

Household Hygienic Environments in the Kurfa Chele Woreda, Ethiopia

Deep Dive Report

March 2024



DISCLAIMER

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CREDITS

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RECOMMENDED CITATION

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Acronyms

| | |
|-------------|--|
| AIM slab | Plastic Toilet Slab Manufactured by Silafrica (Brand Name) |
| BA | Barrier Analysis |
| Baby-WASH | Water, Sanitation, and Hygiene for infants and small children |
| DL | Daro Lebu |
| FGD | Focus Group Discussion |
| HCD | Human Centered Design |
| HWISE | Household Water Insecurity Scale |
| KC | Kurfa Chele |
| NCG | Nurturing Care Groups |
| NGO | Non-Governmental Organization |
| ORDA | Organization for Rehabilitation and Development in Amhara Ethiopia |
| PRESERVE | Poverty Reduced Sustainably in an Environment of Resilient and Vibrant Economy |
| PSI | Population Services International Ethiopia |
| PSNP | Productive Safety Net Program |
| RCT | Randomized Control Trial |
| RFSA | Resilience Food Security Activity |
| SATO | Plastic Toilet Pan Patented by Lixil Corporation (Brand Name) |
| SBC | Social and Behavior Change |
| SPIR II | Strengthen PSNP Institutions and Resilience Phase II |
| WASH | Water, Sanitation, and Hygiene |
| WASH PaLs 2 | Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability 2 |



Executive Summary

This visual deep dive report summarizes the insights from a rapid exploration of household hygiene with a focus on improved water, sanitation, and hygiene (WASH) for infants and small children (Baby-WASH) in the Kurfa Chele Kebele of East Hararghe. The deep dive was conducted in partnership with PRO-WASH & SCALE and three resilience food security activities (RFSAs) projects in Ethiopia: [SPIR-II](#), [PReSERVE](#), and [Ifaa](#). All three RFSAs participated in the deep dive, hosted by SPIR-II, to apply lessons learned within their projects. Furthermore, the research team provided targeted recommendations based on this deep dive to inform an Randomized Control Trial of household hygiene within SPIR-II.

What is a Deep Dive?

A deep dive is an intensive and focused period of time to move a strategy forward and address challenges. This deep dive included a workshop to compile existing learning, household visits, focus groups to explore hygiene products, and co-design activities with local entrepreneurs and community members.

What Were the Aims of this Deep Dive?

1. To recommend a package of key products and Social and Behavior Change (SBC) approaches for use in an upcoming Randomized Control Trial (RCT) which will measure the impacts of the transformative WASH interventions on the reduction of infant enteric infections in SPIR-II.
 - To explore the current status of household hygiene in SPIR-II's Kurfa Chele Woreda, following up on a rapid inquiry conducted in July 2023.
 - To investigate the extent to which eight targeted households adopted key hygiene products five months after being provided with them as well as light touch messaging.
2. To clarify opportunities to strengthen market systems around household hygiene in the Kurfa Chele Woreda and beyond.

This deep dive report has a parallel findings report from Dara Lebu Woreda in West Hararghe—the proposed location of the RCT.

Key Findings

Social living underpins family behaviors. Most families are multi-generational and multi-home. Children roam between the homes and targeting one “household” may not be able to effectively address unhygienic environments. This also means that there are multiple family members responsible for ensuring the wellbeing of a newborn, therefore it is important for SBC communications to target not only mothers but other family members.

External factors can lead to poor adoption of perceived “expensive” products. External factors such as family splits, government recommendations following a cholera outbreak, and road construction all led to families not using improved hygiene products. For example, when the family splits and the mother takes the children to live in a different location, the filter remains unused. As such, only three households actively were still using the Tulip Filters and the Happy Taps after five months (out of eight households). These external factors are not uncommon in the Kurfa Chele region and must be considered in any intervention design.

Product distribution doesn't always lead to the adoption of the desired behavior change. Future programming should consider the use of peer behavior change initiatives which have multiple engagement points to foster the suite of improved behaviors required for hygienic environments.

- **Nurturing Care Group (NCG) materials** could be adapted to include sessions on animal feces management; water collection, storage and filtering; and household cleaning.
- **Collaborative workshops** with community members could help foster local innovation on baby play/sleep pens and cleaning materials such as brooms and mops.



Background

SECTION 1

Life and Culture in Kurfa Chele

Geography

- The Kurfa Chele woreda is bordered on the west by the Bedeno woreda, the south by the Girawa woreda, the southeast by the Fedis woreda, the east and northeast by the Haramaya woreda, and the northwest by the Kersa woreda.
- With 18 rural and two urban kebeles, Kurfa Chele 01 and Dawe 02, the woreda has a total land area of 301.77 square kilometers.
- The mountain ranges of Gara Muleta, Dederu, and Gebiba are among the tallest in the area, and the woreda's altitude roughly spans from 1,100 meters to 3,381 meters above sea level.

Society and Religion

- Kurfa Chele is predominantly Muslim (96.44%) with a small portion of Orthodox Christians (3.27%).
- This Islamic culture influences some household hygiene practices such as not keeping dogs at the home, and practicing water ablution after latrine use.
- The society is also patrilineal, meaning that upon marriage women move to their husband's village. Families divide up farmland and homestead space to make room for the new couple. In some cases, a physical building will be divided in half with a stick wall to make room for the new couple.

Economics and Livelihoods

- Most families are reliant on Chat (Khat—a chewed leaf stimulant) for their income. This is harvested and sold by women in local markets. As such women have more financial power within the home, which can lead to domestic conflicts.
- Food is purchased daily from the Chat earnings.
- Financial security of the community is intertwined with the production and sale of Chat including relevant taxes, tariffs, and restrictions. At the time of the deep dive, chat prices had fallen significantly, reducing the financial security of households.
- One woman in an FGD noted that she used to have significant assets in chickens, goats, and cows, but with the recent drought and drop in Chat prices, she went from 40 to six chickens—selling them to pay for daily needs.

