# Vision of a Healthy Village Program Results

## Dodola, Ethiopia
## Project 2

A study evaluating the impact of Water for Good's[1]
Vision of a Healthy Village program in Dodola Project 2

June 2026

[1] Lifewater International and Water For Good merged in 2024. Project implementation activities prior to January 2024 were conducted by Lifewater International.

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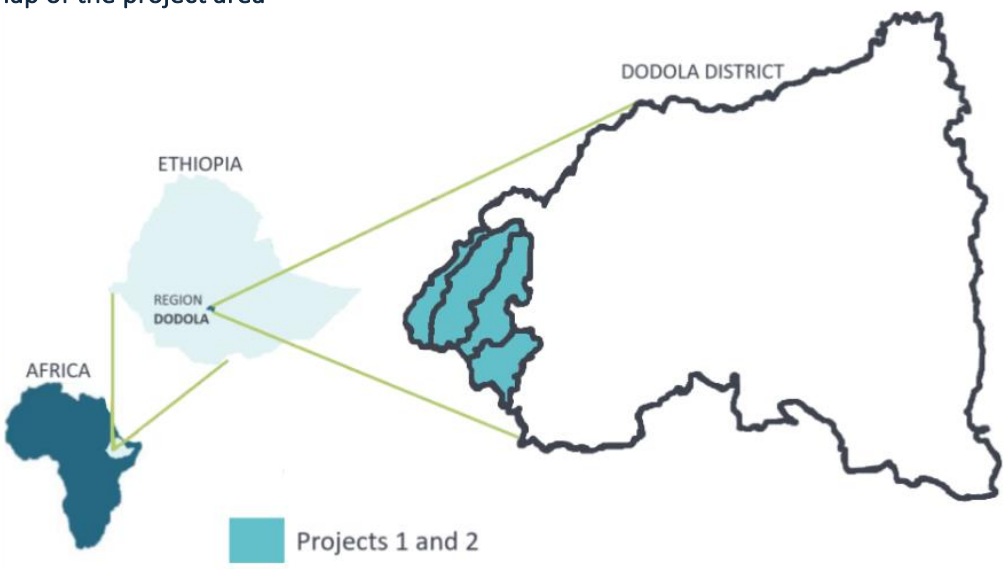
# The Problem

Sub-Saharan Africa is estimated to have the lowest rates of water, sanitation, and hygiene (WASH) coverage globally. In rural Ethiopia, safe access to WASH is largely inadequate, with an estimated 56% of people lacking at least basic access to drinking water, 94% lacking at least basic access to sanitation, and 96% lacking basic access to handwashing facilities in 2022.[2]

## Dodola, Ethiopia

The Dodola District is administratively divided into 15 kebeles with a total population of 283,165. Water for Good's second project in this region operated in four rural kebeles (Dame Chalko, Gafarsa Kara Nageso, Amba Hole Kanku, and Morke) serving 20,705 people across 82 villages with WASH programming.

Figure 1. Map of the project area




During the baseline study conducted in this region in 2022 (before project implementation had begun), Water for Good found that access to safe WASH facilities and WASH knowledge was limited:

- 4.8% of respondents reported using an improved water source (designed to deliver safe water)[3] in both the dry and rainy seasons. Additionally, households reported a median roundtrip journey time of 86 minutes to collect their water in the dry season.
- 7.0% of households were observed to have improved latrines (hygienically designed to prevent contact with human feces)[4].
- Proper handwashing facilities were not common at households; no households (0.0%) had a handwashing station with soap/ash and water near their latrine or their kitchen (0.0%) Furthermore, 14% of respondents washed their hands with soap and water at the two most critical times (before eating and after using the latrine) in the 24 hours prior to the survey (self-reported).

[2] WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene (2022). Retrieved from: https://washdata.org/data/household#!/dashboard/7136
[3] WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene (2016). Retrieved from: https://washdata.org/monitoring/drinking-water
[4] WHO/UNICEF Joint Programme for Water Supply, Sanitation, and Hygiene (2016). Retrieved from: https://washdata.org/monitoring/sanitation.

# Water for Good's Program

Water for Good identifies a district for long-term partnership and then begins working through the district, selecting several smaller administrative units (kebeles) for each three-year project cycle. Water for Good implemented its second project in the Dodola district of Ethiopia from July 2022 through June 2025. The project focused on changing WASH behaviors (such as handwashing, water treatment, and latrine use) as well as constructing WASH infrastructure (water points, ventilated improved latrine, and handwashing stations). The project had the following high-level goal: *Reduce WASH-related diseases and improve the health and wellbeing of children and families in the Dodola district through safe water, sanitation, and hygiene.*

Water points were constructed in communities, schools, and health facilities, and ventilated improved pit latrines were constructed at schools and health facilities. Between baseline and endline[5], 75 water points were completed and four ventilated improved pit latrines were constructed.

