as eligible via community consultation met more indicators of socio-economic vulnerability than LEAP recipients (Table 3). Importantly, community consultation identified households that LEAP failed to identify (i.e., community consultation did not simply result in a subset of LEAP recipients): 43 percent of households declared eligible via community consultation were *not* LEAP recipients. Given these differences, it is possible that community consultation may better reflect current poverty levels.

## 4.4 VOUCHER ADMINISTRATION

### 4.4.1 STRATEGIC ELEMENTS

WASHPaLS worked with UNICEF Ghana to define a strategy to implement the targeted sanitation subsidy (also referred to as the “Social Fund”) through vouchers. This strategy included the following elements:

1. **Partial subsidy** in the form of a durable toilet substructure (pit lining, durable slab, and ventilation pipe). Beneficiaries were responsible for digging the pit and building the superstructure, either themselves or with help from other community members;
2. **Market-based approach** relying on existing material suppliers and artisans. Voucher recipients communicated directly with artisans if and when they wished to redeem their vouchers. In turn, artisans communicated directly with material suppliers to obtain construction materials;
3. **Freedom of choice** with respect to the type of toilet. Voucher recipients each received a voucher displaying three toilet options (Figure 6): masonry (a poured concrete slab and a pit lined with cement blocks), pre-cast (a molded concrete slab and a pit lined with moulded concrete rings), and Global Communities’ Digni-Loo (plastic rings for lining and a plastic slab);
4. **Performance-based payment system**, in which an artisan was not paid in full until the entire toilet was complete, including the superstructure;
5. Functioning as **a component of a more comprehensive post-ODF intervention**. In addition to distributing vouchers, District Assembly field facilitators were instructed to address the entire



community and emphasize the ultimate goal of regaining or maintaining ODF status. Artisans were expected to distribute marketing fliers with their contact number to all community members.

**Figure 4. A Three-Part Voucher Displaying the 3 Toilet Options.**

#### 4.1.2 VOUCHER DISTRIBUTION

District Assembly field facilitators distributed vouchers to eligible households using the protocol described in Appendices 4 and 5. Vouchers were valid for a period of three months.

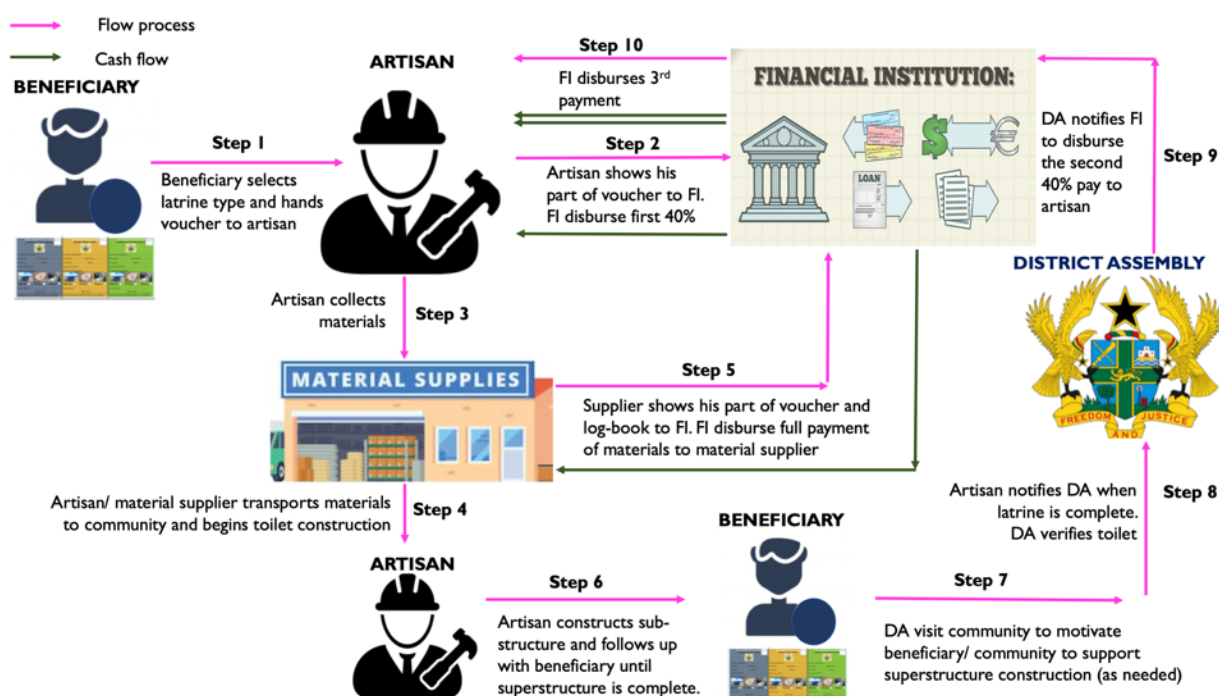
#### 4.1.3 PROCESS FOR VOUCHER REDEMPTION AND QUALITY CONTROL

The process for redeeming vouchers and completing subsidized toilets involved several actors:

- **Beneficiaries:** voucher recipients, who were responsible for redeeming their vouchers and ensuring that the pit was dug and the superstructure built.
- **Artisans:** UNICEF trained 49 artisans in the two districts. Artisans also received instructions regarding toilet quality standards. These included: i) siting: toilet located more than 30 meters from a water source (or 50 meters if the water source was uphill of the toilet), and ii) superstructure: having a ventilation pipe, an elevated slab or elevated doorstep, four full-height walls (or round walls), and a roof.
- **Material Suppliers:** these included seven hardware stores and two retailers of Digni-Loos across the two districts. They were engaged by UNICEF and WASHPaLS and requested a contract to provide proof they would be paid. Most of them had worked with the District Assemblies previously. There were initially no Digni-Loo retailers in the two study districts. Our process for establishing these retailers is described in **Appendix 11**.
- **Financial Institutions (FIs):** UNICEF contracted two FIs, Vision Fund and Baobab, to manage payments to artisans and material suppliers. FIs established formal contracts with artisans and material suppliers, whose terms are summarized in **Appendix 10**.
- **District Assemblies:** The DEHO was responsible for dispatching field facilitators to conduct follow-up visits to encourage community members to support beneficiary households in building toilet superstructures. The DEHO and the District Engineer were responsible for verifying that toilets met quality standards.



The protocol for voucher redemption is depicted in Figure 7.



**Figure 5. Flow Chart Representing how the Different Actors Interacted for Voucher Redemption (Steps 1 to 10 Described Below)**

1. The beneficiary selected the toilet type of his/her choice and met with an artisan. The beneficiary handed over the two parts of the voucher intended for the artisan and the material supplier.<sup>4</sup>
2. The artisan showed the voucher and a filled-out paper logbook to the FI. He received from the financial institution (FI) a 40 percent down-payment (8-14 USD depending on the toilet type) for laborers, food, and transport. The FI filled an online tracker documenting that the transaction was made.
3. After confirming that the beneficiary had begun pit excavation, the artisan visited a material supplier to collect construction materials as per the bills of quantities for each type of toilet (**Appendix 7**). The artisan handed over the corresponding part of the voucher to the supplier, who then filled a paper logbook.
4. The artisan/material supplier transported construction materials to the community and began toilet construction. The artisan was expected to begin construction within 48 hours.
5. The material supplier showed the voucher and the filled-out paper logbook to the FI. The FI verified that the materials had arrived in the beneficiary's community by making a phone call (to the beneficiary or the community's Natural Leader), and then paid the material supplier. The FI filled an online tracker documenting that the transaction was made.
6. The artisan constructed the toilet substructure and followed up with the beneficiary (in person) until the superstructure was complete. In some cases, the artisan volunteered to provide support for the superstructure construction.

<sup>4</sup> We initially thought that voucher recipients would call the artisan of their choice using the contact details provided on the marketing flyer (**Appendix 6**), but in practice artisans followed up with voucher recipients on their own initiative and encouraged them to redeem their vouchers.

7. District Assembly field facilitators visited the community to motivate the beneficiary and community members to support superstructure construction (as needed).
8. The artisan notified the DEHO when the toilet was completed. The DEHO and the District Engineer conducted an in-person quality check of the toilet and filled an electronic survey (**Appendix 8**).
9. The DEHO notified the FI to disburse the second 40 percent payment to the artisan. The FI filled an online tracker documenting that the transaction was made.
10. The FI disbursed the final 20 percent payment two months later if the beneficiary reported no defects. The FI filled an online tracker documenting that the transaction was made.

#### 4.1.4 VOUCHER DISTRIBUTION

Vouchers were distributed from February to March 2020. Table 4 presents process indicators on voucher distribution. We note a number of departures from the initial protocol: artisans were present during voucher distribution in only 47 percent of communities, and not all communities received marketing flyers. Additionally, due to financial management and administrative issues in one district, the District Assembly did not have sufficient funds to hire field facilitators fluent in the local language who had received training from WASHPaLS. Instead, voucher distribution was done by District Assembly staff not fluent in the local language, with extensive support from the WASHPaLS research team (See Section 4.1.5 for additional details on the role played by WASHPaLS during implementation). In total, 441 vouchers were distributed. Originally 444 households were identified as eligible, but vulnerable members in two households passed away, and a vulnerable member in one household combined households in with another eligible household.

**Table 4. Summary Statistics on the Voucher Distribution Process**

| Community Characteristics   | %   |
|---|-----|
| % communities where artisan was present <sup>a</sup>                                    | 47% |
| % communities where flyers were distributed <sup>b</sup>                                | 90% |
| <b>Attendance<sup>1,2</sup></b>   |     |
| % communities with very good attendance (>40% of people)                                | 47% |
| % communities with good attendance (20% to 40% of people)                               | 25% |
| % communities with poor attendance (<20% of people)                                     | 27% |
| % communities with District Assembly facilitators fluent in local language <sup>1</sup> | 44% |

<sup>a</sup> Number of communities missing data: 6 (artisan present), 9 (flyers distributed), 6 (attendance), 6 (District Assembly facilitators fluent in local language), and 6 (facilitators ALL trained).

<sup>b</sup> Attendance is reported from qualitative observations conducted by WASHPaLS Field Researchers who attended the voucher distribution meeting in the 61 communities.

#### 4.1.5 VOUCHER REDEMPTION

All 441 vouchers were redeemed. On average, they did so within one month after receiving the voucher. However, it took 3.6 months for all voucher recipients to redeem their vouchers. Table 5 summarizes voucher redemption.

**Table 5. Summary Statistics on Voucher Redemption**

| <b>Voucher Redemption Characteristics</b>                         | <b># or %</b> |
|---|---------------|
| Total number of voucher recipients                                | 441           |
| <b>Total number of vouchers redeemed</b>                          | 441           |
| Digni-Loo   | 127           |
| Pre-Cast  | 156           |
| Masonry   | 158           |
| Time to redeem all vouchers (months)                              | 3.6           |
| % of toilets having passed verification                           | 98%           |
| % of second artisan payments issued                               | 97%           |
| % of third artisan payments issued                                | 95%           |
| % toilets that exceeded construction timeline imposed by contract | 25%           |

After receiving a voucher, it took artisans an average of one month to receive their down-payment, collect materials, and complete the substructure. Artisans constructed a majority (75 percent) of toilets within the timeline imposed by their contract.

UNICEF Social Fund support covered the substructure costs, while the beneficiary household was responsible for digging the pit and building the toilet superstructure. This meant that beneficiaries who were physically challenged or elderly depended on community members and relatives to dig the pit and build the superstructure. Some respondents noted that no compensation was given to community members who helped beneficiary households with toilet construction, and this was a possible factor in slow construction of toilets. Beneficiaries were also worried that the vouchers were distributed at a time when there was no thatch for the roofs. This is because communities typically burn excess grass around January, while vouchers were distributed in February. In the end, most households were able to address this difficulty, most commonly by going to a river to collect thatch for the roof. For future programs, however, community members recommended conducting voucher distribution and toilet construction before the end of the year. See Box 2 for more details on implementation challenges.

#### **4.1.6 TOILET VERIFICATION**

District Assemblies conducted a minimum of two follow-up visits per community to encourage beneficiaries and community members to build superstructures on their installed facilities. Overall, it took 21 days of verification visits over four months in Kpandai to verify that all toilets met quality standards, and 48 days over fourteen months in Tatale. Three percent of toilets failed verification during the first visit because:

- Pit lining was still under construction: four toilets (in these cases, engineers conducted verification visits before the artisan had completed work on the substructure).
- There was no ventilation pipe: four toilets.
- The roof was incomplete: four toilets.
- The slab/doorstep was not elevated: two toilets (for these toilets, the artisan was asked to come back and install an elevated doorstep to prevent storm water runoff from flooding the toilet).
- The walls were incomplete: one toilet.

These toilets eventually passed verification after the artisan made rectifications.

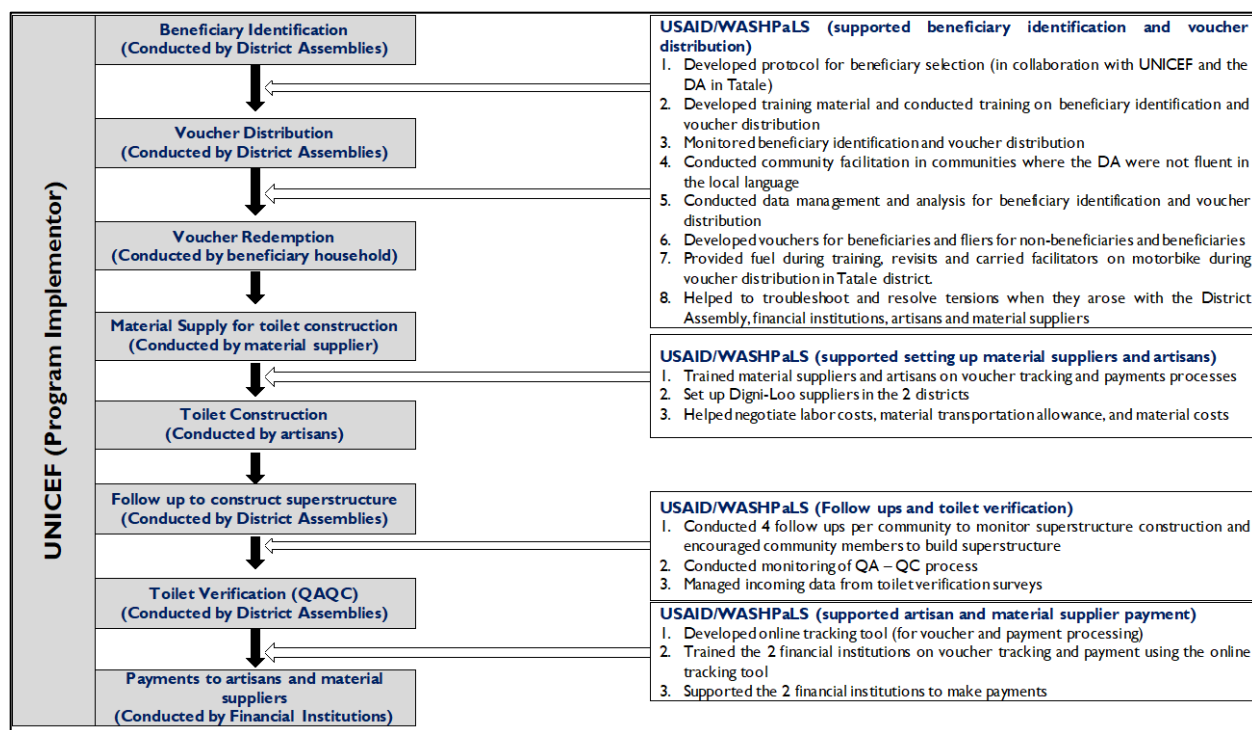
## **Box 2: Key Implementation Challenges for Subsidy Implementation**

### **Key Implementation Challenges**

- *Community disagreements:* In some communities, disagreements occurred over the definition or identification of poor and vulnerable community members, but in the majority of cases participants resolved these disagreements and reached consensus by the end of the consultation. In only two of the 61 communities, the DA facilitator had to end the meeting because participants could not reach consensus.
- *Poor community entry:* In less than one-quarter of communities, DA field facilitators had not visited the chief ahead of time to schedule the consultation meeting, which resulted in low attendance. To avoid this, DA field facilitators should visit the community leadership in person or, if that is not possible, speak with the chief by phone and follow up with local leaders to ensure that community members are informed of the meeting.
- *Inadequate capacity and allocation of field facilitators:* In one-quarter of communities, DA field facilitators were not fluent in the local language. Field facilitators assigned to one sixth of communities had not received training. In these cases, WASHPaLS research staff had to facilitate the community consultation.
- *Unavailability of funds for DA field facilitators.* Lack of funds to purchase fuel for motorbikes and data necessary to send electronic survey forms resulted in delays. Additionally, the DA reallocated funds for follow-up and verification visits to other programs. This meant that only WASHPaLS staff were conducting follow-ups at the beginning, which further delayed implementation.
- *Difficult access and rains:* Flooded roads made some communities difficult to access. As a result, meetings often had to be rescheduled, leading to poor attendance and additional transport costs. Sporadic rains also eroded pits that beneficiaries had dug, increasing pit dimensions and delaying toilet construction.
- *Transportation to communities:* Artisans felt that the original transportation allowance provided to artisans was insufficient for bringing materials to communities. This required negotiations and resulted in delays to implementation.
- *Insufficient number of molds for the pre-cast toilet type.* There was only one set of rings for molding the pre-cast toilet model in each district, which delayed pre-cast toilet construction.
- *Supply chain disruption due to the COVID-19 pandemic.* Government lock-down disrupted material supply chains for almost two months in March-April 2020 to slow the spread of COVID-19. As a result, some artisans decided to build Digni-loo toilets (which require less cement), including for beneficiaries who requested other designs. In Tatale, the cost of Digni-Loos increased during lock-down. UNICEF and Vision Fund had to increase the amount paid to the Digni-loo supplier as a result.
- *Artisan and material supplier payment.* Financial institutions often delayed payments either due to internal checks (i.e., when transaction paperwork had errors or lacked a signature) or because the financial institution had not allocated sufficient staff to this activity.

### **4.1.7 ROLE PLAYED BY WASHPaLS**

As noted above, USAID WASHPaLS played a critical role in supporting the District Assembly staff when there were capacity gaps (Figure 8). This highlights the need for sufficient capacity and training for all actors in future implementation of subsidy programs.



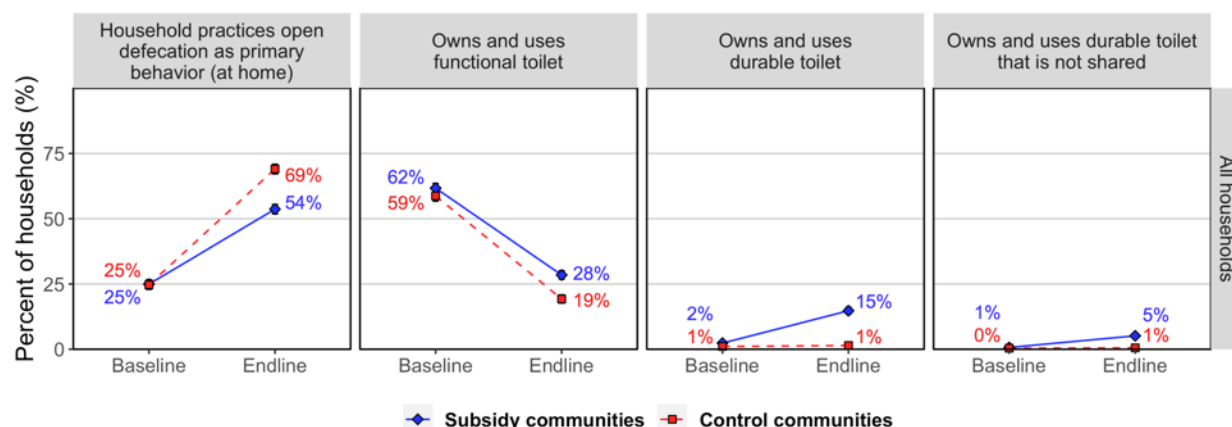
**Figure 6. Role of WASHPaLS in Implementation**

## 5.0 SUBSIDY EFFECTS

Overall, during endline data collection, enumerators were able to re-survey 96 percent of baseline households, the remainder being unavailable or having moved away. Additionally, we found that the number of households in study communities had increased by 8 percent, due to new arrivals or former households splitting in two.