Comparing Daro Lebu and Kurfa Chele

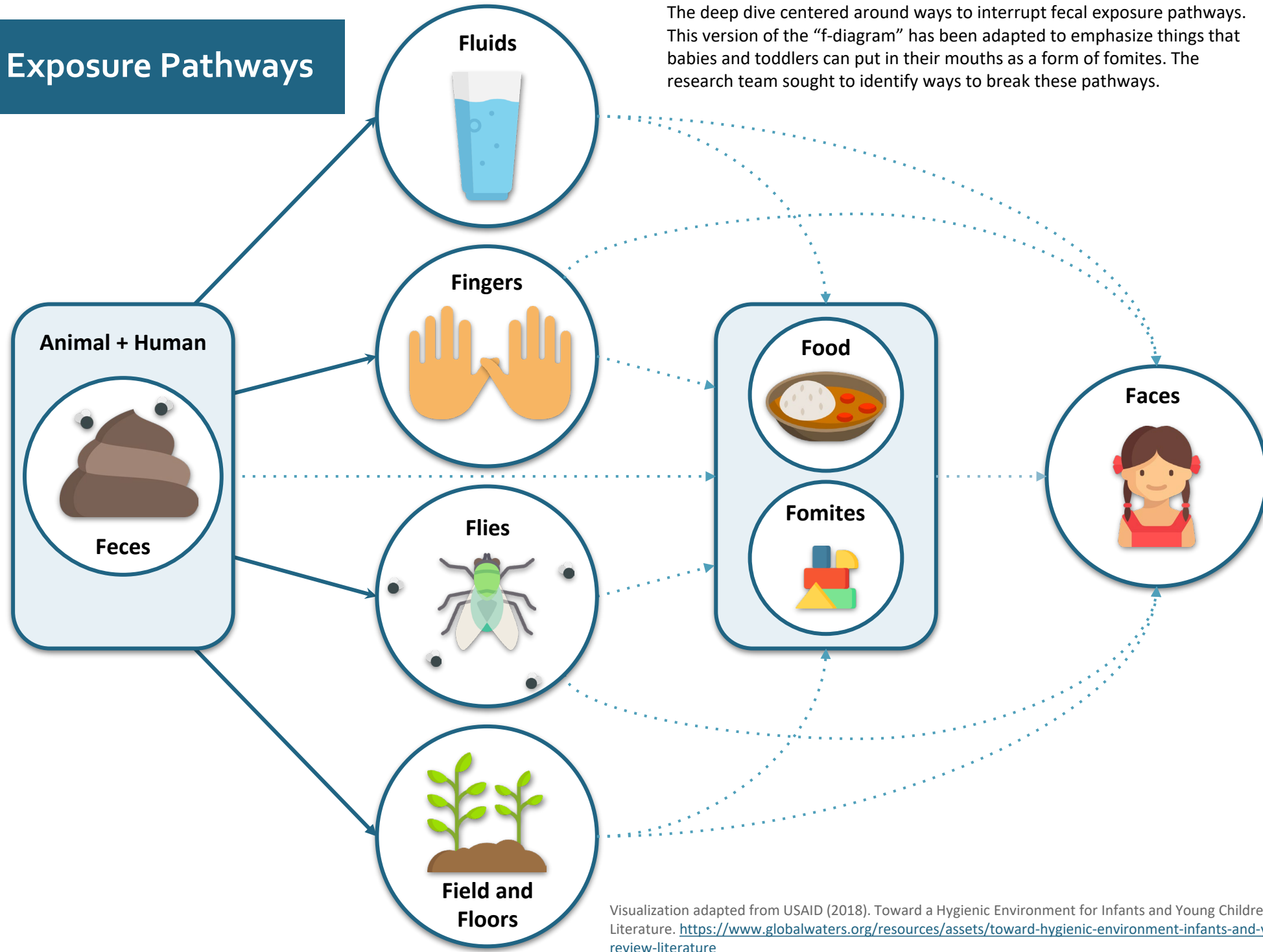
Similarities

- Both Woredas are predominantly Muslim which impacts attitudes and practices around personal hygiene. For example, the practice of just using water for handwashing is seen as a religious practice in both contexts.
- Both Woredas utilize multiple sources of water (tap, spring, river, pond) for different households.
- Eating, sleeping, and daily life all take place inside the main room on woven plastic mats. The cleaning of these mats varies but does seem to be more frequent in Daro Lebu.
- Both Woredas rely on Chat, a chewable cash crop stimulant, as the main source of income. Chat is primarily sold by women daily at the market, with income from the Chat sales going to purchase food each day. As such women have higher economic empowerment than in other areas.

Differences

- With the long-term presence of development programming, Daro Lebu is more prone to development dependency, specifically when it comes to larger ticket items such as latrines, water filters, and livestock.
- The long-term development actor presence in Daro Lebu has increased the knowledge around hygienic practices such as handwashing, home gardening, and fruit cultivation in comparison to Kurfa Chele.
- The long-term development actor presence in Daro Lebu has increased dietary diversity with more fruits and vegetables available than in Kurfa Chele.
- Influenced by the ancient city of Harar, flooring in the main rooms in Kurfa Chele is raised about 6 inches from the entrance. Raised floors are not as common in Daro Lebu, where the entrance is on the same level as the rest of the home.
- The common home layout is slightly different between Daro Lebu and Kurfa Chele. In Kurfa Chele cooking is predominantly done in lean-to sheds and animals are kept inside the home. In Daro Lebu animals are kept inside a separate kitchen hut.

Fecal Exposure Pathways

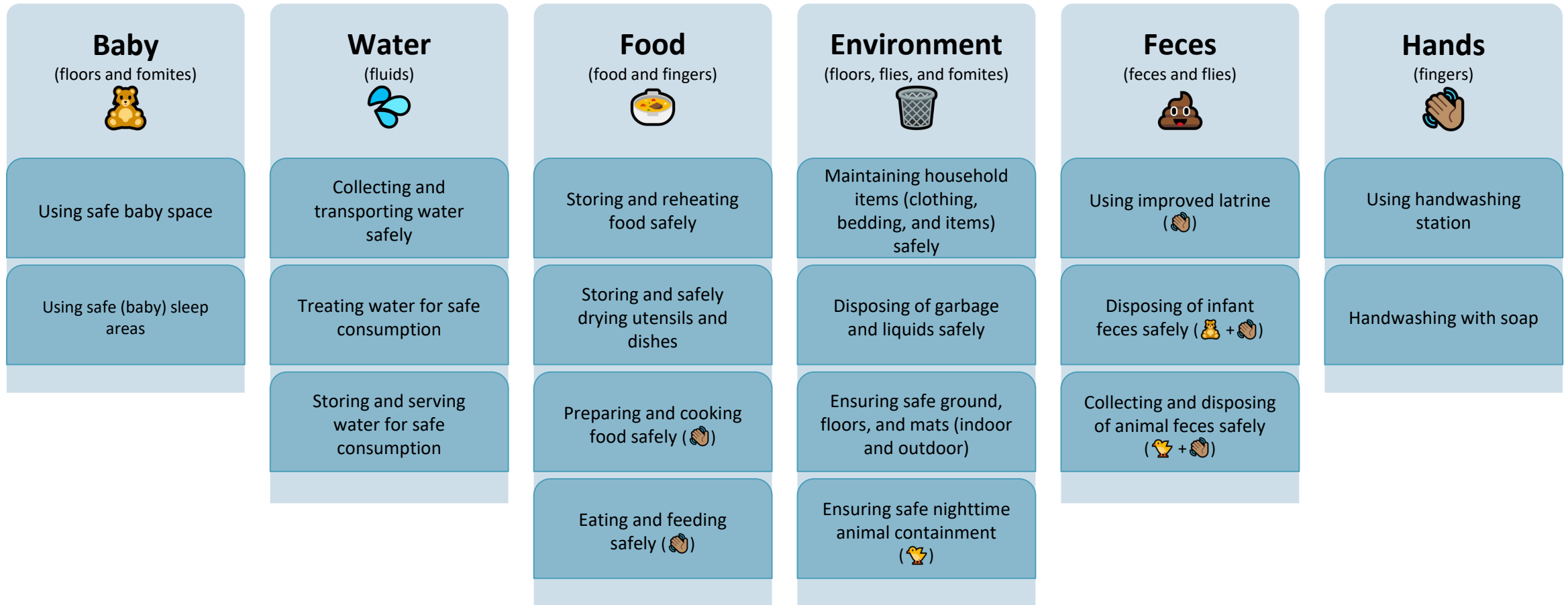


The deep dive centered around ways to interrupt fecal exposure pathways. This version of the “f-diagram” has been adapted to emphasize things that babies and toddlers can put in their mouths as a form of fomites. The research team sought to identify ways to break these pathways.