In addition to the construction of water and sanitation infrastructure, the project emphasized intensive behavior change activities at the household-level. For this purpose, 1,749 Community Conversation events were undertaken, in which the communities learned about 19 WASH-related topics, such as handwashing and clean compounds. In the communities, trained volunteers made educational visits to every household in the project (at least quarterly) to motivate and support behavior change and to monitor progress. Additionally, communities were encouraged to obtain government Open Defecation Free (ODF) verifications and declarations. Schools and health facilities in the project area were equipped with training on maintaining a healthy environment for students and patients, to prevent WASH-related diseases. Key outputs of Dodola Project 2 are displayed in Table 1.

Table 1. Dodola Project 2 outputs as of July 2025

| Outputs | Number (Percent) |
|---|---|
| Healthy Homes[6] | 2,891 (93%) |
| Open Defecation Free villages | 82 (100%) |
| Trained water committees | 101 |
| New and rehabilitated water points completed | 75 |
| New and rehabilitated ventilated improved pit latrines (VIPLs) completed | 4 |
| Healthy Villages[7] | 67 (82%) |

[5] Data for the baseline study were collected in July of 2022; data for the endline were collected in July of 2025. This project operated on a three-year schedule.

[6] Healthy Homes are verified to be drinking safe water in the dry and rainy seasons, use safe water storage containers, have improved latrines with dignity (with walls, a roof, a pit cover, and a door), two handwashing stations with soap/ash and water (one near the latrine and one near the kitchen), a hygienically raised dish drying rack, a bathing shelter that allows water to drain without pooling, and a clean compound.

[7] Healthy Villages are those that become Open Defecation Free (ODF), have access to safe water, functional water committees, and at least 90% Healthy Homes in their village

# Study Methods

For this study, the following data were utilized:

**Household survey:** Household Knowledge, Attitudes, and Practices (KAP) surveys were conducted in July 2022 and July 2025, combining both observation and interview data. At baseline, 372 households were surveyed via a probability proportional to size method of the 55 government villages[8] in the project areas. At endline, 368 households were surveyed using the same sampling method. In both studies, enumerators chose which households to randomly sample in each village using the EPI Sampling method.[9]

Data was collected electronically by enumerators through mWater, a mobile data collection software platform, and downloaded into Excel where it was analyzed. If the data for an indicator were normally distributed, the average value is reported. If they were not normally distributed, the median is provided to give a more representative estimate.

In the analysis, a Healthy Home Grade was calculated for each household, representing its ability to prevent the spread of WASH-related illnesses through their WASH infrastructure and practices. Final grades are assigned from 0% (lowest) to 100% (highest, Healthy Home). Grades were weighted based on the importance of each Healthy Home component in preventing diseases such as diarrhea; the more critical the Healthy Home component, the higher the weight the component received in this grading method. Table 2 displays the scoring method utilized.

Table 2. Health Home grading method

| Healthy Home Criteria | Weight (out of 100%) |
|---|---|
| Having an improved latrine with dignity[23] | 30% |
| Drinking safe water | 22.5% |
| Latrine handwashing device with soap/ash and water | 15% |
| Storing water safely | 12.5% |
| Clean compound free of feces and rubbish | 5% |
| Kitchen handwashing device with soap/ash and water | 5% |
| Raised dish drying rack | 5% |
| Improved bathing shelter | 5% |

**School assessment data**: Data on the 2 schools within the target area were collected in July 2025. Information on school water sources, sanitation facilities, school enrollment, dropouts, absences, and handwashing stations were analyzed using Excel.

**Qualitative data:** Five focus group discussions (FGDs) and seven in-depth interviews (IDIs) were conducted at endline with key project stakeholders and community members. Data were analyzed using ATLAS.ti, a qualitative data analysis software tool. For each theme that emerged from the data, a detailed description was created.