Across all study communities, **sanitation conditions deteriorated substantially in the 17-24 months from baseline to endline, with increased rates of open defecation and lower levels of toilet coverage** (Figure 9). From baseline to endline, households in the control communities that reported practicing open defecation as their primary behavior at home (“primary open defecation”) increased by 44 pps, from 25 percent to 69 percent. Those owning and using a functional toilet declined by 40 pps, from 59 percent to 19 percent. These declines were primarily due to toilet collapse. Of those who owned a functional toilet at baseline but no longer did at endline, 95 percent reported that their substructure or superstructure had collapsed.

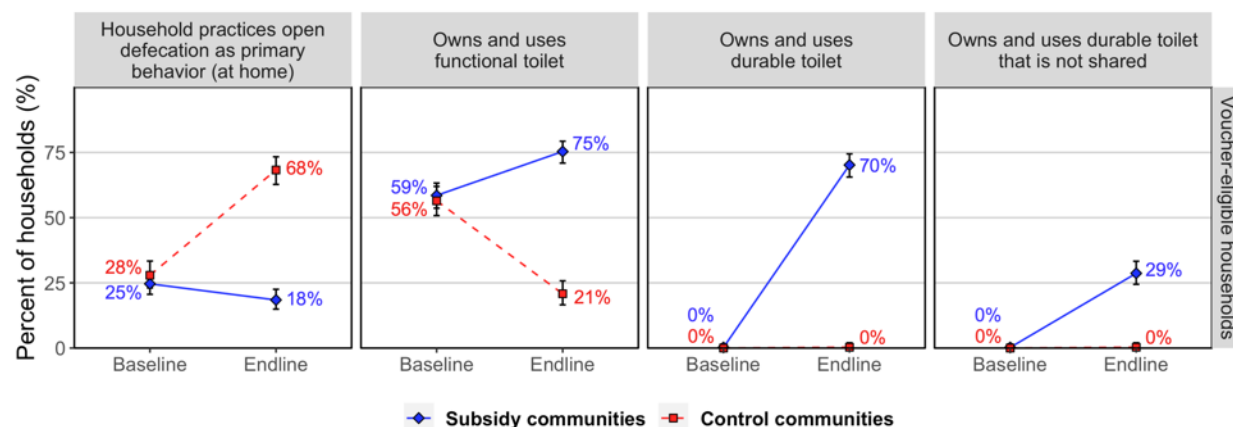
**However, the subsidy program attenuated this deterioration to some degree.** In treatment communities, primary open defecation increased by 29 pps, from 25 percent to 54 percent, while functional toilet ownership and use declined by 34 pps, from 62 percent to 28 percent.



**Figure 9. Sanitation outcomes across all households in subsidy (treatment) and control communities at baseline and endline.** Note that the third panel is a subset of the second, and the fourth panel is a subset of the third. In the fourth panel, “not shared” signifies that the toilet is not used by any other households, including compound neighbors. This panel is intended to provide insight into the degree to which households share durable toilets and is not meant to imply that shared facilities are necessarily less effective than non-shared facilities. Error bars represent 95% confidence intervals of the proportions shown. For points without visible error bars, confidence intervals do not extend beyond the point symbol shown on the plot.

Much of the subsidy program’s attenuating effects resulted from **substantial improvements among voucher-eligible households**. In subsidy communities, 14 percent of households were identified as voucher eligible. Those households saw positive impacts despite the overall decline in sanitation conditions (Figure 10), and most of the toilets these households owned and used relied on durable substructures (made possible by the vouchers) and full superstructures (paid for by the household or other community members). Though all vouchers were redeemed, the research team found discrepancies between voucher-eligible households (identified during program implementation) and households that actually reported receiving vouchers during endline surveys. In total, 15 percent of voucher-eligible households reported not receiving a voucher. In most of these cases, vouchers still went to the correct compounds (a non-eligible household may have received the voucher on behalf of

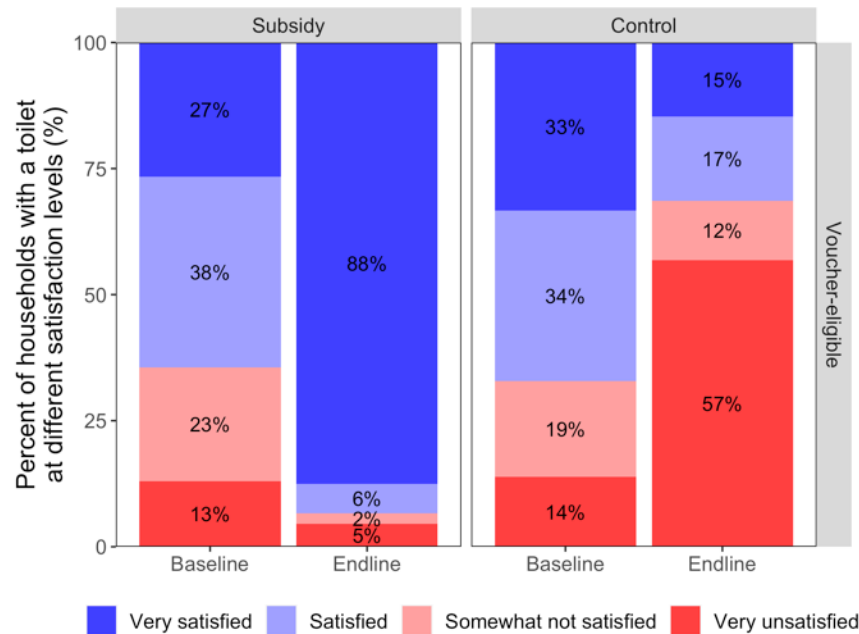
an eligible household). Of the remaining households, some had received vouchers but gave them away (e.g., because the vulnerable person listed on the voucher had passed away). An additional 8 percent of voucher-eligible households in subsidy communities had received vouchers and installed durable toilets but were not yet using them at endline.



**Figure 10. Sanitation outcomes among voucher-eligible households in subsidy and control communities at baseline and endline.** Note that the third panel is a subset of the second, and the fourth panel is a subset of the third. Error bars represent 95% confidence intervals of the proportions shown. For points without visible error bars, confidence intervals do not extend beyond the point symbol shown on the plot.

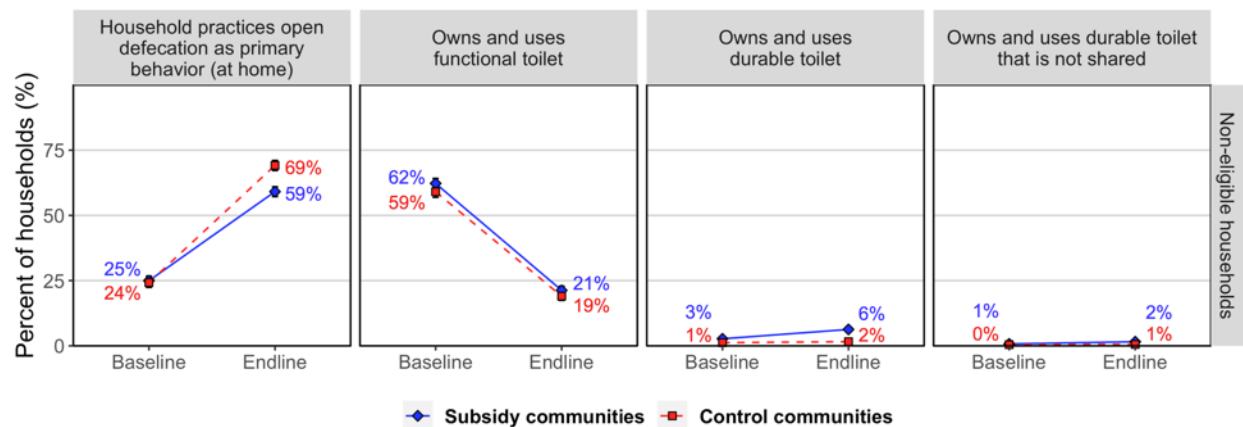
Often, voucher-eligible households owning and using functional or durable toilets shared them with others (typically two to three households shared a toilet), but 29 percent of voucher-eligible households in subsidy communities owned their own durable toilet that was not used by any other household. Additionally, nearly all (94 percent) of voucher-eligible households in subsidy communities reported being “satisfied” or “very satisfied” with their toilet facilities at endline, compared with only 32 percent of voucher-eligible households in control communities (Figure 11). Of the few households who had received vouchers and were also very unsatisfied with their toilet, most cited that they wanted to upgrade the superstructure walls (which were not part of the durable substructure subsidy).





**Figure 11. Satisfaction with Toilet Facility Among Voucher-Eligible Households. Percentages may not sum exactly to 100% due to rounding.**

Non-eligible households in subsidy communities also saw some benefits from the program, which dampened the rise in open defecation and slightly increased durable toilet ownership and use (Figure 12). Much of this effect on open defecation resulted from **sharing of a subsidized toilet in the same compound**. These non-eligible households typically did not own the subsidized facilities they were using but were benefitting due to their close associations with others in their compound. In-compound sharing is a common practice in the region, with households in the same compound often being related. Only a small number of non-eligible households (~20) in subsidy communities had installed their own durable toilets, suggesting limited spillover effects beyond in-compound sharing of subsidized toilets.



**Figure 12. Sanitation outcomes among households not eligible for a voucher in subsidy and control communities at baseline and endline.** Note that the third panel is a subset of the second, and the fourth panel is a subset of the third. Error bars represent 95% confidence intervals of the proportions shown. For points without visible error bars, confidence intervals do not extend beyond the point symbol shown on the plot.



## 6.0 PROGRAM COSTS

### 6.1 SUBSIDY AMOUNT

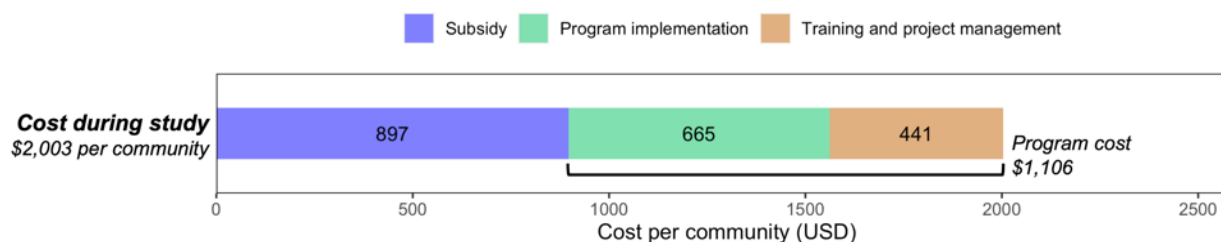
UNICEF had initially budgeted a subsidy amount of 121 USD (700 Ghanaian Cedi Currency Code [GHS]) per toilet. The subsidy covered the substructure only (pit lining, durable slab, and ventilation pipe). In practice, the subsidy amounted to 103-118 USD for Digni-Loo, 111-118 USD for pre-cast, and 131-135 USD for masonry substructures (Table 9). Overall, the average subsidy amount was 120 USD (690 GHS) per toilet, consistent with the initial budget (Table 6).

**Table 6. Subsidy Amount per Toilet (Exchange Rate: 1 USD=5.75 GHS as of 06/29/2020)**

|                    | Total  |            |
|--------------------|--------|------------|
|                    | Number | Cost (USD) |
| Digni-Loo          | 127    | 111        |
| Pre-cast           | 156    | 115        |
| Masonry            | 158    | 133        |
| All types combined | 441    | 120        |

### 6.2 IMPLEMENTATION COSTS

The costs of training, implementing, and managing the subsidy program (averaging 1,106 USD per community or 148 USD per beneficiary household) were on the same order as the costs of the subsidies themselves (897 USD per community or 120 USD per beneficiary household) (Figure 13). In total, the intervention (the subsidies themselves plus program costs) came to 2,003 USD per community (268 USD per beneficiary household; Figure 13). Program costs included salaries and transport for District Assembly facilitators to identify eligible households and conduct monitoring and toilet verification visits, management of artisan payments by local financial institutions, training, and project management (this included WASHPaLS project management time, but not UNICEF staff time). In future iterations, program costs per beneficiary household could be reduced if the subsidy intervention is applied at larger scale (due to more efficient training and project management across wider areas), targeted at a larger fraction of the population (as community consultation costs are largely independent of the number of eligible households), or combined with other programs (e.g., CLTS follow-ups).



**Figure 13. Costs associated with subsidy program implementation and the subsidies themselves during the study**

### 6.3 COST-EFFECTIVENESS OF THE SUBSIDY PROGRAM

Based on comparisons between sanitation conditions before CLTS implementation (approximately 5 percent toilet coverage before CLTS, based on data provided by UNICEF) and the conditions observed during endline surveys, subsidy communities represent a scenario where CLTS is followed by the subsidy program, while control communities represent CLTS implementation alone. CLTS followed by

the subsidy program resulted in net improvements for 64 percent more households than CLTS alone. (The categories of “improvement” considered were households that (1) no longer practiced open defecation and (2) upgraded from a non-durable but functional toilet to a durable toilet.) Based on our program deployment in this research, the subsidy deployment would increase costs per benefitting households by 21-37 percent (Table 7), depending on the degree to which the program’s at-scale costs can be reduced. We expect this comparison will favor the subsidy program as times passes if subsidized durable toilets remain operational while non-durable toilets collapse.

**Table 7.** *Estimated costs of CLTS alone (red) and CLTS followed by the subsidy program (blue), relative to the number of households that benefit in each scenario. CLTS costs are based on an estimated average of 30 USD per targeted household in Ghana (USAID 2018).*

|  | CLTS only  | CLTS followed by subsidy program                                   |
|--|--|--|
| Basis for estimation   | Net improvement in control communities from before CLTS to endline | Net improvement in subsidy communities from before CLTS to endline |
| Communities  | 50 control communities   | 59 subsidy communities   |
| Total net number of households that no longer practice primary open defecation or upgraded from a non-durable to durable toilet <sup>1</sup> | 728 households (28%)   | 1,443 households (46%)<br>(64% more than CLTS only)                |
| Total cost   | 78,000 USD   | 186,000-212,000 USD <sup>2</sup>                                   |
| Average cost per community   | 1,560 USD  | 3,150-3,590 USD  |
| <b>Cost per household that no longer practices primary open defecation or has upgraded from a non-durable toilet to a durable toilet</b>     | <b>107 USD</b>   | <b>129-147 USD</b><br>(21-37% more than CLTS only)                 |

<sup>1</sup> The “net” number of households refers to those that saw improvements minus those that saw a deterioration. Based on reported sanitation conditions prior to CLTS implementation, we assumed that 5% of households owned and used functional toilets before CLTS.

<sup>2</sup> The range of total cost for CLTS followed by the subsidy program encompasses the actual costs during the study (high estimate) and estimated costs with efficiency improvements if the program were implemented at a larger scale (low estimate).

## 7.0 IMPLICATIONS FOR FUTURE SUBSIDY PROGRAMS

### 7.1 HOUSEHOLD SUBSIDIES HELP SUSTAIN SANITATION GAINS ACHIEVED THROUGH CLTS

Overall, the sanitation declines observed in study communities (primarily due to toilet collapse) suggest that CLTS alone is insufficient to sustain reductions in open defecation.

The subsidy intervention helped to attenuate slippage back to open defecation but failed to substantially increase demand for durable toilet substructures more broadly. We suspect that this largely because many durable toilet products remain unaffordable at current market prices (Ghana Statistical Service 2019). During qualitative interviews conducted at the midline, most ineligible households cited financial constraints as the main barrier to upgrading their toilet to a durable one. To put the hardware costs in perspective, the average monthly income of rural households in the Northern Region is approximately 190 USD (1,100 GHS).<sup>5</sup> Among the 33 percent of rural households in the Northern Region who fall below the national “extreme poverty” line, the average monthly income is approximately 90 USD (530 GHS). If we consider the average cost of the three types of durable toilets offered in this study (120 USD), building a durable toilet substructure in rural areas of the Northern Region therefore represents 63 percent-133 percent of the average monthly income, depending on the household’s poverty level. Increasing the proportion of households eligible to receive some form of assistance soon after ODF status or during CLTS implementation or other sanitation campaigns (e.g., by adding eligibility criteria that align with sanitation inequities) could increase durable toilet installation and use, thereby serving to sustain the gains achieved through that programming.

Our research implies that financial support is particularly necessary for poorer and more vulnerable households, who are less likely to rebuild their toilets when they collapse and thus more likely to revert to OD.

The CLTS and targeted subsidy combined program resulted in net improvements for 64 percent more households than CLTS alone, albeit with higher overall implementation costs compared to CLTS alone. If we consider the breakdown of direct subsidy implementation costs (i.e., exclusive of training and management expenses), we estimated that:

- 52 percent were for sub-contracting financial institutions to manage payments to artisans and material suppliers;
- 27 percent were District Assembly time (salaries and per-diems);
- 11 percent were travel to communities (fuel);
- 8 percent were supply side set-up (training artisans and printing fliers); and
- 2 percent were out-of-pocket mobile data costs.

This breakdown suggests opportunities for economies of scale if the program is extended to a larger number of communities: while staff time and travel may scale proportionally to the number of program communities, costs associated with supply chain and financial management (60 percent here) would not, likely lowering the average cost per beneficiary. Additionally, combining the program with other post-ODF activities, which are rarely sufficiently funded, could improve the value-for-money of post-ODF programs.

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<sup>5</sup> Derived from GLSS data (Ghana Statistical Service 2019).

## 7.2 LESSONS LEARNED ON SUBSIDY IMPLEMENTATION

At the outset, WASHPaLS and UNICEF set forth several guiding principles for implementing the targeted subsidy program. We determined that applying these principles is challenging in practice, as it requires many transactions among a large number of stakeholders. Successful implementation is not realistic without at least one staffer fully dedicated to the program who can coordinate all stakeholders and quickly respond to issues when they arise. WASHPaLS staff played that role for this research. Additionally, it is important to acknowledge that District Assemblies may not have sufficient resources (time, staffing, vehicles, motivation) to take on all activities.

Below, we present detailed lessons learned from our experience with implementation.

**Implementing community consultation and the subsequent verification household visit requires substantial human and logistical resources**, with an approximate cost of 39 USD per eligible household (though there may be opportunities to reduce costs with scale and experience). The success of this approach also requires a minimum of two well-trained field facilitators per community who are fluent in the local language and understand local norms and communication styles. Several aspects of the protocol (e.g., ice breakers, how to formulate questions) need to be adapted in every new district to incorporate input from locals. Data science and artificial intelligence may also offer opportunities to make the process of identifying poor and vulnerable households more efficient, particularly if specific household characteristics can be used to predict a household's poverty status with sufficient accuracy. Alternatively, there may be opportunities to reduce the implementation costs associated with identifying vulnerable households by using existing national poverty identification systems. However, it is important to note that existing national poverty databases may not align with communities' definition of poverty and/or may include larger number of households than communities would select (such as what we observed by comparing LEAP with community consultation in Ghana). The implications of using national poverty identification systems on community buy-in and program cost-effectiveness remain to be examined.

**Identifying poor and vulnerable households is not equivalent to identifying households that do not own a functional toilet or practice open defecation. In our study setting, voucher-eligible households selected via community consultation had similar toilet ownership and use as other households.** In future iterations, the beneficiary identification process could be adjusted to select households with specific levels of sanitation infrastructure. It could also be more inclusive and prioritize households with specific demographic or socioeconomic characteristics associated with deteriorated sanitation conditions (in this study this included households in the lowest wealth quintile and those with a female head of household).

**All stakeholders involved in the process require some form of incentive to perform according to the protocol.** In our case, results-based payment schemes incentivized good performance among material suppliers (they were not paid until all materials were delivered) and artisans (an artisan was not paid in full until the entire toilet was complete), but District Assemblies and financial institutions received all funds upfront with no reward for timely completion of tasks. As a result, District Assemblies and financial institutions sometimes did not prioritize activities related to the intervention. Future programs might consider providing a performance-based incentives for local officials and financial institutions to may help to address such issues (USAID, 2020).