Visualization adapted from USAID (2018). Toward a Hygienic Environment for Infants and Young Children: A Review of the Literature. <https://www.globalwaters.org/resources/assets/toward-hygienic-environment-infants-and-young-children-review-literature>

Targeted Behaviors

To break the fecal contamination pathways previously illustrated “f-diagram,” we targeted a series of behaviors that can be bucketed into six categories: baby, water, food, environment, feces, and hands. The “Fs” have been included in parentheses to help situate the behaviors in the “f-diagram.” This framework evolved throughout the research to best represent the hygienic environment context.



Intervention Mix for Behavior Change: The Sustainable Lifestyles 4E Model

To help situate our recommendations, we adopted the following model as an intervention mix to ensure a holistic approach to behavior change strategies. This model recommends blending strategies that enable, encourage, engage, and exemplify targeted behaviors.



UK's Department for Environment, Food and Rural Affairs (DEFRA). <https://www.gov.uk/government/publications/a-framework-for-pro-environmental-behaviors>



Deep Dive Approach

SECTION 2

Deep Dive Team



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Deep Dive Approach

In collaboration with three ongoing resilience food security activities (RFSAs) in Ethiopia, PRO-WASH & SCALE facilitated a deep dive as part of the HCDforWASH Coaching Cohort and formative research for an upcoming RCT by SPIR-II.

Human-Centered Design (HCD) is an innovative problem-solving methodology to design contextual solutions around products, strategies, and messaging. The approach aligns with three phases: HEAR, CREATE, and DELIVER.

A common approach in HCD, a deep dive is an intensive and focused period of time to move a strategy forward and unstuck challenges. A deep dive often includes rich discussions between key team members alongside field research and collaborative sensemaking.

This deep dive included a workshop to compile existing learning, household visits with early adopters, focus groups to explore hygiene products, and co-design activities with local entrepreneurs and community members. This was partnered with rich discussion and reflection time with the team throughout the fieldwork.

- **Workshop 1** – Alignment Workshop (13-14 November 2023), Addis Ababa
- **Field Trip** – Deep Dive 1 (15-22 November 2023), Kurfa Chele
- **Workshop 2** –Market-based Hygiene (23-24 November 2023), Addis Ababa
- **SPIR-II only** – Deep Dive 2 (26 November–1 December 2023), Daro Lebu

Triangulation: Barrier Analysis into Hygienic Environments

To triangulate and clarify findings for the deep dive analysis, the research team leveraged results from a June 2023 Barrier Analysis (BA) in the Kurfa Chele and Daro Lebu Woredas. The BA focused on the key barriers to ensuring hygienic environments within the household. The BA includes structured surveys with 90 “Doers” and 90 “Non-Doers.”

Data Collection Methods

- **Household visits** with households that had previously received supportive hygiene materials for testing (in July 2023). Each visit contained two parts:
 - Eight **semi-structured observations** of the targeted behaviors and products. During the observations, the team created photographs and took observational notes about each of the different zones (kitchen, latrine, etc.).
 - Seven **semi-structured participatory interviews** focused on a card sorting technique in which visual cards of the targeted behaviors were shown to participants as conversation starters. During the discussion, cards were sorted into three piles based on the discussion: frequently doing, sometimes doing, and not doing.
- **Nine semi-structured mixed focus group discussions** on potential hygiene focused on key hygiene products and co-design of potential household solutions. Mixed groups were selected so that we could hear a variety of responses and prompts shared with women and men to support engagement.
- **Three market scans** (Addis Ababa, Dire Dawa, Kurfa Chele) on the supply of hygiene products such as soap, filters, and potties.
- **Two WASH Business Center interviews** on the opportunities and challenges to promote and provide key hygiene products and services. WASH Business Centers are government- and SPIR-II-supported businesses that focus on providing WASH services to community members. This can include water system supply and maintenance as well as improved latrine installation.

Informed consent was obtained from each participant prior to the start of observations, interviews, and focus groups and included consent for photographs. Data was collected in photographs and discussion notes stored in Kobo Toolbox and in notebooks. Interviews and community discussions were conducted in Afan Oromo with fluent team members.

Analysis and Sensemaking

The research team conducted a structured collaborative analysis where they discussed and reviewed data with the enumeration team during daily debriefs. Additional graphs and summaries were reviewed from the Kobo Toolbox automatic visualization tools. Insights were structured using an insight formula and coded with one of the 17 targeted behaviors. These themes evolved throughout the research as can be seen on slide 17.

Scoping with Eight Target Households

In July 2023 as part of a summer project for two master's students from the University of California Berkeley, scoping was done at eight households in the Hula Jeneta Kebele of the Kurfa Chele Woreda. These eight households were provided with a set of key hygienic products and brief behavioral messaging. We re-visited these households 5 months on as part of the deep dive to see how they had (or hadn't) adopted the anticipated behaviors. The ages below are from July 2023.

| HH | Village | Family Size | Mother's Age | Father's Age | Baby's Age | Older Siblings Ages | Mother's Literacy | Father's Literacy | Older Siblings Literacy | Status |
|----|---------|-------------|--------------|--------------|-------------|--------------------------------|--------------------------|---------------------|---------------------------------|----------|
| A | I | 5 | 32 | ±35 | M-9 months | F-6, M-3 | No | No | | PSNP |
| B | I | 6 | 25 | Don't know | M-12 months | F-10, M-6, M-3 | No | Yes, write and read | F-10, can write and read | Non-PSNP |
| C | I | 4 | 27 | 30 | F-12 months | M-5 | No | Yes, write and read | | PSNP |
| D | I | 9 | 30 | 35 | F-12 months | F-13, M-10, F-8, M-7, F-5 | No | Yes, write and read | F-13, can write and read | PSNP |
| E | I | 3 | 19 | 23 | F-3 months | NA | Yes, write and read | Yes, write and read | | Non-PSNP |
| F | II | 8 | 37 | 45 | M-2 months | F-25, M-16, F-12, M-4 | No | Yes, write and read | F-25, M-16, F-12 read and write | Non-PSNP |
| G | II | 10 | 30 | 35 | M-5 months | M-13, M-11, M-9, M-6, M-5, F-3 | No | No | M-13, M-11 read and write | Non-PSNP |
| H | III | 6 | 25 | 30 | M-6 months | M-9, F-5, M-4 | A little, read and write | Yes, write and read | | Non-PSNP |