[8] Water for Good divided these 48 government villages into 82 smaller sub-villages for project planning and implementation purposes

[9] World Health Organization (2008). Retrieved from: https://www.who.int/publications/i/item/module-7-the-epi-coverage-survey

# Key Indicators

Table 3. Summary of key data from baseline and endline household KAP survey of Dodola Project 2

| Theme | Indicators | Baseline | Endline | P-values[10] |
|---|---|---|---|---|
| Health Indicators | % of households with at least one child under 5 that had diarrhea in past 7 days | 31% | 1.0% | <0.01 |
| | % of respondents reporting that child health has improved in the past year | 32% | 94% | <0.01 |
| | % of respondents reporting that their health has improved in the past year | 32% | 94% | <0.01 |
| Water Indicators | % of households using an improved primary drinking water source in the dry and rainy season[11] | 4.8% | 100% | <0.01 |
| | % of households drinking safe water (source and/or treatment) | 5.4% | 100% | <0.01 |
| | Median journey time to fetch water (travel to/from water source plus queue time) during dry season[12] | 86 mins | 19 mins | <0.01 |
| | % of households storing water safely (observed)[13,14] | 2.5% | 98% | <0.01 |
| Latrine Indicators | % of households with latrines that are improved[15] (observed)[16] | 7.0% | 98% | <0.01 |
| | % of households with latrines that are improved with dignity (slab, walls, roof, pit cover, and door) (observed)[17] | 0.0% | 57% | <0.01 |
| Hygiene Indicators | % of respondents who washed hands in past 24 hours (with soap/ash and water or alcohol-based rub) at the two most critical times (after defecation and before eating) | 14% | 80% | <0.01 |
| | % of households with handwashing facility and materials (soap/ash and water or sanitizer) located close to latrine (within 10 paces) (observed)[18] | 0.0% | 80% | <0.01 |
| | % of households with handwashing facility and materials (soap/ash and water or sanitizer) inside or near the kitchen (observed)[19] | 0.0% | 78% | <0.01 |
| | % of households using a hygienic (raised) drying rack (observed)[20] | 0.3% | 87% | <0.01 |
| | % of households with a bathing shelter (observed)[21] | 0.0% | 83% | <0.01 |
| | % of households with a clean compound (no visible rubbish or feces) (observed) | 2.2% | 65% | <0.01 |
| Healthy Homes | Median Healthy Home Grade[22] | 16% | 97% | <0.01 |

[10] A p-value tells you how likely it is that your results happened by random chance. If the p-value is below 0.05, it usually means there's strong enough evidence to suggest the result is not just due to chance. If the statistical significance for a key indicator is marked as "Yes", it has a p-value <0.05

[11] Improved sources of water include "those that have the potential to deliver safe water by nature of their design and construction, and include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater, and packaged or delivered water". WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene (2016). Retrieved from: https://washdata.org/monitoring/drinking-water

[12] This includes all households for whom we had sufficient data to evaluate their water fetching time (n=372 at baseline; n=365 at endline)

[13] This includes all households for whom we had sufficient data to evaluate their water storage containers (n=372 at baseline; n=341 at endline)

[14] Safe water storage containers are those that are narrow mouthed, covered, and clean/mostly clean

[15] Improved latrines are "designed to hygienically separate excreta from human contact, and include: flush/pour flush toilets connected to piped sewer systems, septic tanks or pit latrines; pit latrines with slabs (including ventilated pit latrines), and composting toilets". WHO/UNICEF Joint Programme for Water Supply, Sanitation, and Hygiene (2016). Retrieved from: https://washdata.org/monitoring/sanitation.

[16] This includes all households for whom we had sufficient data to evaluate their sanitation facility (n=267 at baseline; n=361 at endline)

[17] This includes all households for whom we had sufficient data to evaluate their sanitation facility (n=267 at baseline; n=361 at endline)

[18] This includes all households for whom we had sufficient data to evaluate their handwashing facility (n=258 at baseline; n=360 at endline)

[19] This includes all households for whom we had sufficient data to evaluate their handwashing facility (n=258 at baseline; n=360 at endline)

[20] This includes all households for whom we had sufficient data to evaluate their area for drying dishes (n=305 at baseline; n=355 at endline)

[21] This includes all households for whom we had sufficient data to evaluate their bathing shelter (n=247 at baseline; n=356 at endline)

[22] This includes all households for whom we had sufficient data to evaluate all Healthy Home criteria (n=214 at baseline; n=321 at endline)