Public recognition may also be an effective incentive: in Northern Ghana, the District League Table, which ranks districts according to their sanitation performance, helped encourage progress towards ODF achievement; this strategy could be adapted to include sustainability targets, including subsidy deployments, in the future.

We would also recommend revising the artisan payment structure: the 40 percent down-payment followed by a 60 percent results-based payment was not always sufficient to incentivize artisans to support beneficiaries with superstructure construction. As a result, toilet completion took longer than initially planned. We recommend lowering the down payment (such that it only covers start-up costs such as travel to communities and funds to hire one or two laborers, but not more) and increasing the results-based fraction of the payment.

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# APPENDICES

## APPENDIX I: DATA COLLECTION TOOLS

### Endline Household Survey

|                            |  |                              |
|----------------------------|--|------------------------------|
| <b>Geographic location</b> | District:  | [Select from drop down menu] |
|                            | Community:   | [Select from drop down menu] |
|                            | Name of enumerator   | [Select from drop down menu] |
|                            | What is this compound of those you visited today?                          | [Select from drop down menu] |
|                            | What number is this household of those you have surveyed in this compound? | [Select from drop down menu] |

| No.                  | Pre-Survey  | Answer Choices   | Code             | Logic |
|----------------------|---|--|------------------|-------|
| Missing_compound     | [If household number in compound is 0]<br><br>Why is nobody currently available in the compound?  | Residents have migrated permanently<br>Residents are unavailable today<br>Residents are unavailable now, but maybe available later today<br>Residents are deceased | 1<br>2<br>3<br>4 |       |
| Z_00_missingCompound | [If household number in compound is 0]<br>Aquaya Compound ID (if available)<br><br>Hint: it has been written with chalk on the compound wall. Type 99 if don't know | _____  |                  |       |
| ReturnA              | [If missing compound is 3]<br>Return to this compound later today. SAVE THIS FORM AS INCOMPLETE.  | _____  |                  |       |
| Note                 | [If missing compound is 3]<br><br>Return to this compound later today. SAVE THIS FORM AS INCOMPLETE.  |  |                  |       |
| MissingCompound_GPS  | [If missing compound is 1 or 2]<br>Please collect the GPS location of the compound. As close as possible to the compound.   | _____  |                  |       |
| ReturnB              | [If missing compound is 2]<br>This compound cannot be surveyed today. FINISH THIS FORM  |  |                  |       |
| Ineligible           | [If missing compound is 2]<br>The compound is ineligible. FINISH THIS FORM.   |  |                  |       |

| No. | Introduction and demographics  | Answer Choices  | Code        | Logic                      |
|-----|--|---|-------------|----------------------------|
| A1  | Is someone home and available to be interviewed who lives here and is 18 years old or above? | Yes<br>No   | 1<br>0      | >>A_3                      |
| A2  | READ CONSENT FORM<br>Are you willing to participate in the study?                            | Yes, available now<br>Yes, though at a later time<br>No | 1<br>2<br>0 | >>A_6<br>>>A_3<br>>>Note 2 |

| No.           | Introduction and demographics  | Answer Choices   | Code                             | Logic                                   |
|---------------|--|--|----------------------------------|---|
|               | Does the respondent have COVID symptoms?   |  |                                  |   |
| A3            | How many times have you visited this household?  | This is the first time<br>This is the second time<br>This is the third time  | 1<br>2<br>3                      | >>A4<br>>>A4<br>>>Note2                 |
| A4            | May a household member who is 18 years old or above be available at a later time?  | Yes, later today<br>Yes, on another day<br>No  | 1<br>2<br>0                      | >>Note1<br>>>ReturnE<br>>>Ineligibl e B |
| Note1         | [if A4 = 1]<br>Save this form as incomplete and return later today.  |  |                                  |   |
| Return E      | [if A4 = 2]<br>If your team is returning to this community tomorrow, SAVE THIS FORM AS INCOMPLETE.<br>If your team is NOT returning to this community tomorrow, FINISH THIS FORM.  |  |                                  |   |
| Ineligibl e B | The household is ineligible.<br>Record Aquaya ID if available: _____<br>Finish the form.   |  |                                  |   |
| Ineligibl eC  | Why was the household ineligible?  | No one was home after 3 attempts.<br>Household was not willing to participate.<br>Household head was not over 18 years old.<br>Household has migrated out of the community.<br>Household member(s) are deceased.<br>Household has merged with another household.<br>Other: _____ | 1<br>2<br>3<br>4<br>5<br>6<br>96 |   |
| A6a           | Family name/last name:   |  |                                  |   |
| A6b           | Respondent first name:   |  |                                  |   |
| A6c           | Popular name:  |  |                                  |   |
| A7            | Respondent gender:   | Female<br>Male   | 2<br>1                           |   |
| Z1            | Was this household surveyed at baseline?<br><i>Hint 1: The household ID was written with chalk near the door of the household and on the consent form given to the household.</i><br><i>Hint 2: In addition, the compound ID was written with chalk near the door of the compound.</i> | Yes<br>No<br>Don't know  | 1<br>0<br>99                     | >>Z4<br>>>Z4                            |
| Z2            | Aquaya household ID:   |  | AQ-                              |   |
| Z3            | Check Aquaya records for {Z2}: name and gender of household head, name and gender of respondent, phone number.   | Yes<br>No  | 1<br>0                           | >>A8<br>>>Z2                            |

| No. | Introduction and demographics  | Answer Choices | Code | Logic |
|-----|--|----------------|------|-------|
|     | <p>Do you confirm that {Z2} is the correct ID for this household?</p> <p>Take a photo of the door post or consent form showing the Aquaya ID.</p> <p>Write the confirmed household ID on consent form.</p> |                |      |       |
| Z4  | CommCare generates a new ID<br>Write new household ID on consent form  |                | AQ-  |       |

| Now I am going to ask you questions about the composition of your household. |  |  |  |                 |
|--|--|--|--|-----------------|
| A8   | Are you the head of household?<br><i>We are asking about head of HOUSEHOLD, not head of FAMILY</i> | <p>Yes</p> <p>No</p>   | <p>1</p> <p>0</p>  |                 |
| A9   | What is your age?<br><i>(Ask birth year if doesn't know, Type 99 if Don't know)</i>                | _____ years  |  | >>End if<br><18 |
| A48  | <i>[if A9 is 99]</i><br>OBSERVE: Is the respondent 65 years or older?                              | <p>Yes</p> <p>No</p>   |  |                 |
| A10  | What is the highest education level that you completed?  | <p>None</p> <p>Kindergarten</p> <p>Primary school</p> <p>Junior high school/Middle school</p> <p>Senior high school/Secondary</p> <p>Vocational/technical training (e.g., tailoring, masonry)</p> <p>Teacher training/nursing</p> <p>Post-secondary diploma/HND</p> <p>Bachelor's degree</p> <p>Postgraduate</p> <p>Other: _____</p> <p>Refuse to answer</p> <p>Don't know</p> | <p>0</p> <p>1</p> <p>2</p> <p>3</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>96</p> <p>98</p> <p>99</p> |                 |
| A11  | What is YOUR marital status?   | <p>Married</p> <p>Living together</p> <p>Separated</p> <p>Divorced</p> <p>Never married/single</p> <p>Widowed</p> <p>Other: _____</p>  | <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>96</p>  |                 |
| A45_A  | At what age did you first get married or start living with a partner?                              | _____  | <p>#{A_08}="1" and<br/>(#{A_11}="1" or #{A_11}="2"<br/>or #{A_11}="3" or<br/>#{A_11}="4" or #{A_11}="6")</p>             |                 |
| A13  | What is YOUR main occupation?<br><i>In the last 12 months</i>                                      | <p>Agriculture</p> <p>Selling produce or goods</p> <p>Cooperatives</p> <p>Private Sector: Self-employed</p> <p>Private Sector: Employed</p>  | <p>1</p> <p>2</p> <p>3</p> <p>8</p> <p>9</p>   |                 |

| Now I am going to ask you questions about the composition of your household. |  |   |  |                |
|--|--|---|--|----------------|
|  |  | Government sector<br>NGOs (local & International)<br>No occupation, stay home<br>Other: _____<br>Refuse to answer<br>Don't know   | 6<br>7<br>0<br>96<br>98<br>99                                      |                |
| A46  | What is your religious denomination?   | No Religion<br>Christian<br>Islam<br>Traditionalist<br>Other: _____   | 1<br>2<br>3<br>4<br>96   |                |
| A14  | [IF A8=0]<br>First name of head of household:  |   |  |                |
| A15  | [IF A8=0]<br>What is the gender of the head of household?                                  | Female<br>Male  | 2<br>1   |                |
| A16  | [IF A8=0]<br>What is the age of the head of household?<br>(Ask birth year if doesn't know) | _____ years   |  |                |
| A49  | [if A16 is 99 (Don't know)]<br>OBSERVE: Is the respondent 65 years or older?               | Yes<br>No   |  |                |
| A17  | [IF A8=0]<br>What is the highest education level completed by the head of household?       | None<br>Kindergarten<br>Primary school<br>Junior high school/Middle school<br>Senior high school/Secondary<br>Vocational/technical training (e.g., tailoring, masonry)<br>Teacher training/nursing<br>Post-secondary diploma/HND<br>Bachelor's degree<br>Postgraduate<br>Other: _____<br>Refuse to answer<br>Don't know | 0<br>1<br>2<br>3<br>5<br>6<br>7<br>9<br>10<br>11<br>96<br>98<br>99 |                |
| A44  | Can the head of household read in English or French?                                       | Yes<br>No<br>Don't know   | 1<br>0<br>99   |                |
| A18  | [IF A8=0]<br>What is the marital status of the head of household?                          | Married<br>Living together<br>Separated<br>Divorced<br>Never married/single<br>Widowed<br>Other: _____  | 1<br>2<br>3<br>4<br>5<br>6<br>96                                   | >>A19<br>>>A19 |
| A45  | At what age did the head of household first get married or start living with a partner?    | _____ Years   |  |                |
| A20  | [IF A8=0]<br>What is the main occupation of the head of household?                         | Agriculture<br>Selling produce or goods<br>Cooperatives   | 1<br>2<br>3  |                |

| Now I am going to ask you questions about the composition of your household. |   |   |   |                    |
|--|---|---|---|--------------------|
|  | In the last 12 months   | Private Sector Informal<br>Private Sector Formal<br>Government sector<br>NGOs (local & International)<br>No occupation, stay home<br>Other: _____<br>Refuse to answer<br>Don't know | 4<br>5<br>6<br>7<br>0<br>96<br>98<br>99 |                    |
| A46B   | What is the religious denomination of the head of household?  | No religion<br>Christian<br>Islam<br>Traditionalist<br>Other: _____   | 1<br>2<br>3<br>4<br>96                  |                    |
| A21  | How many total households live in this house/compound, including your household?<br><i>Count your own household.</i>  |   | _____                                   |                    |
| A22  | How many people are in <u>your household</u> , including yourself?<br><i>People who eat and sleep here more than 50% of the time or 6 months in the year.</i><br><i>(Probe for children and elders. 99 if doesn't know)</i> |   | _____                                   |                    |
| A22b   | How many children under five years old are in your household?   |   |   |                    |
| A22c   | How many school-age children (5-14 years old) are in your household?  |   |   |                    |
| A47  | Do ALL school-age children attend school?<br><br><i>Probe to confirm about ALL children.</i>  | Yes, all<br>Yes, but only some<br>No  | 1<br>2<br>0                             |                    |
| A23a   | Does your household have a person who is 65 or older?   | Yes<br>Respondent doesn't know but probably<br>No<br>Don't know   | 1<br>2<br>0<br>99                       |                    |
| A24  | Does your household have a person who is physically or mentally challenged?   | Yes<br>No<br>Don't know   | 1<br>0<br>99                            | >>A30<br>>>A30     |
| A26  | Is the respondent physically or mentally challenged?  | Yes<br>No<br>Don't know   | 1<br>0<br>99                            | >>A27<br>>>A27     |
| A_29_1   | What kind of physical/mental challenge(s) does the respondent suffer from?<br><br><i>Select all that apply.</i>   | Sight<br>Hearing<br>Speech<br>Physical<br>Intellect<br>Other: _____<br>Refuse to answer<br>Don't know   | 1<br>2<br>3<br>4<br>5<br>96<br>98<br>99 |                    |
| A27  | [IF A8=0]<br>Is the head of household physically or mentally challenged?  | Yes<br>No<br>Don't know   | 1<br>0<br>99                            | >>A29_3<br>>>A29_3 |
| A_29_2   | [IF A8=0]<br>What kind of physical/mental challenge(s) does the head of household suffer from?  | Sight<br>Hearing<br>Speech<br>Physical  | 1<br>2<br>3<br>4                        |                    |

| Now I am going to ask you questions about the composition of your household. |  |  |  |                    |
|--|--|--|--|--------------------|
|  | Select all that apply.   | Intellect<br>Other: _____<br>Refuse to answer<br>Don't know  | 5<br>96<br>98<br>99                                    |                    |
| A_29_3   | [IF A26=0 and A27=0]<br>What kind of physical/mental challenge(s) does this household member suffer from?<br><br>Select all that apply.  | Sight<br>Hearing<br>Speech<br>Physical<br>Intellect<br>Other: _____<br>Refuse to answer<br>Don't know                                      | 1<br>2<br>3<br>4<br>5<br>96<br>98<br>99                |                    |
| A30  | Does your household have a person who is chronically ill?<br>Any chronic or recurring illness (e.g., HIV, epilepsy, asthma, hepatitis B, diabetes, stroke). But do not count chronic pain. | Yes<br>No<br>Don't know  | 1<br>0<br>99   | >>A36<br>>>A36     |
| A_32   | Is the respondent chronically ill?   | Yes<br>No<br>Don't know  | 1<br>0<br>99   | >>A33<br>>>A33     |
| A35_1  | What chronic illness(es) does the respondent suffer from?<br><br>Select all that apply.  | HIV<br>Epilepsy<br>Asthma<br>Hepatitis B<br>Diabetes<br>Hypertension<br>Cancer<br>Stroke<br>Other: _____<br>Refuse to answer<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>98<br>99 |                    |
| A33  | [IF A8=0]<br>Is the head of household chronically ill?   | Yes<br>No<br>Don't know  | 1<br>0<br>99   | >>A35_3<br>>>A35_3 |
| A35_2  | [IF A8=0]<br>What chronic illness(es) does the head of household suffer from?<br><br>Select all that apply.  | HIV<br>Epilepsy<br>Asthma<br>Hepatitis B<br>Diabetes<br>Hypertension<br>Cancer<br>Stroke<br>Other: _____<br>Refuse to answer<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>98<br>99 |                    |
| A35_3  | [IF A32=0 and A33=0]<br>What chronic illness(es) does this household member suffer from?<br><br>Select all that apply.   | HIV<br>Epilepsy<br>Asthma<br>Hepatitis B<br>Diabetes<br>Hypertension<br>Cancer<br>Stroke   | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                   |                    |

| Now I am going to ask you questions about the composition of your household. |   |   |                   |              |
|--|---|---|-------------------|--------------|
|  |   | Other: _____<br>Refuse to answer<br>Don't know                                      | 96<br>98<br>99    |              |
| A36  | In this household, is there a child under 15 missing a parent?  | Yes: child missing one parent<br>Yes: child missing two parents<br>No<br>Don't know | 1<br>2<br>0<br>99 |              |
| A37  | Does your household have a widow?   | Yes<br>No<br>Don't know   | 1<br>0<br>99      |              |
| A41  | Has anyone in this household had diarrhea or dysentery in the past 1 week?<br><i>Do not count today.</i><br><i>Probe: 3 or more loose stools per day?</i> | Yes<br>No<br>Don't know   | 1<br>0<br>99      | >>B1<br>>>B1 |
| A42  | How many household members have had diarrhea or dysentery in the past 1 week?<br><i>Probe: 3 or more loose stools per day?</i>                            | _____   |                   |              |
| A43  | [For each person]<br>What is the age of this person?  | _____   |                   |              |

| No.   | Toilet ownership  | Answer Choices  | Code                         | Logic                    |
|---|---|---|------------------------------|--------------------------|
| Now I will ask you questions about your household's defecation behaviors. |   |   |                              |                          |
| B1  | Where do members of your household usually defecate?<br><br><i>Refrain from using word "toilet" in the question.</i>                      | Flush / Pour flush<br>Dry pit latrine<br>Dig & bury, bush, refuse dump, water body<br>Other: _____<br>Don't know              | 2<br>1<br>0<br>96<br>99      | >>B3<br><br>>>B3<br>>>B3 |
| B2  | Does your household own the toilet facility that you use?<br><i>Owning = contributed to its construction</i>                              | Yes, single owner<br>Yes, co-owner<br>No<br>Don't Know  | 1<br>2<br>0<br>99            | >>B5                     |
| B10   | [If B2=0]:<br>Who owns the toilet that your household uses?<br><br><i>Select all that apply.</i>  | Another household IN my compound<br>A household OUTSIDE my compound<br>School<br>Public latrine<br>Other: _____<br>Don't know | 1<br>2<br>3<br>4<br>96<br>99 |                          |
| B11a  | [If B1=1 or 2]:<br>Do other households <u>in</u> your compound also use this toilet?<br><i>Regular users; not passers-by or visitors.</i> | Yes<br>No<br>Don't know   | 1<br>0<br>99                 |                          |
| B11b  | [If B1=1 or 2]:<br>Do other households <u>outside</u> your compound also use this toilet?   | Yes<br>No<br>Don't know   | 1<br>0<br>99                 |                          |

| No.  | Toilet ownership   | Answer Choices  | Code  | Logic                      |
|------|--|---|---|----------------------------|
|      | <i>Regular users; not passers-by or visitors.</i>  |   |   |                            |
| B12  | [If B1 = 1 or 2] and [If B11a or B11b = 1]:<br>Including your own household, how many households use this toilet?<br><i>For more than 10 households, type 10</i>                     | Don't know  | 99  |                            |
| B3   | Does your household own any toilet facility?<br><i>Owning = contributed to its construction</i>  | Yes-It is usable<br>Yes, BUT it is not usable<br>No<br>Don't know   | 1<br>2<br>0<br>99                                     | >>B5<br><br>>>B13<br>>>B13 |
| B4   | Why is the toilet facility not usable?<br><br><i>Select all that apply</i>   | The pit/slab collapsed<br>The pit got full<br>The superstructure was destroyed or damaged<br>Too far<br>Moved house<br>The toilet is in construction<br>Demolished to build a new house<br>Not allowed to use toilet<br>Toilet too close to house<br>Other: _____<br>Don't Know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>96<br>99 |                            |
| B16a | Does any household <u>inside</u> your compound use this toilet (that you own)?<br><i>Regular users; not passers-by or visitors.</i>  | Yes<br>No<br>Don't know   | 1<br>0<br>99  |                            |
| B16b | Does any household <u>outside</u> your compound use this toilet (that you own)?<br><i>Regular users; not passers-by or visitors.</i>   | Yes<br>No<br>Don't know   | 1<br>0<br>99  |                            |
| B17  | [If B16a or B16b = 1]<br>How many total households use this toilet (including your household, if applicable)?<br><i>For more than 10 households, type 10. Type 99 if don't know.</i> | Don't know  | 99  |                            |
| B5   | Who constructed your toilet?<br><br><i>Select all that apply</i>   | Me/my household<br>Other family members<br>Neighbors<br>Paid labor<br>Communal labor<br>Help from NGO<br>Landlord<br>Government<br>Other: _____<br>Don't know   | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>99      |                            |
| B6   | How many years ago was your toilet constructed?<br><i>Round number of years. Type 99 if don't know.</i>  |   |   |                            |