- Productive Safety Net Program (PSNP)
- Female (F)
- Male (M)

Sample Research Cards

Using a handwashing station (latrine and household)
 Idoo harka dhiqannaa fayyadamuu
 የእጅ መታጠቢያ ስፍራ መጠቀም

1

Using safe baby areas
 Idoo /Bakka hirriba daa'imaa nageenya qabu fayyadamuu
 ደህንነቱ የተጠበቀ የሕፃን ቦታ መጠቀም

10

Storing and sharing water for safe consumption
 Bishaan qulqullinaan meeshaa qulqulluutti kuusuu fi fayyadamuu
 ውሃን በንፁህ እቃ በማጠፈቀም ለመጠጥ መጠቀም

4

Eating and feeding safely
 Bakka tapha daa'immanii fi nyaataa nageenya qabu fayyadamuu
 ደህንነቱ የተጠበቀ የሕፃን ጭቆታ እና የመመገቢያ ቦታ መጠቀም

9

Disposing animal feces safely
 Manca/sagarraa bineeldotaa of eeggannoodhan dhabamsiisuu
 የእንስሳትን ሰገራ/አይነምድር በአስተማማኝ ሁኔታ ማስወገድ

12

Keeping animals separate from main living areas
 Godoo/iddoo bineensotaa fayyadamuu horsiisuu
 የእንስሳትን ቤትን በምጠቀም ማርባት

17



Hygienic Behaviors: Insights and Ideas

SECTION 3



Behavior selected as the one they aren't doing that they are the most worried about.



Behavior selected as the one they do frequently that they think is the most important for their baby's health.

This section draws on seven interviews with targeted households and nine FGDs with community members.

Safe Baby Spaces

- Children and toddlers do not stay put and often roam between the households of extended family members.
- There is interest by mothers to place their babies under small nets or in contained daybeds play-pens. This was described as both good to keep the child contained and, more importantly, to keep the flies and bugs off of the baby during day naps.
- Most babies play on the mats in the household's main room. These mats appear very dusty and dirty. See the insights on mat cleaning for further details.
- All mothers described the value and benefit of safe baby sleep and play areas- especially for babies under one year and for day naps.
- All mothers described wanting to have their baby with them at night to more easily breastfeed.

→ **Idea:** Consider the promotion of small baby sleep/playpens for infants below one year. These will need to include netting to protect the infant from insects. If only a net is used, consider using a plastic tablecloth underneath the net which can be easily washed and dried.

→ **Idea:** Consider including bed nets in the package, not only for mosquitoes but also for flies. Consider promoting nets for flies and creating linkages for local availability in markets.

→ **Idea:** Consider creating a more rigorous house cleaning promotion—cross-referencing the household cleaning insights.

→ **Idea:** Consider including a few small toys in the package with cleaning support tools. We did not observe any toys in the household visits.



Two households selected this behavior as the one they aren't doing that they are the most worried about. One household selected this behavior as the one they do frequently that they think is the most important for their baby's health.



Safe Collection and Transport of Water

- External contextual factors, such as road construction and cholera distributed access to water. One woman described now having to make a 1-hour round trip to collect water from a spring (down the gorge) as the road construction had rendered the local water point non-functional. **However, all households had multiple full jerrycans of water on site and did not describe their situations as particularly water insecure.**
- Water sources included water points, springs, and rivers—all within walking distance.
- All households were using a variety of sources for their water. The amount of water collected was directly related to the distance to the nearest functioning water point.
- Water is collected by boys, girls, and women using jerry cans (20L). Most households also employ a donkey to support them with carrying the water.
- There was a significant volume of donkey feces at both observed water points (spring and water tap).
- One household was actively collecting rainwater to supplement carrying requirements.
- Some households stuffed plastic wrappers under the jerry can caps to stop spillage when the water was being carried by donkeys.

→ **Idea:** Clarify the roles of water management committees in donkey feces management and potential fencing.

→ **Idea:** Include donkeys and boys in messaging materials and consider creating a new NCG module on water access, storage, and use.

→ **Idea:** Consider including the full Household Water Insecurity Measure (HWISE) to explore the extent of water scarcity and how households “triage” water use.



One household selected this behavior as the one they do frequently that they think is the most important for their baby's health.



Filtering Water for Safe Consumption

- **Observation:** Two of the eight households had evidence of the water filter being used (however two families had recent splits, which could influence this number).
- Water filters are required due to the unstable access to water sources due to external contextual factors.
- The Tulip Filter design was widely accepted and there were no comments on the design.
- The Tulip Filter was described as removing odor and bad taste in the water and allowing households to store the water overnight. Which was seen as the main benefit. Households were less likely to describe the health benefits.
- One woman described how household diarrhea had decreased after using the filter and Happy Tap.
- One woman described the filter's capacity to remove bad odor and taste and how her neighbors regularly visit her to drink from her Tulip Filter because of these effects.
- None of the households described understanding or having previous experiences with water treatment—filtration was seen as more feasible.

→ **Idea:** Promote the Tulip Water Filter and create required market linkages to local shops. Shops can also provide messaging to community members on proper maintenance and use.

→ **Idea:** Include the Tulip Filter in messaging materials and consider creating a new NCG module on water access, storage, and use, including filter cleaning and maintenance.



Storing Water Safely

- **Observation:** All households had multiple (five or six) yellow 20L jerrycans that were used both for water collection and storage. At least one jerrycan was stored in the home (the drinking water can) and the others were stored in the kitchen area. About half of the observed jerrycans had missing lids.
- Rain water was also stored in big blue barrels in about half of the households. These sometimes had lids with hinges to aid filling. One water barrel was filled during a rainstorm.
- Water is primarily poured directly from the jerrycans for use.
- The local Tanzanian tree leaf is used for the washing of dishes and water containers. The leaves are ripped, put inside the water containers, and shaken to remove debris. It is described as smelling nice and having a slightly abrasive nature, which helps to remove dust and grime.

→ **Idea:** Explore opportunities to stock extra lid taps at local suppliers.

→ **Idea:** Consider creating a new NCG module on water access, storage, and use.



Tanzania Tree Leaf

Storing Food Safely

- **Observation:** Uncooked grains are stored in sacks in dark, dusty corners on the ground in the room behind the animals. Dry storage of food is less of a concern than cooked food left over between meals. However, some bacteria and molds that grow from unsafely stored foods can produce toxins that are not killed during boiling or cooking.
- **Observation:** In the majority of households there is not a full wall separating the animal room (goats and cows) and the household storage room. We did not observe any other food stores such as vegetables (onions, garlic, chili, potatoes) or fruit.
- All households described not having any food to store overnight, noting that all food is consumed on the day it is prepared. Previously, some porridge was stored in an open pot during the day for babies, but there isn't enough food for this now.