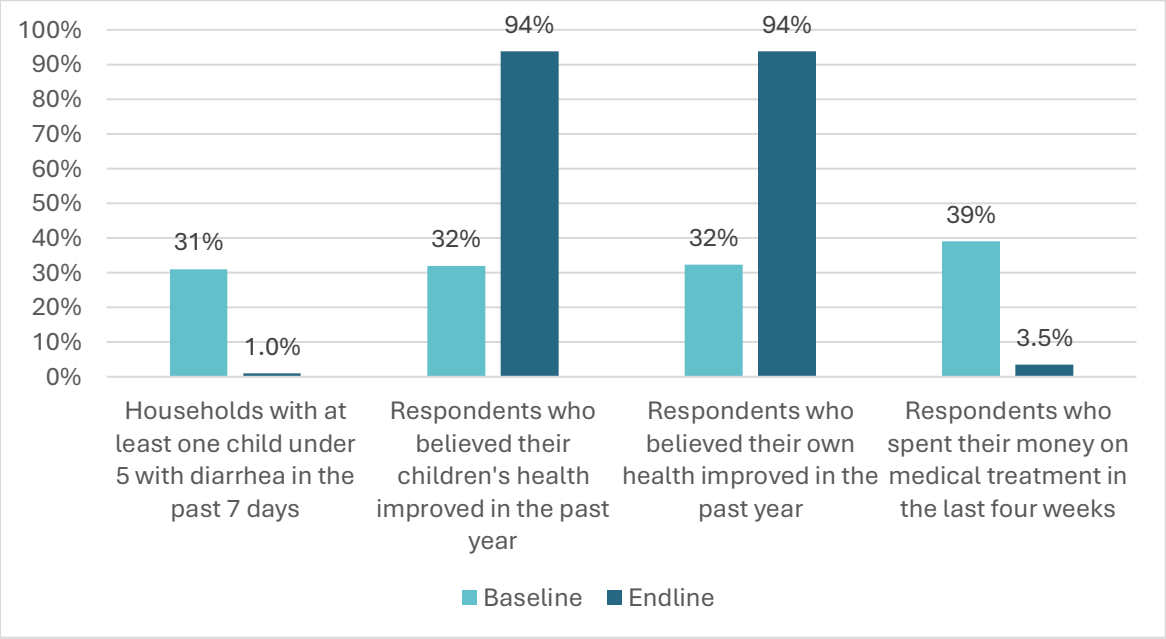
# Health

Diarrhea is the third leading cause of death for children under 5 globally, resulting in approximately 443,832 deaths per year. The majority of these deaths are attributed to inadequate WASH.[23]

Key improvements in health were observed between baseline and endline in Dodola Project 2. The percentage of households who reported having at least one child under five that had diarrhea in the past week decreased from 31% at baseline to 1.0% at endline. Additionally, the percentage of respondents who believed that their children's health had improved in the past year increased from 32% at baseline to 94% at endline. Similarly, the percentage of respondents reporting their own health had improved increased from 32% at baseline to 94% at endline (p-value <0.01).

The percentage of respondents who reported missing work due to illness or caring for someone ill decreased from 22% at baseline to 0.8% at endline. Fewer respondents at endline had visited medical facilities in the four weeks prior to the survey (39% at baseline, compared to 4.1% at endline). Similarly, the median amount spent on medical care decreased from 241 ETB ($1.75 USD) per family to 0.0 ETB ($0.00 USD) per family.

Figure 2. Key health indicators at baseline and endline




A health extension worker reflected on changes in medical expenditures during an in-depth interview at endline:

> "We are spending less for health treatments. We are using saved money for children's education supplies."

[23] WHO (2024). Retrieved from: https://www.who.int/news-room/fact-sheets/detail/diarrhoeal-disease

# Water

Water for Good is interested in understanding the level of "basic access" to drinking water within the project area, which is defined as "Drinking water from an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing"[24]. Water for Good was able to assess the rate of basic access for 100% (n=372) of respondents for the dry season at baseline, 94% (n=350) of respondents for the rainy season at baseline, 98% of respondents for the dry season at endline (n=361), and 97% of respondents for the rainy season at endline (n=358). Basic access to water increased from baseline to endline, from 0.3% to 99% in the dry season and 0.6% to 98% in the rainy season (Table 3).

Table 4. Drinking water source types in the dry and rainy seasons

| | Season | Source type | % of respondents | Median water fetching time | % with basic access |
|---|---|---|---|---|---|
| **Baseline** | Dry | All sources<br>Improved<br>Unimproved | 100% (n=372)<br>6.2% (n=23)<br>92% (n=343) | 86 minutes<br>105 minutes<br>85 minutes | 0.3% (n=1) |
| | Rainy | All sources<br>Improved<br>Unimproved | 100% (n=350)<br>5.4% (n=19)<br>95% (n=331) | 80 minutes<br>110 minutes<br>80 minutes | 0.6% (n=2) |
| **Endline** | Dry | All sources<br>Improved<br>Unimproved | 100% (n=361)<br>100% (n=361)<br>0.0% (n=0) | 19 minutes<br>19 minutes<br>-- minutes | 99% (n=361) |
| | Rainy | All sources<br>Improved<br>Unimproved | 100% (n=358)<br>100% (n=358)<br>0.0% (n=0) | 21 minutes<br>21 minutes<br>-- minutes | 98% (n=358) |