| No.  | Toilet ownership  | Answer Choices  | Code                              | Logic                                     |
|------|---|---|-----------------------------------|---|
| B18  | Did your household provide any form of payment for building this toilet?<br><i>Select all that apply</i>            | None<br>Money<br>Food and water<br>Provided own labor<br>Other: _____<br>Don't know   | 0<br>1<br>2<br>3<br>96<br>99      | >>B7<br><br>>>B20<br>>>B7<br>>>B7<br>>>B7 |
| B19  | Where did your household get money to construct the toilet? (if B18 includes 1)<br><br><i>Select all that apply</i> | Our own savings<br>Paid on credit<br>Borrowed from neighbors/relatives<br>Other: _____<br>Don't know<br>Refuse to answer        | 1<br>2<br>3<br><br>96<br>99<br>98 |   |
| B20  | In total, how much did your household spend when you first built the toilet?<br><i>In GHS</i>                       |   |                                   |   |
| B7   | Have you made improvements or renovations to your toilet (that you own) since its original construction?            | Yes<br>No<br>Don't know   | 1<br>0<br>99                      | >>B8<br>>>B8                              |
| B7b  | How many times have you made improvements or renovations since you first constructed your toilet?                   |   |                                   |   |
| B21  | In total, how much did your household spend on improvements and renovations?<br><i>In GHS</i>                       |   |                                   |   |
| B8   | Is this the first toilet that was ever built by this household?   | Yes<br>No, it is the second toilet<br>No, it is at least the third toilet<br>Other: _____<br>Don't know                         | 1<br>2<br>3<br>96<br>99           | >>C1<br><br>>>C1<br>>>C1                  |
| B9   | How many years ago was your previous toilet constructed?<br><i>Round number of years. Type 99 if don't know.</i>    |   |                                   | >>C1                                      |
| B13  | [If B_03=0 or 99]<br>Have you ever considered constructing a toilet?  | Yes, I built one in the past<br>Yes, I am currently building one<br>Yes, but I never built one<br>No<br>Don't know              | 1<br>2<br>3<br>0<br>99            | >>C1<br><br>>>C1<br>>>C1<br>>>C1          |
| B13b | How many years ago was your previous toilet constructed?<br><i>Round number of years. Type 99 if don't know.</i>    |   |                                   |   |
| B22  | Did your household provide any form of payment for building this toilet?<br><i>Select all that apply</i>            | None<br>Money<br>Food and water<br>Provided own labor<br>Other: _____<br>Don't know   | 0<br>1<br>2<br>3<br>96<br>99      | >>C1<br><br>>>B24<br>>>C1<br>>>C1<br>>>C1 |
| B23  | Where did your household get money to construct the toilet? (if B22 includes 1)<br><br><i>Select all that apply</i> | Our own savings<br>Paid for labor and/or materials on credit<br>Borrowed from neighbors/relatives<br>Other: _____<br>Don't know | 1<br>2<br>3<br><br>96<br>99       |   |

| No. | Toilet ownership  | Answer Choices   | Code  | Logic |
|-----|---|--|---|-------|
|     |   | Refuse to answer   | 98  |       |
| B24 | In total, how much did your household spend when you first built the toilet?<br><i>In GHS</i> |  |   |       |
| B14 | Why are you not using this toilet anymore?<br><br><i>Select all that apply.</i>               | The pit/slab collapsed<br>The pit got full<br>The superstructure was destroyed<br>Too far<br>Moved house<br>The toilet is in construction<br>Demolished to build a new house<br>Not allowed to use toilet<br>Toilet too close to house<br>Other: _____<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>96<br>99 |       |

| No. | Toilet use  | Answer Choices   | Code                         | Logic |
|-----|---|--|------------------------------|-------|
| C1  | How often do you <u>personally</u> use the toilet to urinate <u>when at home</u> ?  | Always<br>Mostly<br>Sometimes<br>Never<br>Don't know                                     | 3<br>2<br>1<br>0<br>99       |       |
| C2a | How often do you <u>personally</u> use the toilet to defecate <u>when at home</u> ?   | Always<br>Mostly<br>Sometimes<br>Never<br>Don't know                                     | 3<br>2<br>1<br>0<br>99       |       |
| C2b | <i>[If B1=0]</i><br>How often do you <u>personally</u> use <u>the bush</u> to defecate <u>when at home</u> ?                                      | Always<br>Mostly<br>Sometimes<br>Never<br>Don't know                                     | 0<br>1<br>2<br>3<br>99       |       |
| C3a | How often do <u>other adults</u> (above 15 years old) in your household use the toilet to defecate <u>when at home</u> ?                          | Always<br>Mostly<br>Sometimes<br>Never<br>Don't know<br>Not applicable (no other adults) | 3<br>2<br>1<br>0<br>99<br>97 |       |
| C3b | <i>[If B1=0]</i><br>How often do <u>other adults</u> (above 15 years old) in your household use <u>the bush</u> to defecate <u>when at home</u> ? | Always<br>Mostly<br>Sometimes<br>Never<br>Don't know<br>Not applicable (no other adults) | 0<br>1<br>2<br>3<br>99<br>97 |       |
| C4a | How often do school age <u>children</u> (5-14 years old) in your household use the toilet to defecate when at home?                               | Always<br>Mostly<br>Sometimes<br>Never<br>Don't know                                     | 3<br>2<br>1<br>0<br>99<br>97 |       |

| No. | Toilet use   | Answer Choices  | Code  | Logic |
|-----|--|---|---|-------|
|     |  | Not applicable (no school age children)   |   |       |
| C4b | <p>[If B1=0]</p> <p>How often do school age <u>children</u> (5-14 years old) in your household use <u>the bush</u> to defecate when at home?</p>   | <p>Always 0</p> <p>Mostly 1</p> <p>Sometimes 2</p> <p>Never 3</p> <p>Don't know 99</p> <p>Not applicable (no school age children) 97</p>  |   |       |
| C5  | <p>[if C2!=3 or C3!=3 or C4!=3]</p> <p><u>Why</u> do you/members of your household not always use a toilet to defecate when at home?</p> <p>Select all that apply.<br/>1 and 99 are not compatible with 2-6.</p> | <p>Doesn't own toilet 1</p> <p>Doesn't have access to neighbor's toilet 2</p> <p>Not allowed to use toilet 3</p> <p>Toilet is not usable (collapsed, full pit, damaged superstructure) 4</p> <p>Toilet is not comfortable 5</p> <p>Fear that pit/slab will collapse 6</p> <p>Security concerns 7</p> <p>Toilet lacks privacy 8</p> <p>Toilet is dirty 9</p> <p>Bad smell 10</p> <p>Toilet is too far 11</p> <p>Fear of using toilet at night 12</p> <p>Prefer open defecation 13</p> <p>Pit floods during rainy season 14</p> <p>Too many people use the same toilet 15</p> <p>Same toilet for women and men 16</p> <p>Burden of using water 17</p> <p>Mobility issue 18</p> <p>Children are still young 19</p> <p>The government didn't provide toilets 20</p> <p>Other: _____ 96</p> <p>Don't know 99</p> |   |       |
| C11 | <p>[if C2!=3]</p> <p>When you use the bush to defecate when at home, how long do you have to walk approximately?</p> <p>Provide answer in min, for one way.</p>  |   |   |       |
| C6  | <p>Where do small children (0-4 years old) in your household usually defecate?</p> <p>Select all that apply.</p>   | <p>Not applicable (no pre-school children) 97</p> <p>On the ground/bush/dig &amp; bury/refuse dump/water body 0</p> <p>On the ground and mother scoops up 1</p> <p>Chamber pot/ potty/container 2</p> <p>Napkin/diapers 3</p> <p>Mother helps child go to toilet 4</p> <p>Other: _____ 96</p> <p>Don't know 96</p>  | <p>&gt;&gt;C8</p> <p>&gt;&gt;C8</p> <p>&gt;&gt;C8</p> <p>&gt;&gt;C8</p> <p>&gt;&gt;C8</p> |       |

| No. | Toilet use  | Answer Choices  | Code                              | Logic |
|-----|---|---|-----------------------------------|-------|
|     |   | Refuse to answer  | 99<br>98                          | >>C8  |
| C7  | Where does the mother dispose of the child feces?<br><br><i>Select all that apply.</i>  | Dig & bury, bush, refuse dump, water body<br>In toilet or washroom pit<br>Other: _____<br>Don't know<br>Refuse to answer  | 0<br>1<br>96<br>99<br>98          |       |
| C8  | You mentioned earlier that your household has (a) <u>physically/mentally challenged</u> person(s).<br><br>Where does/do this/these person(s) usually defecate?<br><br><i>Select all that apply.</i> | Dig & bury, bush, refuse dump, ground, water body<br>On the ground and family member scoops up<br>In bucket/container emptied in bush<br>In bucket/container emptied in toilet<br>In toilet<br>Other: _____<br>Don't know | 0<br>4<br>1<br>2<br>3<br>96<br>99 |       |
| C9  | You mentioned earlier that your household has (a) <u>chronically ill</u> person(s).<br><br>Where does/do this/these person(s) usually defecate?<br><br><i>Select all that apply.</i>                | Dig & bury, bush, refuse dump, ground, water body<br>In bucket/container emptied in bush<br>In bucket/container emptied in toilet<br>In toilet<br>Other: _____<br>Don't know  | 0<br>1<br>2<br>3<br>96<br>99      |       |
| C10 | You mentioned earlier that your household has (or may have) (an) <u>elderly</u> person(s).<br><br>Where does/do this/these person(s) usually defecate?<br><br><i>Select all that apply.</i>         | Dig & bury, bush, refuse dump, ground, water body<br>In bucket/container emptied in bush<br>In bucket/container emptied in toilet<br>In toilet<br>Other: _____<br>Don't know  | 0<br>1<br>2<br>3<br>96<br>99      |       |

| No.   | Other questions about respondent  | Answer Choices   | Code                   | Logic |
|---|---|--|------------------------|-------|
| Now I would like to ask you a few additional questions about yourself |   |  |                        |       |
| D1  | <i>[only if uses toilet]</i><br>Did YOU use the toilet for defecation yesterday?  | Yes<br>No<br>Don't know/Refuse to answer   | 1<br>0<br>98           |       |
| D2  | <i>[only if uses toilet]</i><br>Did YOU use the toilet for defecation the day before yesterday?   | Yes<br>No<br>Don't know/Refuse to answer   | 1<br>0<br>98           |       |
| D3  | <i>[only if uses toilet]</i><br>Think about the past 7 days. On how many days did you defecate IN THE BUSH?<br><br><i>Probe about when out of home.</i> | No (0) days<br>Some (1-2-3) days<br>Most (4-5-6) days<br>Every day (7)<br>Refuse to answer | 0<br>1<br>2<br>3<br>98 |       |

| No.                          | Toilet observation  | Answer Choices  | Code  | Logic  |
|------------------------------|---|---|---|--|
| V0                           | Did you receive a toilet voucher in 2020?   | Yes<br>No<br>Don't know   | 1<br>0<br>99  |  |
| Note                         | The following questions apply to the toilet that the household owns.<br><i>If the respondent was a voucher recipient, ask to see the toilet that the program built.</i>                   |   |   |  |
| E0                           | <i>[Only if they own a toilet]</i><br>Can you please show me your toilet facility?<br><br><i>If the respondent was a voucher recipient, ask to see the toilet that the program built.</i> | Yes<br>No, it has collapsed<br>No, no permission<br>No, other: _____  | 1<br>2<br>3<br>96   | >> F1<br>>> F1<br>>> F1  |
| E1a                          | ENUMERATOR: Have you already observed this toilet when surveying a previous household?  | Yes<br>No   | 1<br>0  | >>E2   |
| E1b                          | ENUMERATOR: On what day did you observe this toilet?  | Today<br>Yesterday<br>Other: _____  | 1<br>2<br>96  |  |
| E1c                          | ENUMERATOR: Which compound was it on that day?  | 1 <sup>st</sup> Compound<br>2 <sup>nd</sup> Compound<br>3 <sup>rd</sup> Compound<br>4 <sup>th</sup> Compound<br>5 <sup>th</sup> Compound<br>6 <sup>th</sup> Compound<br>7 <sup>th</sup> Compound<br>8 <sup>th</sup> Compound<br>9 <sup>th</sup> Compound<br>10 <sup>th</sup> Compound<br>Other: _____<br>Don't know   | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>96<br>99 |  |
| E1d                          | ENUMERATOR: Which household was it on that compound?  | 1 <sup>st</sup> HH in compound<br>2 <sup>nd</sup> HH in compound<br>3 <sup>rd</sup> HH in compound<br>4 <sup>th</sup> HH in compound<br>5 <sup>th</sup> HH in compound<br>6 <sup>th</sup> HH in compound<br>7 <sup>th</sup> HH in compound<br>8 <sup>th</sup> HH in compound<br>9 <sup>th</sup> HH in compound<br>10 <sup>th</sup> HH in compound<br>Other: _____<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>96<br>99 | >>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1<br>>>F1 |
| E2_che<br>ck<br>[If<br>V0=1] | ENUMERATOR: Do you confirm that you are observing the voucher toilet?   | Yes<br>No   | 1<br>0  |  |
| E2                           | OBSERVE the toilet  | Is there a pit?<br>Is there some form of superstructure?<br>Is the pit/slab collapsed?<br>Is the pit full?  | Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk                        |  |

| No. | Toilet observation  | Answer Choices   | Code  | Logic          |
|-----|---|--|---|----------------|
| E3  | OBSERVE: What kind of toilet facility does the household own?                               | Flush / Pour flush to pit<br>VIP/Single pit with concrete slab<br>KVIP with concrete slab<br>Pit with traditional slab<br>Open pit without slab<br>Other: _____<br>Cannot observe  | 1<br>2<br>3<br>4<br>5<br>96<br>99                                 |                |
| E4  | OBSERVE: What is the main material of the toilet floor?                                     | Concrete (poured or pre-cast)<br>Wood+ Packed mud + Cement plastering<br>Wood+ Packed mud + Cow dung plastering<br>Wood + Packed mud<br>Packed mud only<br>Wood only<br>Plastic<br>Other: _____<br>Cannot observe                                  | 1<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>99                       |                |
| E5  | OBSERVE: How many walls does the toilet have?<br><br><i>[Walls can be of any materials]</i> | Four walls or round walls (full height)<br>Less than four walls<br>Partly collapsed walls<br>No walls  | 1<br>2<br>3<br>0  | >>E7           |
| E6  | OBSERVE: What is the main material of the toilet walls?                                     | Concrete blocks<br>Bricks<br>Stone + packed mud<br>Wood/bamboo + packed mud<br>Packed mud + cement plastering<br>Packed mud + cow dung plastering<br>Packed mud only<br>Wood<br>Plastic<br>Bamboo/thatch<br>Zinc<br>Other: _____<br>Cannot observe | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>96<br>99 |                |
| E7  | OBSERVE: What is the main material of the toilet roof?                                      | Concrete<br>Clay tiles<br>Wood<br>Thatch/grass<br>Bamboo rods<br>Plastic<br>Zinc<br>No roof<br>Other: _____<br>Cannot observe  | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>0<br>96<br>99                  |                |
| E8  | OBSERVE: Is there a curved wall, door, or curtain for privacy?                              | Yes<br>No<br>Cannot observe  | 1<br>0<br>99  | >>E10<br>>>E10 |

| No. | Toilet observation   | Answer Choices   | Code   | Logic          |
|-----|--|--|--|----------------|
| E9  | OBSERVE: Can the door be locked from the inside?   | Yes<br>No<br>Cannot observe  | 1<br>0<br>99                                     |                |
| E10 | OBSERVE: Does the toilet have any of the following:  | A raised seat<br>Support handles<br>Stairs/ steps/door step<br>Ventilation pipe exiting the toilet   | Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk             |                |
| E11 | OBSERVE: Does the pit have a well-fitting lid or covering?<br><i>Whether or not the lid is closed at the time of the survey.</i> | Yes<br>Yes, BUT not well-fitting or not closed<br>No<br>Cannot observe   | 2<br>1<br>0<br>99                                |                |
| E19 | OBSERVE: Is there a handwashing facility near the toilet?  | Yes<br>Yes, BUT broken<br>No<br>Cannot observe   | 1<br>2<br>0<br>99                                | >>E21<br>>>E21 |
| E20 | OBSERVE: Is water present for handwashing?   | Yes<br>No<br>Cannot observe  | 1<br>0<br>99                                     |                |
| E21 | OBSERVE: Is soap and/or ash present for handwashing?   | Yes<br>No<br>Cannot observe  | 1<br>0<br>99                                     |                |
| E22 | What type of pit lining does your toilet have?   | No pit lining<br>Sealed concrete tank<br>Lined pit (blocks or stones)<br>Lined pit (precast concrete ring)<br>Lined pit (wood)<br>Lined pit (plastic)<br>Mud+ Cement plastering<br>Mud + Cow dung plastering<br>Other: _____<br>Don't know | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>96<br>99 |                |
| E24 | In a typical week, how much time does your household spend cleaning the toilet?  | I clean the toilet less than once a week<br>Less than 5 min per week<br>5-10 min per week<br>10-20 min per week<br>More than 20 min per week<br>Other<br>Don't know  | 1<br>2<br>3<br>4<br>5<br>96<br>99                |                |

| <b>BENEFICIARIES</b> (if V0=1) |   |  |                   |       |
|--------------------------------|---|--|-------------------|-------|
| No.                            | Endline questions   | Answer Choices                                   | Code              | Logic |
| V1                             | What type of toilet did you build with the voucher program? | Masonry<br>Pre-cast<br>Digni-Loo<br>Other: _____ | 1<br>2<br>3<br>96 |       |
| V2                             | Were you able to select the type of toilet that you wanted? | Yes  | 1<br>2            |       |

| <b>BENEFICIARIES</b> (if V0=1) |   |   |   |              |
|--------------------------------|---|---|---|--------------|
| <b>No.</b>                     | <b>Endline questions</b>  | <b>Answer Choices</b>   | <b>Code</b>   | <b>Logic</b> |
|                                |   | No, the artisan said that this was the only type<br>No, the District Assembly or the chief encouraged this type<br>No, not aware of other options<br>Refuse to answer<br>Don't know   | 3<br><br><br>4<br><br>98<br>99  |              |
| F1-benef                       | How satisfied are you with the new toilet from the voucher program?   | Very satisfied<br>Satisfied<br>Somewhat NOT satisfied<br>Very NOT satisfied<br>Refuse to answer<br>Don't know   | 4<br>3<br>2<br>1<br>98<br>99  |              |
| F3                             | What do you like about this toilet?<br><br><i>If the respondent was a voucher recipient, ensure they are referring to the voucher toilet. Select all that apply.</i>    | It is robust, the pit won't collapse<br>I am happy to have my own toilet<br>It has ventilation<br>It doesn't smell<br>It is convenient to access and use<br>It is easy to clean<br>Nothing<br>Other: _____<br>Don't know  | 1<br><br>2<br><br>3<br>4<br>5<br><br>6<br>0<br>96<br>99   |              |
| F2                             | What do you dislike about this toilet?<br><br><i>If the respondent was a voucher recipient, ensure they are referring to the voucher toilet. Select all that apply.</i> | Dirty<br>Fear of infection<br>Inconveniently located<br>Security concerns<br>Fear of going at night<br>Toilet is not comfortable<br>I fear the pit/slab will collapse<br>Dark<br>Lacks privacy<br>Bad smell<br>Too many bugs/flies<br>Too small, no space<br>Pit is full or almost full<br>Pit floods during rainy season<br>Taboo to defecate over another's man feces<br>Too many people use the same toilet<br>Same toilet for men and women<br>Wants to upgrade roof<br>Wants to upgrade walls<br>Wants to upgrade floor<br>No door | 1<br>2<br>3<br>4<br>5<br>6<br>7<br><br>8<br>9<br>10<br>11<br>12<br>13<br>14<br><br>15<br><br>16<br><br>17<br><br>18<br>19<br>20<br>21 |              |