→ **Idea:** Explore opportunities to create visuals on the “ideal” storage room in which this is completely separated from animals.

→ **Idea:** Raise floors as a step along the wall inside the storage room to keep things off the floor to reduce access from animals and reduce dust. This is a common practice in the nearby city of Harar.

Two households selected this behavior as the one they aren't doing that they are the most worried about.



Storing, Washing, and Safely Drying Utensils and Dishes

- **Observation:** There is no dedicated place for the washing and drying of utensils and dishes. They are stored in the storage room next to the animal room—often on the floor or on grain sacks.
- The provided dish drying racks were mostly not used. All households described that they are not designed for the size of dishes in Ethiopia. One family described using the rack only for glasses.
- Most households have a limited number of kitchen utensils and dishes.

→ **Idea:** Consider co-designing a dish storage and drying rack. Potentially explore opportunities to mirror the trends in Harar where dishes are stored on the wall. Perhaps some form of peg board with hooks and holders.

One household selected this behavior as the one they aren't doing that they are the most worried about.

One household selected this behavior as the one they do frequently that they think is the most important for their baby's health.



Preparing and Cooking Food Safely

- **Observation:** Kitchens are outside of the main home building as lean-to areas. Three rocks are used as cookstoves. Food is not stored in these kitchens, as they can't be locked.
- **Observation:** Kitchens are often very close to the animal rooms and not particularly clean. Pots and utensils are not washed quickly after meal preparation and can be left all day without washing.
- Most mothers described preparing and cooking food safely and that this was not a problem for them. However, most families did not have access to meat or vegetables, and, as such, the food preparation is quite simple.
- One mother described remembering an improved cookstove campaign some years back, but they didn't catch on as they were not a priority.

→ **Idea:** Explore opportunities to create visuals on the “ideal” kitchen space—with particular reference to its location.

One household selected this behavior as the one they aren't doing that they are the most worried about.

Two households selected this behavior as the one they do frequently that they think is the most important for their baby's health.



Safe Eating and Feeding

- Families sit on the ground to eat inside the main house room by reclining on cushions. Communal food plates are placed on the floor mats. Some families use a plastic tablecloth or used sacks placed on the floor on top of the mat.
- Babies do not have a separate eating space. Breastfeeding mothers will feed wherever they are—sometimes reclining on the mats in the main living room. While not observed, most mothers described that toddlers are handed food and allowed to roam around the compound as they eat.
- There is good knowledge of the need to wash hands before and after eating. For the families who used the Happy Tap, its presence in the main living room (also the eating space) was a helpful reminder/nudge. However, soap remains a challenge due to the rising costs.

→ **Idea:** Consider the promotion of safe family eating spaces as part of the NCG materials.

→ **Idea:** Consider the promotion of a low (6 inches) table to create a physical gap between floors, animals, and eating spaces. This could alternatively be a plastic tablecloth, that is placed on the floor—which is a popular practice in urban areas in Hararghe. We will test this further.



This shared plate of food was part of our enumeration team lunch. We were not able to collect images of families eating or feeding.



Washing and Drying Household Items Safely

Clothing

- Much of the washing of clothing is done at the water point (stream, piped supply, or river). Soap is often reserved for clothing.
- Some households carry wet laundry back to the home to hang on a line, while others spread wet laundry on bushes at the water source.
- Clotheslines were visible in four households. One woman stored her line inside as it had discolored significantly in the sun.

Bedding

- Bedding is aired outside on sunny days by placing it on the roof or in the courtyard.

Items

- Most household items were dusty if stored near the floor.
- Special items are hung on nails higher to the ceiling.
- Household items are especially washed before Ramadan.

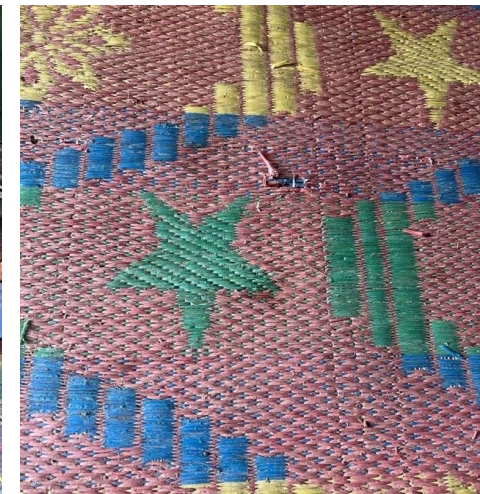


Ensuring Safe Ground, Floors, and Mats

- **Observation:** All households had woven plastic mats in their living rooms which were quite dusty and dirty. However, these were always placed on a raised part of the floor (6 inches above the door threshold height). This raised part is often plastered with cement. Shoes are never worn on the mats.
- Mat washing practices varied between households from one time per month to one time per year before Ramadan. One woman described airing her mats outside one time per week.
- Mats are used for eating, sitting, and sleeping for some household members.
- **Observation:** Other floors in the house are uneven dirt. This makes it difficult to clean and see potential animal waste.
- Courtyards are often not level and therefore difficult to clean/sweep. One woman described the broom breaking because of the difficult soil.
- Most households described sweeping the courtyard each morning as part of morning chores. Observations indicate that floors are not well swept.

→ **Idea:** Update NCG materials to include specifics around household cleaning practices and timing.

→ **Idea:** Consider the promotion of higher quality brooms—potentially with broom-making workshops.



Local plants are used for sweeping—one for outside (left) and one for inside (right). These are picked each day fresh.

Disposing Baby Feces Safely

- All families described actively using the baby potties and these were the most adopted product of the tested set. The provided potties were slightly bigger than the versions found in the local market, which were described by several mothers as being better as they were easier for babies to use and sit on.
- Potties were even shared across extended families. Mothers described that potties were used for babies over than eight months.
- **Observations:** Potties showed signs of being recently used and washed after used—they were often being dried on a stack of sticks.
- Most mothers described letting babies under eight months poop in the courtyard and would then scoop feces with leaves quickly and drop it in the latrine.
- The potties found in a local market were described as too small. However, the potties provided to households were preferred by most caregivers as the design is wide and very convenient.

→ **Idea:** Actively promote the use potties for babies over 8 months. Create linkages between distributors and local market actors.



Disposing Animal Feces Safely

- **Observation:** Most compounds had observed raw animal feces (goat and chicken) in the courtyard (chicken and goat).
- All households described sweeping animal waste (cow, goat, chicken, and donkey) in the morning. This job was often done by girls. The small brooms are homemade using plants picked each morning.
- Small plastic brooms were described as not being robust enough and one mother described that the one she had broke, and so she threw it away. “It’s not strong enough for our rural waste.”
- People sweep the goat and cow feces into the hoe or a piece of burlap and place it in the compost pit with other garbage. The disposal of animal feces has been part of the SPIR-II intervention managed by CARE. Some people wash their hands after collecting and disposing of animal feces.
- Donkey feces is often found at the water points and along the routes to water points.