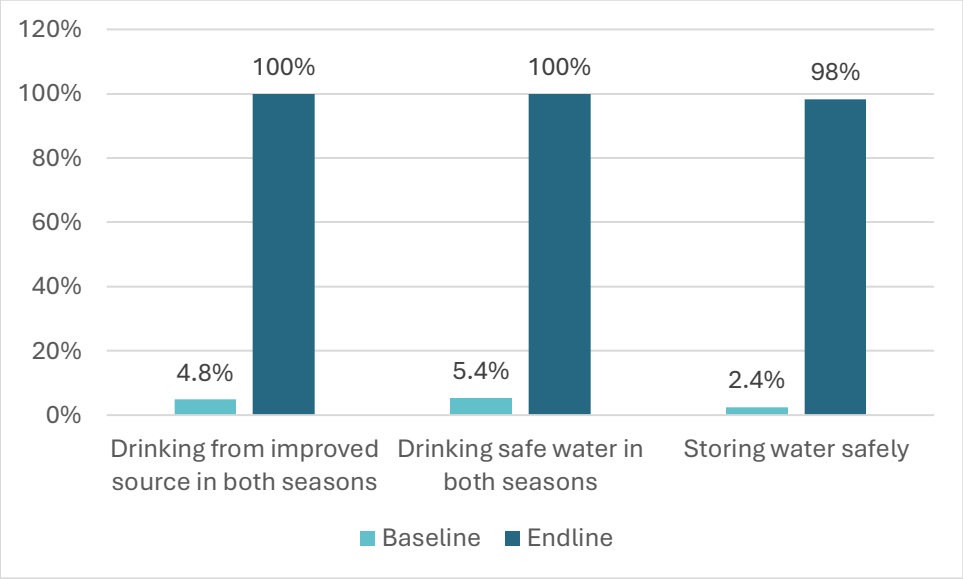
A household is considered to be drinking safe water if they fetch water from an improved source in both seasons, or if they do not use an improved source, they always treat their water with an acceptable water treatment method.[25] Overall, the percentage of households reporting that they were drinking safe water in both seasons (either from an improved source or through consistent treatment of water) increased from 5.4% at baseline to 100% at endline. Additionally, overall satisfaction with the current water situation greatly improved from baseline to endline; 1.8% reported being satisfied at baseline, compared to 99% at endline.

Water For Good also trains households about the importance of using safe water fetching and storage containers to reduce the risk of contamination. Containers are considered to be safe if they are covered, narrow-mouthed (4 cm or less), and clean. The percentage of households observed to have safe water storage containers on the day of data collection increased from 2.4% at baseline to 98% at endline.

[24] WHO/UNICEF Joint Programme for Water Supply, Sanitation and Hygiene (2016). Retrieved from: https://washdata.org/monitoring/drinking-water

[25] Effective water treatment methods include boiling, adding chlorine, using a biosand filter, using a ceramic filter, or solar disinfection.

Figure 3. Water key indicators at baseline and endline




# Sanitation

Water for Good trains households to invest in "improved latrines with dignity", which meet all the criteria to be considered an improved latrine (designed to prevent the spread of disease through human feces) while also protecting the dignity of the users. Improved latrines with dignity are not shared with other households and have walls, a roof, a door that provides complete privacy, and a tight-fitting pit cover that keeps flies and insects out.

Enumerators observed the households' latrines to assess their quality. Of those who allowed enumerators to see their latrines (n=267 at baseline, n=358 at endline), most had dry pit latrines in both studies (99% at baseline, 99% at endline). All improved latrine with dignity components improved between baseline and endline, and as a result, more households have latrines well-equipped to prevent the spread of WASH illnesses and protect their dignity and safety (Figure 4.).

Overall, the percentage of households with improved latrines increased from 7.5% at baseline to 98% at endline (p-value <0.01), and the percentage of households with improved latrines with dignity increased from 0.0% at baseline to 57% at endline (p-value <0.01). The percentage of households with basic access to sanitation (defined as having an improved latrine that is not shared with other households) increased from 5.9% at baseline to 97% at endline.