| <b>BENEFICIARIES</b> (if V0=1)     |  |   |  |       |
|------------------------------------|--|---|--|-------|
| No.                                | Endline questions  | Answer Choices  | Code   | Logic |
|                                    |  | No/insufficient ventilation<br>Burden of using water<br>Would prefer having own toilet and not sharing with other households<br>Don't always have access<br>Slab is not robust/durable enough<br>No handwashing station<br>Pit and/or superstructure have collapsed<br>Other: _____<br>Don't know | 22<br>23<br>24<br><br>25<br>26<br><br>27<br>28<br><br>96<br>99 |       |
| F4                                 | <i>[If household reported using a toilet]</i><br>Is this the toilet that you use for defecation?<br><br><i>If the respondent was a voucher recipient, ensure they are referring to the voucher toilet.</i> | Yes, this is the toilet I use<br>No, I use a different toilet   | 1<br>0   | >>G1  |
| F5                                 | How satisfied are you with the toilet that you use?  | Very satisfied<br>Satisfied<br>Somewhat NOT satisfied<br>Very NOT satisfied<br>Refuse to answer<br>Don't know   | 4<br>3<br>2<br>1<br>98<br>99                                   |       |
| F6                                 | What do you like about the toilet that you use?<br><br><i>Select all that apply.</i>   | It is robust, the pit won't collapse<br>I am happy to have my own toilet<br>It has ventilation<br>It doesn't smell<br>It is convenient to access and use<br>It is easy to clean<br>Other: _____<br>Don't know   | 1<br>2<br>3<br>4<br>5<br>6<br>96<br>99                         |       |
| F7                                 | What do you dislike about the toilet that you use?<br><br><i>Select all that apply.</i>  | Same answer choices as F3   |  |       |
| F8<br>[if V0=1 and F4=0]           | Does anyone IN YOUR HOUSEHOLD use the toilet from the voucher program?   | Yes<br>No<br>Don't know   | 1<br>0<br>99   |       |
| F9<br>[if V0=1 and F4=0]           | Does anyone OUTSIDE YOUR HOUSEHOLD use the toilet from the voucher program?  | Yes<br>No<br>Don't know   | 1<br>0<br>99   |       |
| <b>NON-BENEFICIARIES</b> (if V0=0) |  |   |  |       |
| J0                                 | Did you know that vulnerable and poor households in your   | Yes<br>No   | 1<br>0   |       |

| <b>BENEFICIARIES</b> (if V0=1) |  |   |                                      |                  |
|--------------------------------|--|---|--------------------------------------|------------------|
| No.                            | Endline questions  | Answer Choices  | Code                                 | Logic            |
|                                | community received vouchers to build more durable toilets?   |   |                                      |                  |
| J1                             | Did you build a new toilet or upgrade your existing toilet since vouchers were distributed in your community?  | Yes, I built a new toilet<br>Yes, I upgraded or made renovations to my existing toilet<br>No  | 1<br>2<br>0                          | >>J3<br><br>>>J5 |
| J2                             | What type of toilet did you build?   | Masonry<br>Pre-cast<br>Digni-Loo<br>Other: _____  | 1<br>2<br>3<br>96                    |                  |
| J3                             | What type of renovations or upgrades did you make?   | Improved superstructure<br>Reinforced the slab<br>Reinforced the pit<br>Added ventilation<br>Other: _____<br>Don't know   | 1<br>2<br>3<br>4<br>96<br>99         |                  |
| J4                             | Did the artisans who came in the community to redeem vouchers help you with your construction/renovation?  | Yes<br>No<br>Don't know   | 1<br>0<br>99                         |                  |
| J5                             | <i>[If they don't own a toilet]</i><br>Considering your other priorities, when is your household <u>most likely</u> to build a new toilet?   | Between 0 and 6 months<br>Between 6 and 12 months<br>Between 12 and 24 months<br>In more than 2 years<br>Don't know   | 1<br>2<br>3<br>4<br>99<br>97         |                  |
| J5variant                      | <i>[If they own a toilet]</i><br>Considering your other priorities, when is your household <u>most likely</u> to build a MORE DURABLE TOILET?<br><br><i>Durable=with concrete/plastic slab and pit lining.</i> | This household already has a durable toilet (i.e. with concrete/plastic slab and pit lining)  |                                      |                  |
| B15                            | <i>[If they don't own a toilet]</i><br>What has prevented you from building/rebuilding a toilet so far?  | Too expensive/not enough money<br>Don't have enough time<br>Competing priorities<br>Don't know how to find qualified artisans<br>Don't like any of the options<br>Don't own my house<br>Waiting to build a new house<br>I am too sick/old/weak to plan it | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8 |                  |
| B15variant                     | <i>[If they own a toilet that is not durable]</i><br>What has prevented you from building a MORE DURABLE TOILET so far (with durable slab and pit lining)?   | Rainy or farming season<br>Not enough space to build one<br>Just arrived in community   | 9<br>10<br>11<br>12                  |                  |

| <b>BENEFICIARIES</b> (if V0=1) |  |   |  |       |
|--------------------------------|--|---|--|-------|
| No.                            | Endline questions  | Answer Choices  | Code   | Logic |
|                                |  | Not enough water to build a toilet<br>Technically difficult (waterlogged, unstable or rocky soil)<br>Not a household head or decision maker / decision maker is away<br>Happy to share with other households<br>Waiting on NGO to build toilet<br>No specific reason<br>Currently building a toilet<br>Other: _____<br>Don't know | 13<br><br>14<br><br>15<br><br>16<br><br>17<br><br>18<br><br>96<br><br>99 |       |
| F1-nonbenef                    | <i>[If they own a toilet]</i><br>How satisfied are you with your toilet (that you own)?                            | Very satisfied<br>Satisfied<br>Somewhat NOT satisfied<br>Very NOT satisfied<br>Refuse to answer<br>Don't know   | 4<br>3<br>2<br>1<br>98<br>99   |       |
| F3                             | What do you like about this toilet?  | See above   |  |       |
| F2                             | What do you dislike about this toilet?   |   |  |       |
| F4                             | <i>[If household reported using a toilet and owns a toilet]</i><br>Is this the toilet that you use for defecation? |   |  |       |
| F5                             | How satisfied are you with the toilet that you use?  |   |  |       |
| F6                             | What do you like about the toilet that you use?  |   |  |       |
| F7                             | What do you dislike about the toilet that you use?   |   |  |       |

| No.  | Socioeconomic indicators   | Answer Choices  | Code                  | Logic |
|--|--|---|-----------------------|-------|
| Now I will ask you questions about your household dwelling and assets. |  |   |                       |       |
| G0   | Does your household own the dwelling?  | Owning<br>Renting<br>Rent-free<br>Perching<br>Squatting | 1<br>2<br>3<br>4<br>5 |       |
| G1   | How many rooms does <u>your household</u> occupy for living, eating, and sleeping?<br><i>Do not count bathroom, kitchen, storage rooms, or toilet.</i> |   |                       |       |
| G1b  | How many of these rooms are used for sleeping?   |   |                       |       |

| No. | Socioeconomic indicators   | Answer Choices  | Code   | Logic |
|-----|--|---|--|-------|
| G2  | What is the main source of lighting for your dwelling?                     | Electricity (mains)<br>Electricity (private generator)<br>Kerosene lamp<br>Gas lamp<br>Solar energy<br>Candle<br>Flashlight/Torch<br>Firewood<br>Crop residue<br>None<br>Other: _____<br>Refuse to answer<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>0<br>96<br>98<br>99 |       |
| G20 | What is the main fuel used by this household for cooking?                  | None, no cooking<br>Wood<br>Charcoal<br>Gas<br>Electricity<br>Kerosene<br>Crop residue<br>Sawdust<br>Animal waste<br>Other: _____<br>Don't know   | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>99            |       |
| G3  | What is the main construction material used for the dwelling's outer wall? | Mud/Mud bricks/Earth<br>Wood<br>Metal Sheet/ Slate/Asbestos<br>Stone<br>Burnt bricks<br>Cement blocks/Concrete<br>Landcrete<br>Bamboo<br>Palm leaves/ Thatch/Grass<br>Other: _____<br>Cannot observe/don't know         | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>96<br>99            |       |
| G4  | What is the main material used for the dwelling's roof?                    | Mud/Mud bricks/Earth<br>Wood<br>Zinc<br>Slate/Asbestos<br>Cement/Concrete<br>Bamboo<br>Palm leaves/Thatch/Grass<br>Roofing tile<br>Other: _____<br>Cannot observe/don't know  | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>99                 |       |
| G5  | What is the main construction material used for the dwelling's floor?      | Earth/Mud<br>Cement/Concrete<br>Stone<br>Burnt brick<br>Wood<br>Vinyl tiles<br>Ceramic/Porcelain/Granite/Marble tiles<br>Terrazzo/Terrazzo tiles  | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                             |       |

| No. | Socioeconomic indicators  | Answer Choices   | Code   | Logic |
|-----|---|--|--|-------|
|     |   | Other: _____<br>Cannot observe/don't know  | 96<br>99   |       |
| G6  | What is the main source of drinking water for members of your household?  | Piped water inside dwelling<br>Piped water to plot<br>Piped water to neighbor<br>Piped water to public tap/standpipe<br>Tube-well or borehole<br>Protected dug well<br>Unprotected dug well<br>Protected spring<br>Unprotected spring<br>Rainwater<br>Tanker truck/vendor<br>Bottled water<br>Sachet water<br>River/stream<br>Dugout/pond/lake/dam/canal<br>Other: _____<br>Refuse to answer<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>96<br>98<br>99  |       |
| G7  | Does <u>your household</u> own livestock?<br><i>Probe for bullocks.<br/>Enter number. If more than 8, enter the number '8'. If unknown, enter '99'.</i> | Donkey, horse, bullock<br>Cattle (cows AND calves)<br>Sheep<br>Goats<br>Pigs<br>Poultry, guinea fowl   | —<br>—<br>—<br>—<br>—<br>—   |       |
| G8  | Does <u>your household</u> own the following items related to agriculture and fishing?  | Tractor/harvester<br>Plough<br>Trailer/cart<br>Spraying machine/knapsack<br>Canoe<br>Fishing net<br>Food processor/blender   | Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk   |       |
| G9  | Does anyone in <u>your household</u> own any of the following items?  | Sewing machine<br>Stove (kerosene, gas, electric)<br>Refrigerator/freezer<br>Box or electric iron<br>Radio/Radio cassette/CD player/mp3<br>Television<br>Computer/tablet<br>Electric fan<br>Car<br>Motorbike/Tricycle<br>Bicycle<br>Mobile phone<br>Wall clock<br>Bed<br>Table<br>Chair<br>Cabinet/cupboard<br>Wrist watch   | Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk<br>Y/N/dk |       |

| No.     | Socioeconomic indicators  | Answer Choices                              | Code               | Logic                   |
|---------|---|---|--------------------|-------------------------|
| G9I_all | <i>[If there is at least one phone]</i><br>Does every adult in the household own a mobile phone?  | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| G14     | <i>[If there is at least one phone and the household was not surveyed at baseline]</i><br>Record a phone number for the household                       | _____                                       |                    |                         |
| G10     | Does <u>your household</u> own land for farming/pastoralism?  | Yes<br>No<br>Refuse to answer<br>Don't know | 1<br>0<br>98<br>99 | >>A38<br>>>A38<br>>>A38 |
| G11     | How many acres does <u>your household</u> own for farming/pastoralism?<br><i>Type 99 if don't know</i>  | _____                                       |                    |                         |
| G12     | Does your household have access to land for farming/pastoralism?  | Yes<br>No<br>Refuse to answer<br>Don't know | 1<br>0<br>98<br>99 | >>A38<br>>>A38<br>>>A38 |
| G13     | How many acres does your household have access to for farming/pastoralism?<br><i>Type 99 if don't know</i>  | _____                                       |                    |                         |
| A38     | Does someone in your household have a LEAP card?<br><i>(Ask to see the LEAP card)</i>   | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| A39     | <i>[IF A43=1]</i><br>Does the respondent have a LEAP card?  | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| A40     | <i>[IF A8=0 AND A43=1]</i><br>Does the head of household have a LEAP card?<br><i>Consider asking to see the LEAP card if needed to confirm.</i>         | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| G15     | Is your household able to feed itself all year round without help from neighbors or relatives?  | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| G16     | Does your household receive support from children or relatives providing for you?   | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| G17     | Is any member of your household part of a VSLA/susu?  | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| G18     | In the past month, has your household <u>purchased</u> any chicken eggs (fresh or single)?<br><br><i>We are only interested in <u>chicken</u> eggs.</i> | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |
| G19     | In the past month, has your household purchased any raw or corned beef? (Include any cow products, such as beef with or                                 | Yes<br>No<br>Don't know                     | 1<br>0<br>99       |                         |

| No. | Socioeconomic indicators  | Answer Choices | Code | Logic |
|-----|---|----------------|------|-------|
|     | without bones, cow leg, cow head, cow offals, lele corned beef, exeter corned beef, bella corned beef, or any other cow products or corned beef.) |                |      |       |

| No. | Social cohesion   | Answer Choices   | Code                   | Logic |
|-----|---|--|------------------------|-------|
| K3  | How much do you agree with the following statement:<br><br>If there is a sanitation problem in this community, all households will cooperate to try to solve the problem. | Very much agree<br>Somewhat agree<br>Somewhat disagree<br>Very much disagree<br>Don't know | 4<br>3<br>2<br>1<br>99 |       |
| K4  | How much do you agree with the following statement:<br><br>In this community, households who own a toilet allow other households to use it.                               | Very much agree<br>Somewhat agree<br>Somewhat disagree<br>Very much disagree<br>Don't know | 4<br>3<br>2<br>1<br>99 |       |

### Willingness-to-pay Questions

| No.  | WTP scenarios  | Answer Choices   | Code              | Logic           |
|--|--|--|-------------------|-----------------|
| Now I would like to ask you about a hypothetical referendum in your community.                                 |  |  |                   |                 |
| <b>SCENARIO 1: Read script about the SYSTEM OF FINES.</b><br><b>Random amounts: [1, 25, 50, 150, 250] GHS.</b> |  |  |                   |                 |
| SI_CurrentSystem   | Is there a system of fines to sanction open defecation in your community?  | Yes<br>There used to be, but no longer<br>No<br>Don't know                 | 1<br>2<br>0<br>99 |                 |
| SI_Check   | Have you read the script about FINES and clarified any questions?  | Yes<br>No  | 1<br>0            | >>Start again   |
| SI_Q1  | Would you be willing to vote yes to contribute <b>[Random amount]</b> GHS PER MONTH to pay a professional enforcer to ensure that all households use a toilet to defecate when at home and do not open defecate in your community? | Yes<br>No<br>Don't know  | 1<br>0<br>99      | >>SI_FinesAlone |
| SI_Certainly   | <i>[If SI_Q1 = 1]</i><br>Are you still certain you would be willing to vote yes to contribute <b>[Random amount]</b> GHS PER MONTH?  | Very certain<br>Not very certain, it depends on many factors<br>Don't know | 1<br>0<br>99      |                 |
| SI_FinesAlone  | <i>[If SI_Q1 = 1 and SI_CurrentSystem=0, 2 or 99]</i><br><br>Even though you would not pay <b>[Random amount]</b> GHS PER MONTH for a professional enforcer, would you   | Yes<br>No<br>Don't know  | 1<br>0<br>99      |                 |

| No.  | WTP scenarios  | Answer Choices   | Code              | Logic              |
|--|--|--|-------------------|--------------------|
|  | still vote in favor of instituting fines in your community?  |  |                   |                    |
| SI_WhyNo   | [If SI_Q1 = 1 and SI_CurrentSystem=1]<br>Why would you vote “no”?  | Because the current system works well<br>Because fines are not fair<br>Any other reason: _____<br>Don't know                               | 1<br>2<br>3<br>99 |                    |
| SI_WTP   | What is the maximum amount you would be willing to pay PER MONTH?  | _____ GHS  |                   |                    |
| SI_Effectiveness   | Do you think that people would still practice open defecation, even with this system of fines and professional enforcer? | Yes<br>No<br>Don't know  | 1<br>0<br>99      |                    |
| SI_Catch   | Do you think that the professional enforcer would catch people open defecating?  | Yes<br>No<br>Don't know  | 1<br>0<br>99      |                    |
| SI_OpinionFineAmount   | Do you think a 50 GHS fine is a good amount for open defecators?   | Yes, it is a good amount<br>No, the amount is too high<br>No, the amount is too low<br>Don't know  | 1<br>2<br>3<br>99 | >>End              |
| SI_RecommendedFineAmount   | What should the fine amount be to discourage people from open defecating?  | _____ GHS  |                   |                    |
| <b>SCENARIO 2: Read script about the FUND FOR DURABLE TOILETS. Random amounts: [10, 100, 250, 500, 1000]. GHS.</b> |  |  |                   |                    |
| S2_Check   | Have you read the script about DURABLE TOILETS and clarified any questions?  | Yes<br>No  | 1<br>0            | >>Start again      |
| S2_Q1  | Would you be willing to contribute [Random amount] GHS to ensure everyone in your community owns a durable toilet?       | Yes<br>No<br>Don't know  | 1<br>0<br>99      | >>S2_CertainNotPay |
| S2_Certainty   | Are you still certain you would be willing to contribute [Random amount] GHS?  | Very certain<br>Not very certain, it depends on many factors<br>Don't know   | 1<br>0<br>99      |                    |
| S2_WTP   | What is the maximum amount you would be willing to pay?  | _____ GHS  |                   |                    |
| S2_BestUse   | Do you think this fund should be used for everyone in the community or just the poor households?                         | For everyone in the community<br>Just for the poor and vulnerable<br>Only for those without a durable toilet sub-structure<br>Other: _____ | 1<br>2<br>3<br>96 |                    |



| No.         | WTP scenarios  | Answer Choices  | Code              | Logic |
|-------------|--|---|-------------------|-------|
|             |  | Don't know  | 99                |       |
| S2_Concerns | Do you think this fund would be used appropriately to ensure that poor households gained access to a durable toilet?             | Yes<br>It depends on who manages the fund<br>No<br>Don't know | 1<br>2<br>0<br>99 |       |
| S_Change    | ENUMERATOR: Did you need to backtrack and correct the willingness-to-pay responses after discussing further with the respondent? | Yes<br>No   | 1<br>2            |       |

| No. | Final observation and end  | Answer Choices              | Code         | Logic |
|-----|--|-----------------------------|--------------|-------|
| H1a | This concludes our survey. Thank you very much for your time.<br><i>Give soap to respondent.</i>   |                             |              |       |
| GPS | TAKE GPS MEASUREMENT. <i>As close as possible to the household.</i>  |                             |              |       |
| H1b | Write household ID with chalk: \${NEW_HH_ID}   |                             |              |       |
| H1c | Write compound ID with chalk: \${NEW_Compound_ID}  |                             |              |       |
| H2a | ENUMERATOR: have you already inspected the surroundings of this household when surveying a previous household?   | Yes<br>No<br>Don't know     | 1<br>0<br>99 | >>H3  |
| H2b | OBSERVE: Are there human feces present in the immediate environment of the household (that are not inside a toilet)?<br><i>Check surroundings and refuse dump.</i> | Yes<br>No<br>Cannot observe | 1<br>0<br>99 |       |
| H3  | Any comments or notes from the enumerator.<br><i>Indicate if you have reasons to believe that the respondent was not truthful.</i>                                 |                             |              |       |

## **The following scripts were used to introduce each WTP section**

### **Scenario 1**

To ensure that the community maintains its ODF status, some chiefs might fine households and people who are spotted open defecating. The fines would apply both to residents of the community and to people just visiting or passing through. To make sure that everyone has a working toilet and does not open defecate, the community would need to hire professional enforcers to monitor that everyone is following this rule. The professional enforcers would walk through the community once a week and randomly visit households to identify which households do not have toilet. When professional enforcers find households without toilets, they will focus their monitoring efforts on the residents of those households. If anyone is spotted open defecating, that person would have to pay 50 GHS as a fine for open defecating.

This community can share the costs of hiring professional enforcers to monitor whether people practice open defecation with some neighboring communities, but every participating community would need to contribute to covering the costs of the professional enforcers. Any community that does not contribute would not have a professional enforcer monitoring open defecation in that community. To participate, every household in this community would need to contribute [RANDOM AMOUNT SELECTED] [1/25/50/150/250] GHS per month. The chief would require every household to pay this amount.

For this to go forward, everyone in the community would need to vote on whether they would be willing to contribute AMOUNT [1/25/50/150/250] GHS each month to pay for the enforcement or not. The enforcement would fine people 50 GHS if they are spotted open defecating.

### **Scenario 2**

The type of toilet households use is also important. Some toilets are poorly constructed and easily collapse. There are a number of different types of toilets that will offer durability, privacy, and safety.