→ **Idea:** Consider the addition of an animal feces management module in the NCG materials. This could include separate spaces for different types of waste. See also the garbage disposal section.

→ **Idea:** Consider adding a household cleaning schedule supplement to the NCG materials. With sweeping of the courtyard multiple times per day.



Using a Handwashing Station

- **Observation:** Only three out of eight Happy Taps showed signs of recent use (however, two families had recent splits, which could influence this number).
- Most households were interested in two handwashing stations: one more movable option at the latrine and one more permanent just inside the household.
- Happy Taps require a lot of water and are seen as unaffordable and out of reach of most households. An alternative option would be jerry cans with taps, which are visible at most rural restaurants.
- Most households are nervous about keeping any materials at the latrine as plastic/metal scavengers take the buckets and cans when household members are sleeping or in the fields. Something that is moveable or not interesting for theft is potentially more appropriate for latrine handwashing stations.
- Handwashing stations primarily include a stand, water container, tap/nail, and an optional wastewater basin.

→ **Idea:** Promote a suite of handwashing as a supplementary tool to the NCGs—similar to the cards we used for the research, to spark ideas and inspire.



Two households selected this behavior as the one they do frequently that they think is the most important for their baby's health.

Handwashing with Soap

- **Observation:** None of the eight households had any soap for handwashing left.
- All households described practiced handwashing with soap diligently until the soap ran out.
- Some households also described the cost of soap as another barrier at 20–30 Birr (0.35–0.55 USD per bar). This has tripled in the last year and is projected to get more expensive in the near future.
- Ash is available in all homes, and women had knowledge of using ash for handwashing, but it was not used. “I guess it is just my negligence,” described one woman.
- Households do have some bar soap, but this is reserved for washing clothing at the river.
- Although some of the FGD participants described using ash in the absence of soap the team wasn’t able to find ash inside latrines during household observations. Most FGD participants mentioned that they use only water after cleansing their bottoms as the soap price is inflated.

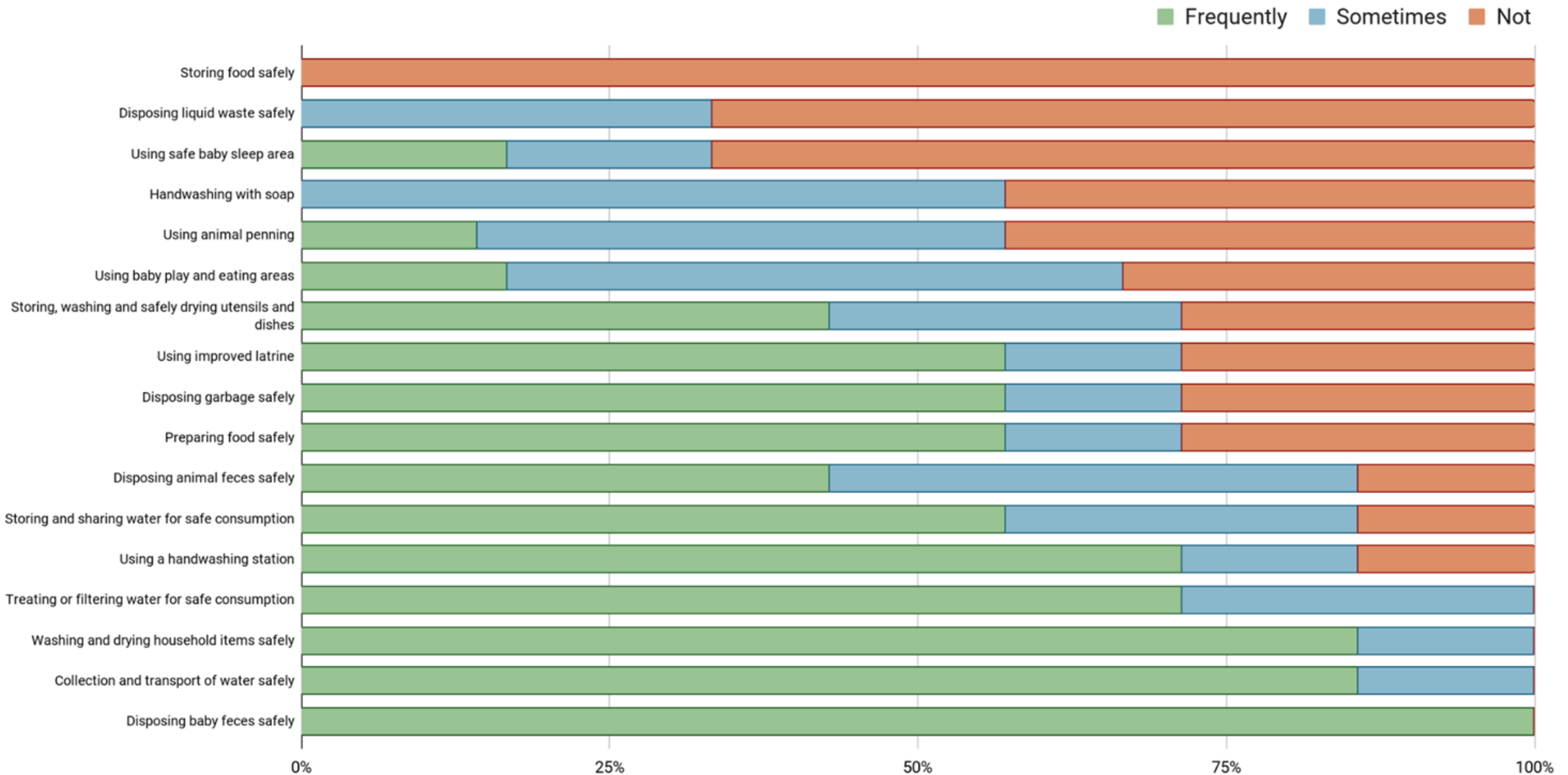
→ **Idea:** Explore if a jerry can full of [soapy water](#) could be accessed at a local business—where households can buy a small amount of soapy water at a time. For the RCT, this liquid soap store could be at the local clinic, with households accessing a squirt each week—or whatever is deemed appropriate on the household size.

One household selected this behavior as the one they aren’t doing that they are the most worried about.



Self-Reported Behavior Frequency Card Sort (n = 7)

As part of the household interviews, we asked participants to sort multi-image cards of 17 behaviors into three piles to explore how frequently they believe they are currently practicing this behavior (self-reported). These were compared with the snapshot in time observational data, which did not always align. Together the information provided important insights into the extent to which households believed they were practicing this behavior.





Hygienic Products: Insights and Ideas

SECTION 4

This section draws on seven household interviews, nine FGDs with community members, and five interviews with market actors.

It should be noted that as products and behaviors are closely linked, there may be overlap in the findings between Section 3 and 4.