Figure 4. Quality of observed latrines at baseline at endline

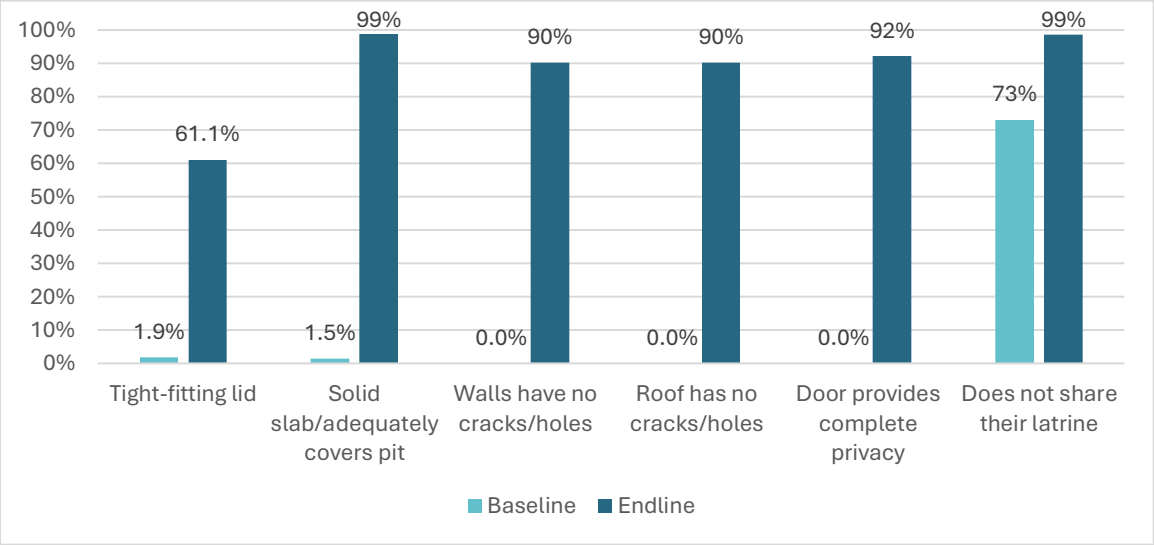
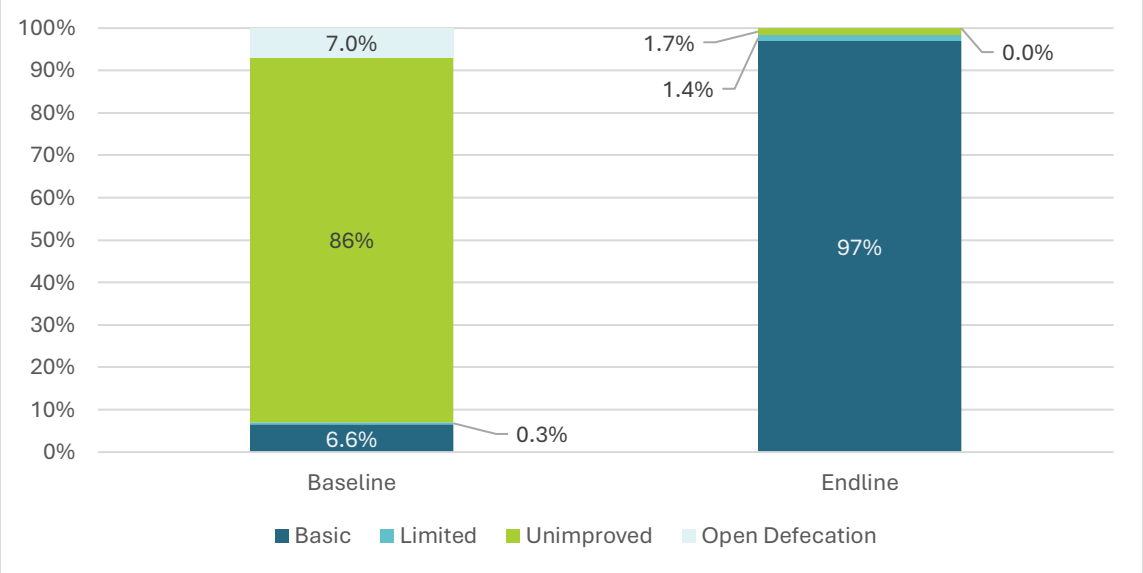



Figure 5. Access to sanitation according to JMP standards at baseline and endline