However, since the community was declared ODF a number of households have stopped using their toilets or no longer have a functional toilet. We are interested in creating a fund to help the poorest and most vulnerable households in the community build or repair their toilets to make sure they are durable, have privacy, and are safe to use. To do this we will need to hire local workers to help upgrade or construct new toilets. The recipients of the support could pick one of these toilet sub-structures for their household (SHOW PICTURES).

This program will be costly, and while an external person may be willing to provide support for it, community members will also need to contribute. The community will be allowed to decide whether the Chief or a natural leader will manage this fund. For this project to occur, every household would need to pay a one-time amount of [pick random \$AMOUNT from [10/100/250/500/1000]]. This project would only happen if every household provides a one-time payment of random \$AMOUNT selected [10/100/250/500/1000].

## **Endline Village Survey**

To be conducted with a village chief (and a subset of questions to a Natural Leader, separately).

|                            |                 |  |
|----------------------------|-----------------|--|
| <b>Geographic location</b> | District:       |  |
|                            | Community:      |  |
|                            | GPS coordinates |  |

| No.          | Question  | Answer Choices   | Code  | Logic             |
|--------------|---|--|---|-------------------|
| A00          | Are you interviewing the chief, a village elder, or another type of respondent?   | Chief<br>Village elder<br>Assembly man<br>Unit committee member<br>Pastor/Imam<br>Other: _____   | 1<br>2<br>3<br>4<br>5<br>96   |                   |
| A1           | Is the respondent >18 and available to be interviewed?  | Yes<br>No  | 1<br>0  | >>End             |
| A2           | READ CONSENT FORM<br>Are you willing to participate in the study?   | Yes<br>Yes, though at a later time: _____<br>No  | 1<br>2<br>0   | >>Return<br>>>End |
| A3           | How many times have you tried to interview the respondent?  | _____  |   | >>End if >2       |
| Ineligible B | The respondent is ineligible.<br><br>Why was the respondent ineligible?   | Respondent unavailable after 3 attempts<br>Respondent not willing to participate<br>Respondent was not over 18 years old<br>Other: _____   | 1<br>2<br>3<br>96   |                   |
| A6           | Family name/last name:  |  |   |                   |
| A7           | Respondent first name:  |  |   |                   |
| A8           | Respondent popular name:  |  |   |                   |
| A9           | Respondent gender:  | Female<br>Male   | 2<br>1  |                   |
| No.          | Demographics  | Answer Choices   | Code  | Logic             |
| B3           | In your opinion, what are the main problems in this community?<br><i>Select up to 3.</i>  | Poverty<br>Lack of food<br>Lack of jobs<br>Education<br>Road access<br>Electricity<br>Flooding<br>Drought<br>Child health<br>Hospital access<br>Water supply<br>Sanitation<br>Other: _____<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>96<br>99 |                   |
| B4           | Are some community members enrolled in the LEAP program? (do they have a card that entitles them to financial help from the District Assembly?) | Yes<br>No<br>Don't know  | 1<br>0<br>99  |                   |
| B6           | Does this community have a Village Savings and Loans Association (VSLA) or susu?  | Yes<br>No<br>Don't know  | 1<br>0<br>99  |                   |
| No.          | Sanitation  | Answer Choices   | Code  | Logic             |
| D1           | In this community, what proportion of households own a toilet?  | All<br>Most<br>Approximately half  | 4<br>3<br>2   |                   |

| No.             | Question   | Answer Choices  | Code                         | Logic                                  |
|-----------------|--|---|------------------------------|--|
|                 |  | Some<br>None<br>Don't know  | 1<br>0<br>99                 |  |
| D2              | In some communities, people use the bush or dig & bury to defecate. Do you know if that happens in this community?   | Yes, regularly<br>Yes, but rarely<br>Yes, but only for children<br>No<br>Don't know                           | 1<br>2<br>3<br>0<br>99       |  |
| D4              | What happens if a community member is found open defecating? (are there any rules or by-laws that apply in this case?)<br><br><i>Select all that apply</i>   | Warning<br>Fine<br>There used to be a fine, but it is no longer applied<br>Other: _____<br>None<br>Don't know | 1<br>2<br>3<br>96<br>0<br>99 | >>D5<br>>>D10b<br>>>D5<br>>>D6<br>>>D6 |
| D10             | What is the fine amount?   | _____ GHS   |                              |  |
| D10b            | What was the fine amount?  | _____ GHS   |                              |  |
| D5              | Have you taken these actions in the past year?   | Yes<br>No<br>Don't know   | 1<br>0<br>99                 |  |
| D11             | If someone practices open defecation, how often do you think they get caught?  | Always<br>Usually<br>Sometimes<br>Rarely<br>Never<br>Don't know   | 4<br>3<br>2<br>1<br>0<br>99  |  |
| NOTE<br>If D4=2 | Save as incomplete<br>Please refer to qualitative questions on fines.<br>Make sure to record the responses then resume the incomplete survey in CommCare.<br>After completing the recording, save it in your folder in Dropbox as "Fines_community name_respondent_date" |   |                              |  |
| D6              | Does this community have any members trained on latrine construction?<br><i>e.g., artisans, masons, community technical volunteers.</i>  | Yes<br>No<br>Don't know   | 1<br>0<br>99                 |  |
| D7              | In the past two years, has this community received other NGO programs related to water or sanitation?<br><br><i>Select all that apply</i><br><br><i>We are only interested in programs that took place since baseline.</i>   | Water supply<br>Sanitation<br>Handwashing<br>Other: _____<br>Don't know<br>None                               | 1<br>2<br>3<br>96<br>99<br>0 |  |
| No.             | Community involvement and social cohesion  | Answer Choices  | Code                         | Logic                                  |
| G1              | How active are the Natural Leaders in this community compared to the beginning of the sanitation program?  | Similarly active<br>Less active<br>More active<br>Don't know  | 1<br>2<br>3<br>99            |  |

| No.  | Question   | Answer Choices  | Code  | Logic        |
|------|--|---|---|--------------|
|      |  | We don't have Natural Leaders   | 0   | >>G3         |
| G2   | What activities do Natural Leaders currently engage in to support the community?<br><br><i>Select all that apply</i>         | Lead community meetings<br>Encourage households to build or maintain toilets<br>Provide technical guidance on toilet construction<br>Help identify open defecators<br>Coordinate with government officials and/or NGOs<br>Organize assistance programs for poor and vulnerable<br>Organize community-wide development projects (e.g., water)<br>Help with immunization campaigns<br>Other: _____<br>Don't know<br>No activities | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>96<br>99<br>0 |              |
| G3   | How do community members support residents who are poor and vulnerable?<br><br><i>Select all that apply</i>                  | Provide food<br>Provide money<br>Provide construction materials<br>Provide labor for construction projects<br>Provide labor for farming<br>Provide clothing<br>Other: _____<br>Don't know<br>No support   | 1<br>2<br>3<br>4<br>5<br>6<br>96<br>99<br>0           |              |
| G4_1 | Is there a task force in place to fight open defecation?   | Yes<br>No<br>Don't know   | 1<br>0<br>99  | >>G4<br>>>G4 |
| G4_2 | How does this task force fight open defecation?  | _____   |   |              |
| G5   | If there is a sanitation problem in this community, how likely is it that people will cooperate to try to solve the problem? | Very likely<br>Somewhat likely<br>Somewhat unlikely<br>Very unlikely<br>Don't know  | 4<br>3<br>2<br>1<br>99                                |              |
| No.  | Final observation and end  | Answer Choices  | Code  | Logic        |
| F1   | This concludes our survey. Would you like to add anything?   |   |   |              |
| F2   | Any comments or notes from the supervisor. Indicate if you have reasons to believe that the respondent was not truthful.     |   |   |              |

## Fines for Open Defecation Qualitative Questions

Please record responses for these questions on your phone

1. If you have not fined anyone in the past year, why have you not taken these actions in the past year?
2. If you found someone open defecating tomorrow, what would you do?
3. How would you decide if you will fine this person or not?
4. In your experience, do people pay the fine?
5. How does this influence their future behavior?

## VSLA/Susu Interview

To be conducted with VSLA leadership if village has a VSLA/susu.

|                             |         |             |
|-----------------------------|---------|-------------|
| <b>VSLA/susu leadership</b> | Name:   |             |
|                             | Gender: | Male/Female |

Note to interviewer: This brief VSLA interview is designed to be somewhat open-ended, allowing the VSLA leadership to elaborate on the operation, management, and impact of the VSLA within the village. Please ensure that the respondent provides informed consent before audio recording the interview. If the respondent does not provide consent to be recorded but still consents to be interviewed, please record yourself repeating their responses after the interview has concluded. The recording can be saved in your folder in Dropbox with the name “VSLA\_community name\_date”.

1. How did the VSLA originate? Did any organizations or government officials support the VSLA as it was put into place?
2. How many VSLAs are in this community?
3. How many community members currently participate in the VSLA? Do most or all of the residents in the community participate?
4. What services does the VSLA provide to its members (e.g., savings, loans, insurance, emergency funds)?
5. When members take out loans, how do they typically use the funds? What types of projects do they engage in? (Probe for sanitation, if not mentioned)
6. What percentage of loans are paid back successfully and on time? How does the VSLA handle non-payment?
7. In what ways do you think the VSLA helps to support the community?
8. How do you think people in the community see the VSLA? Do they think it is a valuable institution? In what ways?
9. In what ways, if any, do you think the VSLA may have an impact on sanitation in this community (the number of people with toilets, the number of people open defecating)?

## Endline Natural Leader Survey

|                            |                 |  |
|----------------------------|-----------------|--|
| <b>Geographic location</b> | District:       |  |
|                            | Community:      |  |
|                            | GPS coordinates |  |

| No.          | Question  | Answer Choices   | Code  | Logic             |
|--------------|---|--|---|-------------------|
| A00          | Are you interviewing the chief, a village elder, or another type of respondent?   | Chief<br>Village elder<br>Assembly man<br>Unit committee member<br>Pastor/Imam<br>Other: _____   | 1<br>2<br>3<br>4<br>5<br>96   |                   |
| A1           | Is the respondent >18 and available to be interviewed?                            | Yes<br>No  | 1<br>0  | >>End             |
| A2           | READ CONSENT FORM<br>Are you willing to participate in the study?                 | Yes<br>Yes, though at a later time: _____<br>No  | 1<br>2<br>0   | >>Return<br>>>End |
| A3           | How many times have you tried to interview the respondent?                        | _____  |   | >>End if >2       |
| Ineligible B | The respondent is ineligible.<br>Why was the respondent ineligible?               | Respondent unavailable after 3 attempts<br>Respondent not willing to participate<br>Respondent was not over 18 years old<br>Other: _____   | 1<br>2<br>3<br>96   |                   |
| A6           | Family name/last name:  |  |   |                   |
| A7           | Respondent first name:  |  |   |                   |
| A8           | Respondent popular name:  |  |   |                   |
| A9           | Respondent gender:  | Female<br>Male   | 2<br>1  |                   |
| No.          | Demographics  | Answer Choices   | Code  | Logic             |
| B3           | In your opinion, what are the main problems in this community?<br>Select up to 3. | Poverty<br>Lack of food<br>Lack of jobs<br>Education<br>Road access<br>Electricity<br>Flooding<br>Drought<br>Child health<br>Hospital access<br>Water supply<br>Sanitation<br>Other: _____<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>96<br>99 |                   |
| No.          | Sanitation  | Answer Choices   | Code  | Logic             |
| D1           | In this community, what proportion of households own a toilet?                    | All<br>Most<br>Approximately half<br>Some  | 4<br>3<br>2<br>1  |                   |

| No.             | Question   | Answer Choices  | Code                         | Logic                                  |
|-----------------|--|---|------------------------------|--|
|                 |  | None<br>Don't know  | 0<br>99                      |  |
| D2              | In some communities, people use the bush or dig & bury to defecate. Do you know if that happens in this community?   | Yes, regularly<br>Yes, but rarely<br>Yes, but only for children<br>No<br>Don't know   | 1<br>2<br>3<br>0<br>99       |  |
| D4              | What happens if a community member is found open defecating? (are there any rules or by-laws that apply in this case?)<br><br><i>Select all that apply</i>   | Warning<br>Fine<br>There used to be a fine, but it is no longer applied<br>Other: _____<br>None<br>Don't know                     | 1<br>2<br>3<br>96<br>0<br>99 | >>D5<br>>>D10b<br>>>D5<br>>>D6<br>>>D6 |
| D10             | What is the fine amount?   | _____ GHS   |                              |  |
| D10b            | What was the fine amount?  | _____ GHS   |                              |  |
| D5              | Have you taken these actions in the past year?   | Yes<br>No<br>Don't know   | 1<br>0<br>99                 |  |
| D11             | If someone practices open defecation, how often do you think they get caught?  | Always<br>Usually<br>Sometimes<br>Rarely<br>Never<br>Don't know   | 4<br>3<br>2<br>1<br>0<br>99  |  |
| NOTE<br>If D4=2 | Save as incomplete<br>Please refer to qualitative questions on fines.<br>Make sure to record the responses then resume the incomplete survey in CommCare.<br>After completing the recording, save it in your folder in Dropbox as "Fines_community name_respondent_date" |   |                              |  |
| D7              | In the past two years, has this community received other NGO programs related to water or sanitation?<br><br><i>Select all that apply</i><br><br><i>We are only interested in programs that took place since baseline.</i>   | Water supply<br>Sanitation<br>Handwashing<br>Other: _____<br>Don't know<br>None   | 1<br>2<br>3<br>96<br>99<br>0 |  |
| No.             | Community involvement and social cohesion  | Answer Choices  | Code                         | Logic                                  |
| G1              | How active are the Natural Leaders in this community compared to the beginning of the sanitation program?  | Similarly active<br>Less active<br>More active<br>Don't know<br>We don't have Natural Leaders                                     | 1<br>2<br>3<br>99<br>0       | >>G3                                   |
| G2              | What activities do Natural Leaders currently engage in to support the community?<br><br><i>Select all that apply</i>   | Lead community meetings<br>Encourage households to build or maintain toilets<br>Provide technical guidance on toilet construction | 1<br>2<br>3                  |  |



| No.  | Question   | Answer Choices   | Code  | Logic        |
|------|--|--|---|--------------|
|      |  | Help identify open defecators<br>Coordinate with government officials and/or NGOs<br>Organize assistance programs for poor and vulnerable<br>Organize community-wide development projects (e.g., water)<br>Help with immunization campaigns<br>Other: _____<br>Don't know<br>No activities | 4<br>5<br>6<br>7<br>8<br>96<br>99<br>0      |              |
| G3   | How do community members support residents who are poor and vulnerable?<br><br><i>Select all that apply</i>                  | Provide food<br>Provide money<br>Provide construction materials<br>Provide labor for construction projects<br>Provide labor for farming<br>Provide clothing<br>Other: _____<br>Don't know<br>No support  | 1<br>2<br>3<br>4<br>5<br>6<br>96<br>99<br>0 |              |
| G4_1 | Is there a task force in place to fight open defecation?   | Yes<br>No<br>Don't know  | 1<br>0<br>99                                | >>G4<br>>>G4 |
| G4_2 | How does this task force fight open defecation?  | _____  |   |              |
| G5   | If there is a sanitation problem in this community, how likely is it that people will cooperate to try to solve the problem? | Very likely<br>Somewhat likely<br>Somewhat unlikely<br>Very unlikely<br>Don't know   | 4<br>3<br>2<br>1<br>99                      |              |
| No.  | Final observation and end  | Answer Choices   | Code  | Logic        |
| F1   | This concludes our survey. Would you like to add anything?   |  |   |              |
| F2   | Any comments or notes from the supervisor. Indicate if you have reasons to believe that the respondent was not truthful.     |  |   |              |

### Fines for Open Defecation Qualitative Questions

Please record responses for these questions on your phone

1. If you have not fined anyone in the past year, why have you not taken these actions in the past year?
2. If you found someone open defecating tomorrow, what would you do?
3. How would you decide if you will fine this person or not?
4. In your experience, do people pay the fine?
5. How does this influence their future behavior?

## APPENDIX 2: STEP-BY-STEP PROTOCOL FOR IDENTIFYING ELIGIBLE HOUSEHOLDS

DA field facilitators identified households eligible for the subsidy in study communities using the protocol described below. **Field Day 1: Community Entry and Preparation**

1. Assign a field facilitator different from the one who implemented CLTS, otherwise the community will immediately know that the program is about sanitation. Assigning a new field facilitator will also limit bias and favoritism.
2. Approach the chief to schedule a date for a community meeting.
  - a. Observe local norms: use a contact person to take you to the chief and make a courtesy visit.
  - b. On this day, do not mention the Social Fund program. Explain that the purpose of your visit is simply to learn from the community.
  - c. Select a time when every household can attend a community meeting, such as late afternoon. Avoid market days. To determine the appropriate date and time, it is recommended to consult not only with the chief but also with natural leaders and any other community member present.
  - d. Emphasize the importance of having all community members present, including women and vulnerable people.
3. If the community is enrolled in the LEAP program, retrieve the list of LEAP recipients from the Social Welfare Officer at the DA.

### Field Day 2: Community Consultation and Beneficiary Identification<sup>6</sup>

1. On this day, do not mention the Social Fund program.<sup>7</sup>
2. Start the meeting with an opening prayer and with an ice-breaker activity (e.g., songs, game, discussion about areas where the community is performing well).
3. Reiterate that the purpose of your visit is to learn from community members.
4. Ask the community how they define a “poor person who needs external support”.
  - a. Let them talk and provide examples.
  - b. As they speak, formalize their examples into the following categories:
    - Households that are not able to feed themselves all year round.
    - Households that have a “vulnerability” and no support from relatives, such as:
      - i. Elderly persons who do not have someone providing for them.
      - ii. Persons with severe disability or chronic illness resulting in inability to farm or work and who do not have someone providing for them.
      - iii. Widows who do not have someone providing for them.
      - iv. Orphans/child-headed households that do not have someone providing for them.
  - c. Get participants to agree or provide feedback; for example: “you are saying that households that cannot feed themselves all year round need external support. So, if such a household were to receive external support, would everyone approve? Would that create any jealousy?”
5. Conclude by listing the five categories that have been established.

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<sup>6</sup> Typically, the community consultation process takes approximately one hour on average (min: 0.5, max 2.5), and conducting all verification surveys take 2 – 3 hours depending on the number of designated households (13 minutes per survey on average). In total, therefore, Day 2 activities require a maximum of 4 hours per community.

<sup>7</sup> This is to avoid creating bias during the community consultation process. The Social Fund program will be mentioned for the first time during voucher distribution on a separate day.

6. Ask the community to list the households that fall within each category.
  - a. Example: “in this community, can you tell me how many elderly people there are?”. “Among those, who are the ones who do not have children or family members providing for them?”.
  - b. For each person listed, confirm that she/he doesn’t have someone providing for them. As per LEAP principles, having a disability or being aged is not sufficient; the household should also be without support from relatives.
  - c. Conclude by reading out the names of the households and confirming that they are vulnerable and poor and that no one is left out.
7. If available, consult the LEAP list. If it includes households that have not been mentioned during the community meeting, probe on whether these households are considered to be poor and vulnerable.
8. Tell community members that the list of vulnerable and poor households provided will be subject to verification processes.
9. Visit all pre-selected households (i.e., designated households) accompanied by a natural leader and complete the electronic eligibility verification form (Appendix 1B).

### **On a Later Day: Reviewing Electronic Forms**

Review responses from the household eligibility verification questionnaire. A household is eligible for the targeted subsidy if it meets the following three criteria:

1. It is not able to feed itself all year-round OR has a vulnerable person (widow, elderly, person with severe disability/chronic illness, or orphan) with no support from relatives.
2. It does not own a toilet with a durable sub-structure (slab + pit lining). Note that this criterion does not exclude all households with a functional toilet, rather only those that own a toilet with a durable slab and pit lining.
3. There is no other eligible household in the same compound.

### APPENDIX 3: ELIGIBILITY VERIFICATION FORM

This questionnaire is to be administered by the field facilitator in the local language. The field facilitator should interview the head-of-household or any other adult available. To respect the household's privacy and dignity, it is important for the interview to take place in private, i.e., not in the presence of community leaders or neighbors.