Key Hygiene Product Observations (n = 8)

✔ Evidence of recent use

✘ No evidence of recent use

| HH | Family size | Mother's Literacy | Status | Happy Tap | Water Filter | Dish Rack | Potty | Clothesline Rope | Comments |
|----|-------------|--------------------------|----------|-----------|--------------|-----------|-------|------------------|--|
| A | 5 | No | PSNP | ✘ | ✘ | ✘ | ✘ | ✘ | We were able to see the materials stored in the home, but the wife had recently left with the children because of a domestic dispute. |
| B | 6 | No | Non-PSNP | ✔ | ✔ | ✘ | ✔ | ✔ | "I am responsible for my children and whole family health...."as long as you are alive you need to keep your hygiene and enjoy healthy life." |
| C | 4 | No | PSNP | ✘ | ✘ | ✘ | ✘ | ✘ | Interview with husband as the wife had recently left with most of the children because of a domestic dispute. One older child (male, 8 years old) still at the home. |
| D | 9 | No | PSNP | ✘ | ✘ | ✘ | ✔ | ✔ | "There was a cholera outbreak and I left to live to other place." The family was back now, but this disrupted patterns. |
| E | 3 | Yes, write and read | Non-PSNP | ✘ | ✔ | ✘ | ✔ | ✔ | |
| F | 8 | No | Non-PSNP | ✔ | ✔ | ✘ | ✔ | ✔ | |
| G | 10 | No | Non-PSNP | ✔ | ✘ | ✘ | ✔ | ✔ | |
| H | 6 | A little, read and write | Non-PSNP | ✘ | ✘ | ✘ | ✔ | ✔ | |

Soap

Prioritized for clothing

- “We won't lie”—soap is a major challenge as the community prefers to use ash for handwashing and reserve the soap bars for their laundry purposes. Even if soap is available, using that on a daily basis is not considered by the community nor are they willing to pay for it.
- Multiple types of soap were available at all local shops down to the village level. Sellers described the significant decrease in demand with the decreasing Chat price.
- Most households were commonly making their own liquid soap with leftover hard and powdered soap. They will crush bar soap to powder and mix it with water in a three or five-liter container and keep it for one night then use it for washing clothes of the whole family. This is the effective and affordable option being used by the whole community. This method is described as stretching how far a bar of soap can go; effectively removing dirt and not leaving uncleared dots of soap remaining, and it is good for cloth washing.
- One co-design idea from participants is to keep some of this soapy water aside for hand washing.
- Liquid soap (primarily sold in orange plastic bottles) is not readily available and is expensive.

Recommendations

Update messaging materials to describe the practice of mixing a jug of laundry soap and saving some aside for handwashing.

Consider an option of providing a large jug of mixed liquid soap at local retailers, from which households can buy in smaller amounts.



Well recognized, this name-brand Sunlight clothing soap is seen as a potential luxury item.

Cost: 55 Birr



This locally made soap called Ajax is easily distinguished by its blue color. It is also quite grainy, which is described as useful for removing dirt.

Cost: 15 Birr



Locally made, this Spring brand soap is used primarily for washing clothes and usually lasts three laundry days.

Cost: -30 Birr (100g), 55 Birr (250 g)



This Lifebuoy antibacterial soap was quite popular during COVID-19 at restaurants and institutions. It is labeled as costing 10 Birr, however is being retailed at five times this.

Cost: 50 Birr



This powdered soap package is frequently seen in rural rubbish pits. While marketed for laundry, it is mostly used for bathing.

Cost: 20 Birr (100g)

Handwashing Stations

One size does not fit all

- Households are much more accustomed to handwashing stations post-COVID, however, they are viewed as “for restaurants.”
- Nearly all households agree that they need two handwashing stations at home: one next to the latrine and one inside the house in the eating area.
- Some FGD participants believed that the Happy Tap was actually a water filter.
- Happy Taps were very different than what people were accustomed to using to wash their hands, which limited the uptake of their use.
- Most households feel capable of creating their own handwashing stations and were inspired by the images provided as part of the research. The images started many conversations in the FGDs on different ways of mixing a stand, tap, vessel, and basin.
- Foot-operated handwashing stations, such as the Tippy Tap and other COVID-inspired examples were almost always broken and not well understood. Households much preferred to use a simpler option.



Locally available, this plastic kettle is a common feature of latrines in the Kurfa Chele region. They are stored indoors at night and primarily used for ablution at the latrine.

Cost: 60 Birr



Tested with the eight targeted households, the Happy Tap is available through a supplier in Dire Dawa supported by the Transform-WASH activity. However, they do not sell well and are seen as overly expensive.

Cost: 1,500 Birr



This locally made handwashing station includes a tap and a used edible oil jerrycan. They are very common at restaurants in towns and along roadsides. Some examples use a nail instead of a tap—to reduce cost.

Cost: 500 Birr

Recommendations

Create SBC/marketing materials that illustrate a range of potential handwashing options as inspiration and ideas. This should also include how they are maintained and where they should be placed. This could also include the use of the right hand for turning on taps/removing nails to reduce contamination.

Support a handwashing station manufacturing session as part of the NCG curriculum.

Indoor handwashing station: 20L jerrycan with a spring-loaded tap.

Outdoor handwashing station: 3L jerrycan with a nail attached with a string. Promote the use of the right hand for removing the nail.

Water Filters

Interested, but not available

- Water filters were not found in any rural market areas or in shops. However, the WASH Business owner was interested in stocking the filters once the sanitation side of the business was more stable.
- Broadly, water filters are seen as an “urban” and “expensive” product. However, the households who used the Tulip Filters were happy with the design and functionality.
- There was no observation or discussion about using water treatment options such as boiling, chlorination, or settling.

Recommendations

Ensure that water filter use and maintenance are included in messaging materials through the NCGs. This messaging should also show where a filter should be placed in the home.

Create a stronger value chain for water filters with local suppliers and retailers. Leverage these local retailers as promoters and to provide key messaging about the maintenance and upkeep of water filters. Also ensure that the local retailers stock spare parts, such as the replacement ceramic candles.

Partner with local government to support households by providing and encouraging filters in areas where road construction has disrupted improved water supply.

Explore opportunities to subsidize sales via the local shops where the program can cost share for some time/or some number of filters.



Locally made, this is the cheapest of the water filter options and is the most appropriate for rural households. The simplicity of the design has increased adoption.

Cost: ~1500 Birr



Manufactured abroad, the LifeStraw household filter was not tested as part of this deep dive but was explored in the previous scoping work. While very effective at removing pathogens, it was deemed confusing and difficult to use by households and was not pursued further. The filter would have to be imported from Djibouti.

Cost: ~8500 Birr

Utensils and Dishes Drying and Storage

Existing solutions don't fit rural use patterns

- While most households are not using shelving for storage, there is interest in homemade or purchasable options.
- Plastic shelves are seen as “urban” and “expensive,” yet also were described as easy to clean and portable—both valuable features.
- Shelves must be big enough to hold daily materials including pots, pans, and food supplies.
- Households in a nearby city (Harar) hold a practice of displaying all their utensils and dishes on the wall. Walls can be covered with dishes as an art display.