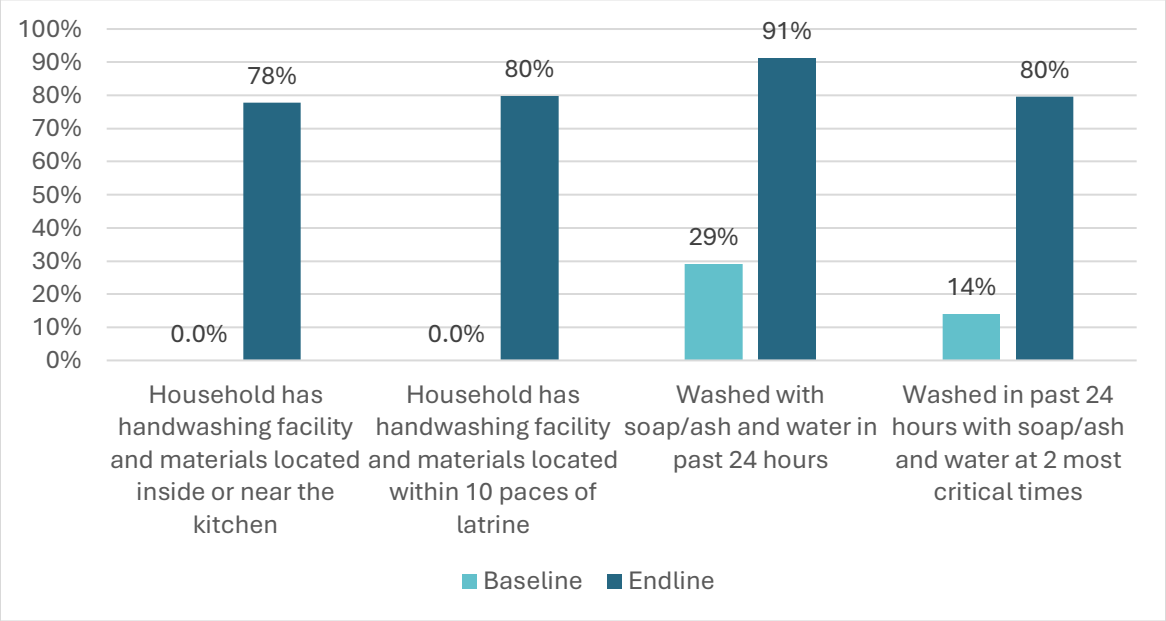

# Hygiene

Handwashing facilities and self-reported handwashing behaviors were investigated in each study. Enumerators observed the handwashing stations at each household. The percentage of respondents who did not have a handwashing station decreased from 100% to 5.2%. Of those who allowed enumerators to observe their handwashing locations at endline (n=314), 80% had a handwashing station with soap/ash and water near their latrine, and 78% had a handwashing station with soap/ash and water near their kitchen. The percentage of households who reported washing their hands with soap/ash and water increased from 29% to 92%. The percentage of respondents who reported washing their hands after

defecation/using the latrine increased from 52% to 97%, while the percentage who reported washing their hands before eating increased from 73% to 89%. Overall, the percentage of respondents who washed their hands with soap/ash and water at the two most critical times increased from 14% at baseline to 80% at endline (p-value <0.01).

According to the results from the qualitative interviews, handwashing with soap has become a widely adopted practice in the project area following the WASH intervention. As a result, households report better health and cleaner environments, reflecting a shift from limited awareness to consistent practice as a key barrier against disease transmission.

Figure 5. Self-reported handwashing behavior in the 24 hours prior to the survey




Enumerators also observed animal and rubbish management at respondents' households. Overall, the percentage of households observed to have a clean compound (free of feces and rubbish) on the day of data collection increased from 2.2% at baseline to 65% at endline (p-value <0.01). Community members in the qualitative interviews emphasized their clean, organized living spaces as a key outcome of improved hygiene behaviors, demonstrating an increased effort in maintaining their compounds cleanliness.

# Healthy Homes

Households also received Healthy Home grades based on the survey to characterize their capacity to prevent WASH-related diseases through their household's WASH behaviors and conditions. Final grades are assigned from 0% (lowest) to 100% (highest, Healthy Home). Of the households who were graded in either study (58% at baseline, 87% at endline), the median scores were 16% at baseline and 97% at endline. This suggests that while most households were not equipped to prevent the spread of WASH-related diseases at baseline, by endline, the majority had achieved notable progress.