The questionnaire automatically determines household eligibility. A household was ineligible in any of the following situations:

- The household was able to feed itself all year round (B8 = Yes) and had no vulnerable person without support (B10 = 0).
- The household already owned a functional toilet with durable sub-structure:
  - D1=1-2 and D4=1 and D7=1 and D8=1 (i.e., owned a functional toilet)
  - D5=1-2 and (D6=1-2-3 or D9=2) (i.e., the sub-structure is durable)
- There was another eligible household in the same compound (D11=1).

A program staff reviewed survey answers to make a final determination of eligibility before distributing vouchers.

| No.                                    | Question  | Answer Choices  | Code                             |
|--|---|---|----------------------------------|
| <b>DATE AND GEOGRAPHIC LOCATION</b>    |   |   |                                  |
| A0                                     | Date  | _____   |                                  |
| A1                                     | District name:  | Tatale<br>Kpandai   | 1<br>2                           |
| A2                                     | Community name:<br>Select from drop-down list.  | _____   |                                  |
| A2Confirm                              | Do you confirm that the correct community name is _____ (response selected in A2)                     | Yes<br>No   | 1<br>0                           |
| <b>HOUSEHOLD SELECTION INFORMATION</b> |   |   |                                  |
| B1                                     | Was this household pre-selected during the community meeting?   | Yes<br>No<br>Don't know   | 1<br>0<br>99                     |
| B1a                                    | Name of the person identified as "vulnerable and poor"  | _____   |                                  |
| B1b                                    | Why did the community identify {B_01a} as "vulnerable and poor"?<br>Hint: Provide the primary reason. | Cannot feed all year round<br>Elderly person with nobody providing for him/her<br>Person with severe disability and nobody providing for him/her<br>Chronically-ill person with nobody providing for him/her<br>Widow with nobody providing for her<br>Orphan or child head of household with nobody providing for him/her<br>Other _____ | 1<br>2<br>3<br>4<br>5<br>6<br>96 |
| B2                                     | [If B1 = No or Don't know]<br>Who referred this household?  | _____   |                                  |
| B2b                                    | Why was this person identified as "vulnerable and poor"?<br>Hint: Provide the primary reason.         | _____   |                                  |

| No.   | Question   | Answer Choices  | Code                 |
|---|--|---|----------------------|
| B_00  | Is someone from the pre-selected household currently at home?  | Yes<br>No   | 1<br>0 >>End         |
| <b>HOUSEHOLD IDENTIFIERS</b>  |  |   |                      |
| D0Intro:  | You can now start the interview.   |   |                      |
| D0  | How many households live in this compound?   | _____   |                      |
| [If D0 >1] Make sure to identify the household to which the designated vulnerable person belongs. |  |   |                      |
| A3  | Household family name:<br>Hint: Household where the “poor and vulnerable” person lives   | _____   |                      |
| A4  | First name of the HEAD OF HOUSEHOLD:<br>Hint: Household where the “poor and vulnerable” person lives   | _____   |                      |
| A5  | Popular name of the HEAD OF HOUSEHOLD:<br>Hint: Household where the “poor and vulnerable” person lives   | _____   |                      |
| A6  | Gender of the HEAD OF HOUSEHOLD:<br>Hint: Household where the “poor and vulnerable” person lives   | Female<br>Male  | 1<br>2               |
| A8  | Aquaya household ID:<br>Hint 1: The household ID was written with chalk near the door of the household and on the consent form given to the household.<br>Hint 2: In addition, the compound ID was written with chalk near the door of the compound. | AQ-_____  |                      |
| A8a   | Do you confirm that {number provided in A8 above} is the Aquaya ID of the household WHERE THE "VULNERABLE AND POOR" PERSON LIVES?  | Yes<br>No   | 1<br>0               |
| [If A8a = No]<br>Please go back and correct Aquaya Household ID                                   |  |   |                      |
| A8b   | Take a photo of the consent form or door post showing Aquaya Household ID.   | Take Picture<br>Choose Image  |                      |
| <b>EXTREME POVERTY AND VULNERABILITY CATEGORIES</b>   |  |   |                      |
| D11   | Did the community identify other “vulnerable and poor” households in this compound?  | No, the community identified ONLY ONE “vulnerable and poor” household IN THIS COMPOUND<br><br>Yes, the community identified ONE OR MORE OTHER “vulnerable and poor” households IN THIS COMPOUND<br><br>Don't know | 0<br><br>1<br><br>99 |
| B3_1  | Does the household have an ELDERLY PERSON?   | Yes<br>No<br>Don't know   | 1<br>0<br>99         |
| B3_2  | Does the household have an ADULT WITH SEVERE DISABILITY?   | Yes<br>No<br>Don't know   | 1<br>0<br>99         |

| No.  | Question   | Answer Choices                                  | Code         |
|--|--|---|--------------|
| B3_3   | Does the household have an ADULT WITH CHRONIC ILLNESS?   | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B3_4   | Does the household have a CHILD WITH SEVERE DISABILITY?<br>[Hint: Under age 18]  | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B3_5   | Does the household have a CHILD WITH CHRONIC ILLNESS?<br>[Hint: Under age 18]  | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B3_6   | Does the household have a WIDOW?   | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B3_7   | Does the household have a CHILD HEAD-OF-HOUSEHOLD?   | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B3_8   | Does the household have ANY OTHER VULNERABILITY?   | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B3_8b  | [if B3_8=Yes]<br>Other vulnerability   | _____   |              |
| B4   | In total, how many people have a vulnerability in this household?  | _____   |              |
| Answer questions B5-B7 for each person with a vulnerability. |  |   |              |
| B5   | First name of the vulnerable person:   | _____   |              |
| B6   | Gender of the vulnerable {B_05} person:  | _____   |              |
| B7   | Does this vulnerable {B_05} person have children or relatives providing for him/her all the time?  | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B10Confirm   | Confirm: Total number of vulnerable persons who DON'T HAVE ANYONE PROVIDING for them is [based on response from B7]?   | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B12Confirm   | Confirm: Total number of vulnerable persons WHO HAVE SOMEONE PROVIDING for them is [based on response from B7]?  | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B8   | Is the household able to feed itself ALL YEAR ROUND without help from neighbours or relatives?<br><br>Probe: Are there times within the year when you are unable to feed yourself like you normally do? Are there periods within the year (Jan-Dec) that you find it difficult to feed yourself? | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |
| B8display  | You indicated that \${B_08longtext} Do you confirm?  | Yes, this is correct<br>No, this is NOT correct | 1<br>0       |
| B_08secondtime   | Is the household able to feed itself ALL YEAR ROUND without help from neighbors or relatives?<br><br>Probe: Are there times within the year when you are unable to feed yourself like you  | Yes<br>No<br>Don't know                         | 1<br>0<br>99 |

| No.                               | Question  | Answer Choices  | Code                                       |
|-----------------------------------|---|---|--|
|                                   | normally do? Are there periods within the year (Jan-Dec) that you find it difficult to feed yourself? |   |  |
| B9                                | Is this household in the LEAP program?<br>LEAP = BIFALADAM Aalik                                      | Yes<br>No<br>Don't know   | 1<br>0<br>99                               |
| <b>TOILET OWNERSHIP</b>           |   |   |  |
| D1                                | Does the household own a toilet?  | Yes, single owner<br>Yes, co-owner<br>No, doesn't own a toilet<br>Don't know  | 1<br>2<br>0<br>99                          |
| Ask permission to observe toilet. |   |   |  |
| D4                                | OBSERVE: is there any form of superstructure?   | Some form of superstructure<br>No superstructure at all<br>Don't know   | 1<br>0<br>99                               |
| D5                                | OBSERVE: what is the material of the toilet floor?  | Concrete (poured or pre-cast)<br>Plastic<br>Wood and packed mud<br>Packed mud only<br>Other: _____<br>Don't know  | 1<br>2<br>3<br>4<br>96<br>99               |
| D6                                | OBSERVE OR ASK: is the pit lined?   | Not lined<br>Lined with blocks or rocks<br>Lined with concrete<br>Lined with plastic<br>Lined with mud or cow dung<br>plastering<br>Lined with wood<br>Other: _____<br>Don't know | 0<br>1<br>2<br>3<br>4<br><br>5<br>96<br>99 |
| D7                                | Is the pit full?  | Pit full<br>Pit not full<br>Don't know  | 0<br>1<br>99                               |
| D8                                | Is the pit collapsed?   | Pit collapsed<br>Pit not collapsed<br>Don't know  | 0<br>1<br>99                               |
| D9                                | [If D6= Not lined]<br>What is the nature of the soil near this household?                             | Normal, sandy<br>Rocky<br>Other: _____<br>Don't know  | 1<br>2<br>96<br>99                         |
| D10                               | Any other comments about the toilet?  | _____   |  |
| D10b                              | Any other comments about this household or respondent?  | _____   |  |
| <b>END</b>                        |   |   |  |

## **APPENDIX 4: STEP-BY-STEP PROTOCOL FOR VOUCHER DISTRIBUTION**

### **Day 1: Community Entry and Preparation**

1. If possible, assign the same field facilitators who conducted identification of eligible households.
2. Approach the chief to schedule a date for a community meeting.
  - a. Observe local norms: use a contact person to take you to the chief and make a courtesy visit.
  - b. Select a time when every household can attend, such as late afternoon. Avoid market days. To determine the appropriate date and time, it is recommended to consult not only with the chief but also with natural leaders and any other community member present.
  - c. Emphasize the importance of having all households present, including women and the vulnerable.
3. Inform trained artisans from the community's electoral area of the scheduled date for voucher distribution.

### **Day 2: Voucher Distribution and Community Sensitization**

1. Start the meeting with an opening prayer and with an ice-breaker activity (e.g., sanitation & hygiene songs).
2. Explain that the meeting is about finding solutions to ensure that the community remains ODF. Consult community members:
  - a. "What are the challenges that the community is facing to remain ODF?"
  - b. "What solutions does the community propose?"
3. Explain that every household must have its own toilet for the community to be entirely clean. Emphasize the importance of building durable toilets.
4. Introduce artisan(s) and let them explain that they can help the community achieve its goal. Have them distribute marketing flyers (which display toilet options that the artisans can build as well as their contact information). Answer any questions from community members.
5. Only now, explain Social Fund support: the poor and vulnerable households that were identified by the community will receive a voucher, making them eligible to receive a free toilet sub-structure. However, the beneficiaries are responsible for getting the pit excavated and the superstructure built. The artisan will not come to do the work if the voucher recipient is not ready to dig the pit and put up the superstructure when the sub-structure is completed.
6. Explain that community members will have to assist the beneficiaries to ensure they are able to excavate the pit and build the superstructure.
7. Review the list of eligible households and explain the reason for rejecting any household previously listed by the community.
8. Emphasize that the other households can also contact the artisans to get their own durable toilets. Ensure that the artisans leave their contact information.
9. Visit all eligible households with the Natural Leader and the artisan.
  - a. If the eligible household is elderly or physically/mentally challenged, ensure that a neighbor or relative is present when giving the voucher and explanations.
  - b. Write the voucher recipient's details on each part of the voucher (Figure 2).
  - c. Hand out the voucher. Explain what they have to do to redeem it.
  - d. Explain that the voucher recipient should start preparing construction materials for the superstructure.
  - e. Describe superstructure requirements: having a ventilation pipe, an elevated slab or doorstep, four full-height walls (or round walls), and a roof.
10. Complete the electronic voucher distribution form to record voucher recipient information.



## APPENDIX 5: VOUCHER DISTRIBUTION FORM

| No.  | Question  | Answer Choices               | Code        |
|--|---|------------------------------|-------------|
| <b>HOUSEHOLD IDENTIFIERS</b>   |   |                              |             |
| A1   | District:   | Tatale<br>Kpandai            | 1<br>2      |
| A2   | Community name:<br>Select from drop-down list.  | _____                        |             |
| A2Confirm  | Do you confirm that the correct community name is _____ (response selected in A2)   | Yes<br>No                    | 1<br>0      |
| A8   | Aquaya household ID:<br>From list of beneficiaries  | AQ-_____                     |             |
| Make sure to identify the household to which the designated vulnerable person belongs. |   |                              |             |
| B_00   | Is someone from the beneficiary household currently at home?  | Yes<br>No                    | 1<br>0>>End |
| B_00b  | If nobody from the beneficiary household ({A_08}) is available today, you may speak with a neighbor, preferably from the same compound.   |                              |             |
| A3   | Household family name:  | _____                        |             |
| A4   | First name of the head of household:  | _____                        |             |
| A5   | Popular name of the head of household:  |                              |             |
| A6   | Gender of the head of household   | Female<br>Male               | 1<br>2      |
| A8a  | Do you confirm that {number provided in A8 above} is the Aquaya ID of the household WHERE THE "VULNERABLE AND POOR" PERSON LIVES?<br>Hint 1: The household ID was written with chalk near the door of the household and on the consent form given to the household.<br>Hint 2: In addition, the compound ID was written with chalk near the door of the compound. | Yes<br>No                    | 1<br>0      |
| [If A8a = No]<br>Please go back and correct Aquaya Household ID                        |   |                              |             |
| A8b  | Take a photo of the consent form or door post showing Aquaya Household ID.  | Take Picture<br>Choose Image |             |
| A14  | First name of the BENEFICIARY ("vulnerable and poor" person identified through community consultation):   | _____                        |             |
| A14b   | Family name of BENEFICIARY ("vulnerable and poor" person identified through community consultation):  | _____                        |             |
| A14c   | Popular name of BENEFICIARY ("vulnerable and poor" person identified through community consultation):   |                              |             |
| Concatenate first name and last name of beneficiary                                    |   |                              |             |
| A16  | Gender of BENEFICIARY ({Beneficiary}):<br>If there are several beneficiaries in this household, indicate gender of first beneficiary listed above.  |                              |             |
| A9   | For how many years has the beneficiary lived in the community?  |                              |             |
| A10  | How many dependents does the beneficiary have?  |                              |             |

| No.   | Question  | Answer Choices   | Code   |
|---|---|--|--|
| A11   | What is the main occupation of the beneficiary?                                       | Agriculture<br>Selling produce or goods<br>Cooperatives<br>Private sector, informal<br>Private sector, formal<br>Government sector<br>NGOs (local and international)<br>No occupation, stay home<br>Other: _____<br>Refuse to answer<br>Don't know | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>0<br>96<br>98<br>99 |
| A12   | Does the beneficiary belong to a Village Savings and Loan Association (VSLA)?         | Yes. Name _____<br>No<br>Don't know  | 1<br>0<br>99   |
| A13   | Household phone number, if any:<br>(or phone number of a relative/neighbor)           | _____  |  |
| <b>VOUCHER</b>  |   |  |  |
| <p>READ SCRIPT:</p> <ul style="list-style-type: none"> <li>You have been selected to receive this voucher because the community and the District Assembly identified that your household requires support.</li> <li>This voucher allows you to get a latrine sub-structure built for you by an artisan at no cost to you.</li> <li>You can choose between these 3 options.</li> <li>You have to call one of the artisans on this list to redeem your voucher.</li> <li>The artisan will bring the materials and build the latrine, but you will have to get help to dig the pit and put up the superstructure.</li> <li>You have until May 31<sup>st</sup>, 2020 to redeem this voucher.</li> <li>Do you have any questions?</li> </ul> |   |  |  |
| F1  | Did you provide all necessary information and answered the household's questions?     | Yes<br>No  | 1<br>0   |
| WRITE THE HOUSEHOLD'S NAME AND AQUAYA ID ON EACH PART OF THE VOUCHER.   |   |  |  |
| F2  | Voucher number:   | _____  |  |
| F3  | Did you write the beneficiary's information on all <u>three parts</u> of the voucher? | Yes<br>No  | 1<br>0   |
| F4  | Did you indicate the CORRECT Aquaya household ID on the voucher?                      | Yes<br>No  | 1<br>0   |
| F5  | Take a photo of the voucher   |  |  |
| F6  | Write any comments  |  |  |
| <b>OTHER IDENTIFIERS</b>  |   |  |  |
| A15   | Record GPS coordinates:   | _____  |  |
| <b>END</b>  |   |  |  |

## APPENDIX 6: THE MARKETING FLYER

### TOGET YOUR FAMILY A DURABLE LATRINE, CONTACT:

| TATALE                              |              | KPADAI                            |            |
|-------------------------------------|--------------|-----------------------------------|------------|
| <b>Nakpali-Borle Electoral Area</b> |              |                                   |            |
| 1 James Chana                       | 0249074413   | <b>Kumdi Electoral Area</b>       |            |
| <b>Nachanba Electoral Area</b>      |              | 1 Demeakor Attah                  | 0546717441 |
| 1 Wajah Kpachin                     | 0547673015   | <b>Jamboai Electoral Area</b>     |            |
| <b>Nkpangeni Electoral Area</b>     |              | 1 Okubulo Francis                 | 0505118860 |
| 1 Nkambe Gabriel                    | 0507875401   | <b>Tenglento Electoral Area</b>   |            |
| 2 N-Meye Albert                     | 0552326473   | 1 Samuel Yajabum                  | 0554352082 |
| <b>Dondoni Electoral Area</b>       |              | 2 Emmanuel K. Fongmi              | 0247633882 |
| 1 Mayite Thomas                     | 0551110522   | <b>Wlae Electoral Area</b>        |            |
| 2 Nmeb Nkunbnyan                    | 0557390732   | 1 Nkpetri Y. Simon                | 0240809412 |
| <b>Benatabe Electoral Area</b>      |              | <b>Balai West Electoral Area</b>  |            |
| 1 Kpachin K. Abdalla                | 0542019799   | 1 Stephen N. Jagri                | 0549447549 |
| <b>Kpalbutabu Electoral Area</b>    |              | <b>Bankamba Electoral Area</b>    |            |
| 1 Jagri Afa Mark                    | 0508099373   | 1 Edmond Mensah                   | 0248733412 |
| 2 Kojo Shie Nanjome                 | 0503090852   | 2 Kennedy Kofi                    | 0245083784 |
| <b>Tatindo Electoral Area</b>       |              | <b>Kpadai East Electoral Area</b> |            |
| 1 Tanam John Tayan                  | 0245953529   | 1 Adams Kwesi                     | 0246555122 |
| 2 Yaw Kuma Nchingna                 | 0557488143   | 2 Sampson Kwasi Agyei             | 0546661757 |
| 3 Kwasi Nwula                       | 0205507747   | 3 Sayibu Abdul-Latit              | 0543158161 |
| 4 Takuwi Najah James                | 0544186895   | 4 Alfred Mensah                   | 0249691915 |
| 5 Maakiti Charles                   | 0548702605   | <b>Kpadai West Electoral Area</b> |            |
| <b>Anyakrom Electoral Area</b>      |              | 1 Paul N. Salifu                  | 0248179588 |
| 1 Npong John                        | Has no phone | 2 Musah A. Rahman                 | 0245741107 |
| 2 Gmacham Jacob                     | 0558043959   | 3 Kofi Akahofo                    | 0245258882 |
| <b>Tatale Electoral Area</b>        |              | 4 Samuel Akpado                   | 0248849343 |
| 1 Napo Zakaria                      | 0548884282   | <b>Nkanchina Electoral Area</b>   |            |
| 2 Nyina Maakpeba                    | 0540625140   | 1 Emmanuel Chamba                 | 0209777658 |
| 3 Fooyon Tayari                     | 0240181233   | 2 Emmanuel Kpanti Sule            | 0206551060 |
| 4 Banigna Kojo                      | 0551065597   | 3 Kpanti Moses                    | 0200844434 |
| 5 Kwaku Nkaabe                      | 0541881407   | 4 Addo Silas                      | 0545134577 |
| 6 Npong Ernest                      | 0246506254   | <b>Katejele Electoral Area</b>    |            |
| <b>Nakpali-Borle Electoral Area</b> |              | 1 Jacob Kuwoe Sankah              | 0245989709 |
| 1 Laten Obed                        | 0249075522   | 2 Isaac K. Abotasen               | 0537207221 |
| <b>Benatabe Electoral Area</b>      |              | 3 John Npoagnam                   | 0545057310 |
| 1 Benjamin Mensah                   | 0545203721   | 4 Yaw Bajuma                      | 0548106963 |
|                                     |              | 5 Kojo Madi                       | 0545712020 |

for every child

Grab A Durable Toilet For Your Family!