Recommendations

Create a set of visuals to illustrate different storage options that keep food and utensils away from the floor. This can include a plastic version as well as locally made options from wood, and a cement table option (which was an image from Zimbabwe referred to often in the discussions).

Consider opportunities to foster local innovation through community shelf-building activities. A similar community cohesion activity is common in Zimbabwe, where women come together to build mud shelves in their kitchen huts.



Dish drying racks were described as not practical or desirable for households as they were too small to hold the common plates and pots.

One interviewed woman noted that the rack could be useful for glasses, but that it wasn't really practical.



As food is not stored overnight in the villages we visited, there was not particular interest in these kind of containers for food storage. They could be valuable for other storage requirements.



Plastic shelving was seen as valuable, and easy to clean. However it may not be big enough for the storage requirements in the home.

Cost: 450 Birr



This image of a dish drying rack and storage form Zimbabwe was used as a conversation starter in the FGDs. The shelf was described as a more preferable option in its design from a range of locally made materials.

Baby Feces Management

Increasing rural demand for potties

- Potties, locally known as “popo,” were well-adopted by households for babies over eight months old. These were shared between households and cleaned quickly after use using water. Families reported dumping waste in the latrine (however, we did not observe this behavior).
- Larger potties with a taller backrest were described as more acceptable but also recognized as more expensive. Local retailers (Kurfa Chele town) did not stock the more expensive ones as they didn’t believe they would sell.
- Households were not interested in a mat for infants (under six months) to defecate on. Instead, the traditional method of using a hoe to scoop up the feces is more acceptable. Families reported dumping the waste into the latrine (however we did not observe this behavior).

Recommendations

Adapt existing messaging materials to include a more visible image of a child using a child potty and proper disposal.

Encourage retailers to stock both versions of the child potty which better reflects the demand of households.

Continue to reinforce the importance of dumping baby feces into the latrine.



Available in Dire Dawa, this potty comes in a variety of bright colors and includes a frame, bowl, and lid. The lid is not pictured here and may be superfluous. It has a higher back than other versions.

Cost: 400 Birr



Available at the Kurfa Chele market, this potty is also brightly colored but is smaller and therefore less expensive.

Cost: 250 Birr

Improved Latrine Pans

High demand is outstripping supply

- The SATO pan remains to be the most preferable product. Its convenient requirement of a small amount of water for flushing makes it practical and one that can be adapted by Muslim communities in East and West Hararge.
- People raised cost as a contributing factor for not having an improved latrine and SATO pan products are considered somewhat affordable. FGD members mentioned that they hoped the pan would be between 250 and 300 Birr.
- Some of the participants have already been using the SATO pan by installing it in unimproved/semi-improved floorings.
- SATO pan supply chain issues remain a strong limiting factor in ensuring access. The local WASH business center described having 100 pending orders for SATO latrines but being unable to source the pans.

Recommendations

Linking the supply of improved latrine products and services by the WASH Business Centers with the demand created by care group sessions is important to make the system sustainable.

Engage with supply chain actors for the SATO pan to identify and mitigate supply chain issues.



SATO pan 103 is available in Dire Dawa from retailers established by PSI in the Transform-WASH activity. SATO Seats and SATO Flex are also available but have lower demand.

Pans are installed through WASH Business centers into mud slabs at the household.

Cost: 450 Birr, with installation into a mud slab 1,000 Birr



Cast latrine slab of cement. A SATO Pan can be placed into the squat hole as an upgrade. Locally made by a WASH Business Center established by SPIR II.

Cost: 3,000 Birr



“Turkish” latrine pan made of fiberglass, available at hardware stores in Dire Dawa. Does not include a cup-trap or other water seal to make it improved.

Cost: 450 Birr

Safe Eating Spaces

How to encourage safer floor eating

- All FGD participants described a preference for using a plastic “carpet” placed on top of the floor mats for eating. However, this was described as not locally available, costly, and not durable despite being easily cleanable.
- During the co-design process, participants designed a safe and convenient place to eat. It is a little uplifted table made of wood and covered with a plastic sheet as best as it can be. It is easily cleaned always and kept separate after eating.

Recommendations

Encourage local retailers to pre-cut a small section of plastic flooring that can be used as a floor eating mat. This should be durable and easily cleanable. This is because it is difficult for households to be able to afford a bigger piece and the flooring comes in rolls.



Plastic table cloths are available in larger markets and feature bright bold patterns.

Cost: 500 Birr



Vinyl flooring is readily available in rural and urban markets. It is sold on large rolls and not in small enough sections for an eating mat.

Cost: 200 Birr/meter



One of the images in the cards included a low wooden table (like a coffee table). Participants discussed this table as a potential option. However it was deemed less culturally appropriate than floor matting.

Cost: not explored.

Sweeping Materials

Low quality leads to poor sweeping results.

- Most households are using local “hatoytu,” a local leaf that is used wet leaves for sweeping inside the home and when it dried, using it to sweep the compound including for animal waste.
- There is a strong interest in accessing brooms that would aid in keeping the home clean.
- Sturdy plastic brooms were preferred for inside the home.
- Wooden brooms with long handles were preferred for sweeping outside of the home.

Recommendations

Update NCG materials to include specific practices (and timing) of household cleaning practices.

Encourage local retailers to stock higher quality brooms at local shops in alignment with demand creation activities.

Consider opportunities for local broom production with workshops such as broom making.



Small brooms with dust pans were seen as appropriate for inside the home, but more robust versions were preferred.

Cost: 370 Birr



Regionally made, these brooms are made with wood and straw and are more robust for outside the home.

Cost: 150 Birr

Baby Play/Sleep Space

Walls, floors, and netting

- Notably, different forms of playpens will be required for different ages of children.
- All groups discussed the importance of **netting** as part of the design of play and sleep spaces for infants, babies, and children. This is to keep mosquitoes, spiders, and flies away from the baby.
- Mothers described the value of being able to put their baby down while they did housework.
- Playpens with floors were seen as better as they were easier to clean with Ajax soap.
- It is still not clear the extent to which these would be used by households. It would be good to continue testing in collaboration with PReSERVE and the WASHPaLS activities.

Recommendations

Consider including a variety of baby play/bed options in NCG materials, in a similar fashion to the handwashing station recommendation.

Explore opportunities to promote and sell baby play/bed options in woreda shops.

Consider opportunities for local baby play/bed spaces in community workshops to strengthen the interest.



This pop-up playpen includes a washable floor, short walls, and a mosquito/fly net.

Cost: 20 CHF, brought from Switzerland



Locally known as “Shamashia,” this pop-up netting is available in local markets and is being used by some mothers for their infants under 8 months.

Cost: 600 Birr



A local low-cost option is to use pillows as a barrier on indoor mats to create low walls and keep the baby from rolling off the low ledge.

Cost: none