## APPENDIX 7: BILLS OF QUANTITIES FOR TOILET CONSTRUCTION

| COMPONENT  | CONSTRUCTION MATERIALS REQUIRED |               |                |
|--|---------------------------------|---------------|----------------|
|  | ITEMS                           | QTY           | UNIT (S)       |
| <b>1. PRE-CAST TOILET OPTION</b>   |                                 |               |                |
| 3 no. ferro-concrete rings of thickness 75mm, internal diameter of 1.3m, height of 0.6m  | cement                          | 3             | bag (s)        |
|  | course aggregate/ gravel        | 3             | motor-king (s) |
| 1 no. ferro-concrete circular slab reinforced with 4mm welded mesh / chicken / garden mesh. Slab thickness 50mm, diameter of 1.45m | cement                          | 1             | bag (s)        |
|  | iron rods                       | 3, 12.5/ 14mm | rod (s)        |
|  | binding wire                    | 3             | meters         |
| 4-inch PVC vent pipe + net   |                                 | 1             | number         |
| <b>2. MASONRY TOILET OPTION</b>  |                                 |               |                |
| Molding 100 cement blocks for lining the pit   | cement                          | 4             | bag (s)        |
|  | course aggregate/ gravel        | 2             | motor-king (s) |
|  | white sand                      | 1             | motor-king (s) |
| 1 no. ferro-concrete circular slab reinforced with iron rod. Slab thickness 50mm, diameter of 1.45m                                | cement (chocking + slab)        | 2             | bag (s)        |
|  | course aggregate/ gravel        | 1             | motor-king (s) |
|  | white sand                      | 1             | motor-king (s) |
|  | iron rods                       | 3, 12.5/14mm  | rod (s)        |
|  | binding wire                    | 3             | meters         |
| 4-inch PVC vent pipe + net   |                                 | 1             | number         |
| <b>3. DIGNI-LOO TOILET OPTION</b>  |                                 |               |                |
| 1 Digni-Loo slab attached to:<br>i. A ring for pit lining<br>ii. A vent pipe, net, and cap   | slab attached to a ring         | 1             | slab           |
|  | cement                          | 1             | Bag (s)        |
| Additional plastic rings for pit lining  | ring                            | 1 or 2        | ring (s)       |

## APPENDIX 8: TOILET VERIFICATION FORM

| No.   | Questions  | Answers/Choices  | Code         |
|---|--|--|--------------|
| <b>GEOGRAPHIC AND HOUSEHOLD IDENTIFIERS</b> |  |  |              |
| A_01  | District name:   | Tatale<br>Kpandai  | 1<br>2       |
| A_02  | Community name:  | _____  |              |
| A_02b                                       | Other community name:  | _____  |              |
| A_02_confirm                                | Do you confirm that the correct community name is \${A_02}?  |  |              |
| A_03  | First name of beneficiary:   | _____  |              |
| A_04  | Family name of beneficiary:  | _____  |              |
| A_06  | Voucher number:  | _____  |              |
| A_05  | Does the beneficiary have the voucher?   | Yes<br>No<br>Don't know  | 1<br>0<br>99 |
| A_07  | Does the name on the voucher match the beneficiary's name?   | Yes<br>No<br>Don't know  | 1<br>0<br>99 |
| A_08  | Comments (please explain any discrepancy):   | _____  |              |
| A_09  | From what you can tell, do you think that the respondent is the rightful voucher beneficiary?                | Yes<br>No<br>Don't know  | 1<br>2<br>99 |
| A_09b                                       | Please explain your concerns:  | _____  |              |
| C_01b                                       | Problem type I in words  |  |              |
| A_10  | Take a photo of the voucher  |  |              |
| <b>TOILET CHARACTERISTICS</b>               |  |  |              |
| B_01  | What toilet type did the beneficiary select?   | Masonry<br>Digni-loo<br>Pre-cast   | 1<br>2<br>3  |
| B_02  | Does the beneficiary confirm having received a \${B_01a} toilet?   | Yes<br>No<br>Don't know  | 1<br>0<br>99 |
| B_03  | Comments (please explain):   | _____  |              |
| F_01  | Ask the beneficiary: did (s)he select the toilet type of his/her choice or did the artisan impose an option? | Selected the toilet type of his/her own choice<br>Artisan imposed his choice<br>Don't know | 1<br>0<br>99 |
| F_02  | Which option would the beneficiary have preferred?   | Masonry<br>Digni-loo<br>Pre-cast   | 1<br>2<br>3  |
| F_03  | Any other comments?  | _____  |              |
| B_00  | Ask for permission to observe the new toilet   |  |              |
| B_00check                                   | Is there a toilet?   | Yes<br>No  | 1<br>0       |
| B_04  | Is it a \${B_01} toilet?   | Yes<br>No<br>Cannot observe  | 1<br>0<br>99 |
| B_04b                                       | Explain: (what type of toilet is it?) (if B_04 is No or cannot observe)                                      | _____  |              |
| B_05  | Does the toilet look new?  | Yes  | 1            |

| No.   | Questions   | Answers/Choices  | Code   |
|-------|---|--|--|
|       |   | No<br>Cannot observe   | 0<br>99  |
| B_05b | Comments (please explain):  | _____  |  |
| C_02b | Problem Type 2 in words   |  |  |
| B_06  | Is the pit lined?   | Yes<br>No  | 1<br>0   |
| B_07  | Does the toilet have an elevated slab or elevated doorstep?   | Yes<br>No  | 1<br>0   |
| B_08  | Is there a ventilation pipe?  | Yes<br>No  | 1<br>0   |
| B_09  | Are there 4 or round full-height walls?   | Yes<br>No  | 1<br>0   |
| B_10  | What is the main material of the walls?   | No walls<br>Concrete blocks<br>Bricks<br>Stone _packed mud<br>Wood/bamboo +packed mud<br>Packed mud + cement<br>plastering<br>Packed mud + cow-dung<br>plastering<br>Packed mud only<br>Wood<br>Plastic<br>Bamboo<br>Zinc<br>Other<br>Cannot observe | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>96<br>99 |
| B_10b | Other wall material:  | _____  |  |
| B_11  | Is there a roof?  | Yes<br>No  | 1<br>0   |
| B_12  | What is the main material of the roof?  | No roof<br>Concrete<br>Clay tiles<br>Wood<br>Thatch/grass<br>Bamboo rods<br>Plastic<br>Zinc<br>Other<br>Cannot observe   | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>96<br>99                       |
| B_12b | Other roof material:  | _____  |  |
| B_13  | Is there a door or curtain?   | Yes<br>No  | 1<br>0   |
| B_14  | Is the pit hole covered with a lid?   | Yes<br>No  | 1<br>0   |
| B_15  | Is the toilet located MORE THAN 30 METERS from a water source (or 50 METERS if the water source is uphill of the toilet)? | Yes<br>No  | 1<br>0   |
| B_18  | Is there a tippy-tap or handwashing station near the toilet?  | Yes<br>No  | 1<br>0   |
| C_03b | Problem Type 3 in words   |  |  |

| No.                                | Questions   | Answers/Choices   | Code                   |
|------------------------------------|---|---|------------------------|
| B_16                               | Any comments:   | _____   |                        |
| C_04b                              | Recommendation in words   | _____   |                        |
| B_17                               | Take a photo of the toilet  |   |                        |
| <b>SUPPORT TO CONSTRUCT TOILET</b> |   |   |                        |
| D_00                               | Ask the following questions to the beneficiary  |   |                        |
| D_01                               | Did your household receive help to dig the pit?   | Yes<br>No<br>Don't know   | 1<br>0<br>99           |
| D_02                               | Who helped your household to dig the pit?   | Other members of the compound<br>Friends or relatives outside compound<br>The artisan<br>The CTV (Community Technical Volunteer)<br>Other | 1<br>2<br>3<br>4<br>96 |
| D_02b                              | Other help:   | _____   |                        |
| D_03                               | Did you provide any form of support to the people who helped you to dig the pit?              | None<br>Money<br>Food and water<br>Other  | 0<br>1<br>2<br>96      |
| D_04                               | Other form of support:  | _____   |                        |
| D_05                               | In total, how much money did you pay for the pit?   | _____   |                        |
| D_06                               | Did your household receive help to build the superstructure?                                  | Yes<br>No<br>Don't know   |                        |
| D_07                               | Who helped your household to build the superstructure?  | Other members of the compound<br>Friends or relatives outside compound<br>The artisan<br>The CTV (Community Technical Volunteer)<br>Other | 1<br>2<br>3<br>4<br>96 |
| D_07b                              | Other help:   | _____   |                        |
| D_08                               | Did you provide any form of support to the people who helped you to build the superstructure? | None<br>Money<br>Food and water<br>Other  | 0<br>1<br>2<br>96      |
| D_09                               | Other form of support:  | _____   |                        |
| D_10                               | In total, how much money did you pay?   | _____   |                        |
| D_11                               | Did you purchase materials for the superstructure?  | Yes<br>No<br>Not yet, but am planning to<br>Don't know  | 1<br>0<br>2<br>99      |
| D_19                               | What materials did you purchase?  | Zinc roof<br>Thatch roof<br>Wood for the roof<br>Wooden door<br>Zinc door   | 1<br>2<br>3<br>4<br>5  |

| No.   | Questions  | Answers/Choices                          | Code              |
|-------|--|--|-------------------|
|       |  | Zanamat door<br>Lock<br>Other            | 6<br>7<br>96      |
| D_19b | Other material:  | _____                                    |                   |
| D_12  | How much did you spend on these materials?                                 | _____                                    |                   |
| D_13  | Did you provide any form of support to the artisan who built the latrine?  | None<br>Money<br>Food and water<br>Other | 0<br>1<br>2<br>96 |
| D_18  | Other form of support:   | _____                                    |                   |
| D_14  | How much did you give to the artisan?                                      | _____                                    |                   |
| D_15  | Are you satisfied with the service you have received from the Social Fund? | Yes<br>No<br>Don't know                  | 1<br>0<br>99      |
| D_16  | Explain:   | _____                                    |                   |
| E_02  | Name of artisan who constructed the toilet:                                | _____                                    |                   |
| D_17  | Any other comments:  | _____                                    |                   |



## APPENDIX 9: LINE ITEMS INCLUDED IN COST ESTIMATES AND SOURCES

| Category   | Cost items   | Data sources, notes              |
|--|--|----------------------------------|
| <b>Identification of eligible households</b>                       | DA salaries for training and fieldwork   | Estimated GOG expenses           |
|  | DA per diems for fieldwork   | Estimated UNICEF expenses        |
|  | DA transport for fieldwork   |                                  |
|  | DA communication for fieldwork   | Estimated out-of-pocket expenses |
|  | WASHPaLS field team expenses (stipends, per diems, transport, and communication) | Actual WASHPaLS expenses         |
|  | Other training expenses (stationary and chair hire)                              | Estimated UNICEF expenses        |
| <b>Voucher distribution, follow-ups and verification</b>           | DA salaries for training and fieldwork   | Estimated GOG expenses           |
|  | DA per diem for fieldwork  | UNICEF expenses                  |
|  | DA transport for fieldwork   |                                  |
|  | DA communication for fieldwork   | Estimated out-of-pocket expenses |
|  | WASHPaLS field team expenses (stipends, per diems, transport, and communication) | Actual WASHPaLS expenses         |
|  | Other training expenses (stationery and chair hire)                              | Estimated UNICEF expenses        |
| <b>Setting up materials supply chain</b>                           | Artisan per diem and transport during training                                   | Estimated UNICEF expenses        |
|  | WASHPaLS field team expenses (stipends, per diems, transport, and communication) | Actual WASHPaLS expenses         |
|  | Salaries, transport and per diem for UNICEF trainers                             | Actual UNICEF expenses           |
|  | Printing fliers  | Actual UNICEF expenses           |
| <b>Financial management</b>  | Sub-contracts to two financial institutions to manage funds and print vouchers   | Actual UNICEF expenses           |
| <b>Support from WASHPaLS for project management and monitoring</b> | 75% of Research & Program Officer time for 11 months                             | Actual WASHPaLS expenses         |
|  | 5% of Deputy Director of Technology & Innovation time for 11 months              |                                  |
|  | WASHPaLS field team time, per diems, transport, and communication                |                                  |

## APPENDIX 10: ARTISAN AND FINANCIAL INSTITUTION CONTRACTUAL AGREEMENT DETAILS

(Exchange Rate: 1 USD=5.75 GHS as of 06/29/2020)

| Contract                                     | Tatale District   | Kpandai District  |
|--|---|---|
| Artisan labor fees                           | <ul style="list-style-type: none"> <li>Digni-Loo: 120 GHS</li> <li>Pre-cast: 200 GHS</li> <li>Masonry: 180 GHS</li> </ul>   | <ul style="list-style-type: none"> <li>Digni-Loo: 145 GHS</li> <li>Pre-cast: 215 GHS</li> <li>Masonry: 215 GHS</li> </ul>   |
| Structure of payment to artisan <sup>a</sup> | <ul style="list-style-type: none"> <li>40% as down-payment</li> <li>40% after quality control by the DEHO</li> <li>20% after 2 months, if the household has reported no structural issues</li> </ul>  | <ul style="list-style-type: none"> <li>Same</li> </ul>  |
| Transportation fee                           | <ul style="list-style-type: none"> <li>20 GHS initially; revised to 40 GHS after a few weeks</li> <li>Paid to the artisan as part of first payment, i.e., ahead of transporting materials</li> </ul>  | <ul style="list-style-type: none"> <li>25 GHS for Digni-Loo; 50 GHS for masonry and pre-cast</li> <li>Paid to the material supplier as part of complete payment, i.e., after transporting materials</li> </ul>  |
| Delivery of materials                        | <ul style="list-style-type: none"> <li>Responsibility of artisan</li> <li>Should be delivered within 2 working days of collecting materials</li> <li>Penalty for not meeting deadline: -10% deducted from the second payment.</li> <li>The FI relied on artisan self-reports to verify that this requirement was met</li> </ul>   | <ul style="list-style-type: none"> <li>Responsibility of material supplier.</li> <li>If material supplier cannot deliver within 2 working days of receiving a voucher, the artisan should pick another supplier</li> </ul>  |
| Payment to material supplier <sup>b</sup>    | <ul style="list-style-type: none"> <li>Paid when artisan confirms to the FI over the phone that he collected all materials</li> <li>Digni-Loo: 420 GHS, 460 after May 6<sup>th</sup></li> <li>Pre-cast: 442 GHS</li> <li>Masonry: 537 GHS</li> </ul>  | <ul style="list-style-type: none"> <li>Paid when artisan confirms to the FI over the phone that all materials were delivered to community</li> <li>Digni-Loo: 510 GHS + 25 GHS transport</li> <li>Pre-cast: 371 GHS + 50 GHS transport</li> <li>Masonry: 511 GHS + 50 GHS transport</li> </ul>  |
| Timeline for completion of toilet            | <ul style="list-style-type: none"> <li>Sub-structure should be complete within 9 working days of collecting materials</li> <li>Penalty for not meeting deadline: -10% on second payment, not cumulative with above penalty</li> <li>The FI relied on artisan self-reports to verify that this requirement was met</li> </ul>  | <ul style="list-style-type: none"> <li>Entire toilet (substructure and superstructure) should be complete within 7 working days of materials reaching the community</li> <li>Penalty for not meeting deadline: -10% on second payment</li> <li>The FI relied on artisan self-reports to verify that this requirement was met</li> </ul> |
| Penalty for not meeting quality standards    | <ul style="list-style-type: none"> <li>No second or third payment</li> <li>Quality standards included: being located more than 30 meters from a water source (or 50 meters if uphill), having a ventilation pipe, an elevated slab or elevated doorstep, four full-height walls (or round walls), and a roof; the District Assembly verified in person that standards were met</li> </ul> | <ul style="list-style-type: none"> <li>Same</li> </ul>  |

| Contract  | Tatale District   | Kpandai District  |
|---|---|---|
| Penalty for imposing a toilet option to the household | <ul style="list-style-type: none"> <li>• Less 20% on the second payment, cumulative of above penalties</li> <li>• This requirement was verified by the DEHO/Engineer during their toilet verification visit</li> </ul>  | <ul style="list-style-type: none"> <li>• No second or third payment</li> <li>• This requirement was verified by the DEHO/Engineer during their toilet verification visit</li> </ul> |
| Total subsidy amount <sup>b</sup>                     | <ul style="list-style-type: none"> <li>• Digni-Loo: 560 GHS, 580 GHS after March 1<sup>st</sup>, 620 GHS after May 6<sup>th</sup></li> <li>• Pre-cast: 662 GHS, 682 GHS after March 1<sup>st</sup></li> <li>• Masonry: 737 GHS, 757 GHS after March 1<sup>st</sup></li> </ul> | <ul style="list-style-type: none"> <li>• Digni-Loo: 680 GHS</li> <li>• Pre-cast: 636 GHS</li> <li>• Masonry: 776 GHS</li> </ul>   |

<sup>a</sup> UNICEF pays for cost of time to attend voucher distribution. This was included in labor cost during negotiations.

<sup>b</sup> In one district, the hardware costs of Digni-Loos increased a few months after the intervention started as a result of the COVID lockdown and resulting supply issues.

## **APPENDIX II: HOW WE SET UP TWO DIGNI-LOO SUPPLIERS IN STUDY DISTRICTS**

1. Approached a Global Communities Officer in the Tamale office and described our program. Requested if they could be the middleman with the Digni-Loo manufacturer in Accra.
2. Obtained supplier price and suggested retail price from Global Communities.
3. Approached trained material suppliers with the price information and asked if they wanted to become suppliers for Digni-Loo.
4. Negotiated the retail prices with the material suppliers that agreed to supply the Digni-Loo product.
5. The Digni-Loo supplier needed to have a guarantor (ideally the DEHO or a financial institution officer working on the program), recent passport photo, and a next-of-kin. In the absence of a guarantor, Global Communities asked for a deposit of 500 GHS (87 USD).
6. Liaised back with Global Communities and provided the names of the new Digni-Loo suppliers as well as final, agreed-upon retail prices.
7. The Global Communities Officer provided a “Global Communities Assessment Form for Entrepreneurs Sale of Digni-Loo” (figure below) to be filled by the new Digni-Loo supplier.
8. Ensured that the new Digni-Loo suppliers filled out the form (including a current passport photo and a guarantor) and submitted it to Global Communities for processing.
9. Global Communities processed the form for approval (minimum of two weeks).
10. Once approved, the new Digni-Loo suppliers contacted Global Communities and ordered the Digni-Loo products.



# **GLOBAL COMMUNITIES** **ASSESSMENT FORM FOR ENTREPRENEURS** **SALE OF DIGNI-LOO**

Name of applicant..... "Nickname"(Trading as).....

Residence ☐ Owned ☐ Rented ☐ Family ☐ Government ☐ Other Residential

Residential Address.....

Region..... District.....

Type of ID ☐ Voters ID ☐ Driver's License ☐ Passport ☐ NHIS ☐ NI ☐ Other ID

ID issued on ...../...../..... at..... Mobile Number 1..... Mobile Number 2.....

Date of Birth...../...../..... Age..... Place of Birth..... Home Town.....

Business Contact Number (if Any).....

Type of current Business..... Type of Items Sold.....

Business Location (where applicable).....

Years of Operating Business: Less than 1 year ☐ 1-3years ☐ 4-6years ☐ 7-10years ☐ 11-15years ☐ exceeding 15yrs ☐

New /start-up Business.....

Number of "DIGNI-LOO" Received.....

Signature/Thumbprint of applicant..... Date.....

Name of Next of Kin..... Relationship with Next of Kin .....

Name of Guarantor (must be a known Relation)..... Signature .....

Reviewed by ..... Signature.....

Affix a current  
passport size  
photo here

## APPENDIX 12: PHOTOS FROM TOILET VERIFICATION



Toilets with Zana-mat as door



Toilet with net as door



Toilets with round walls made of mud and cow dung plastering



Toilet with mud wall





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