Figure 8. Observed Healthy Home components during the household survey

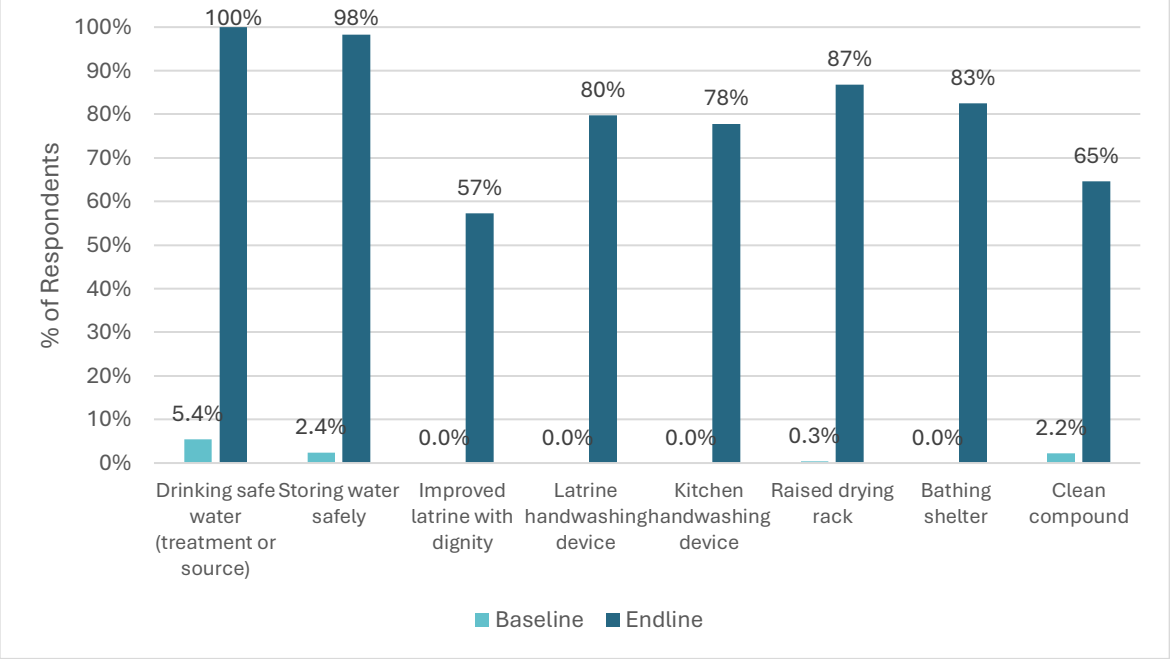
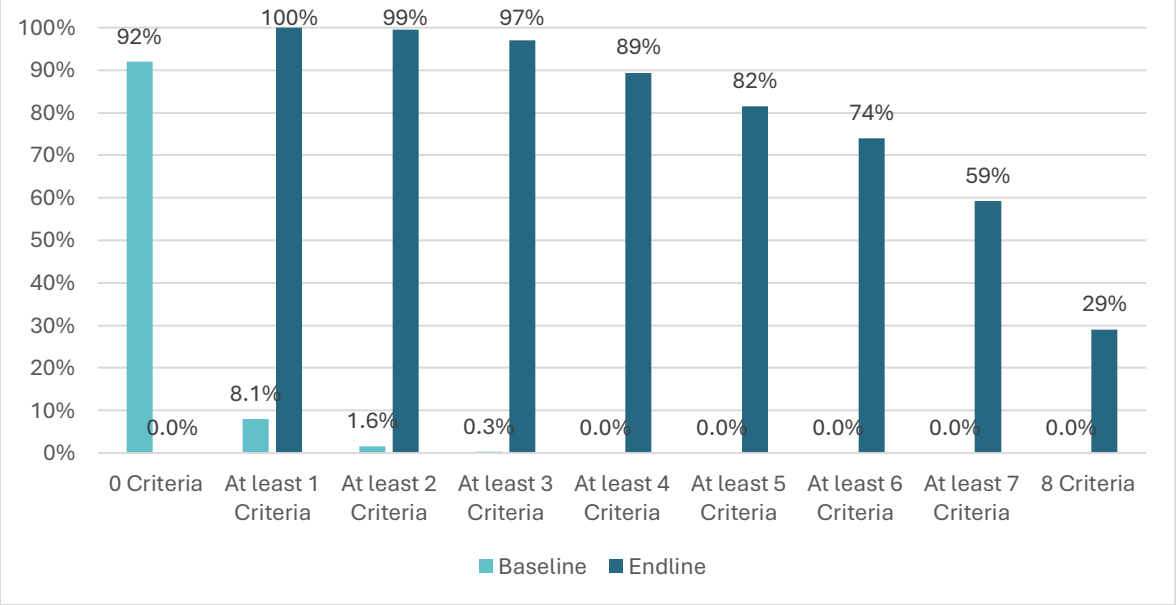



Figure 9. Number of Healthy Home criteria achieved by households



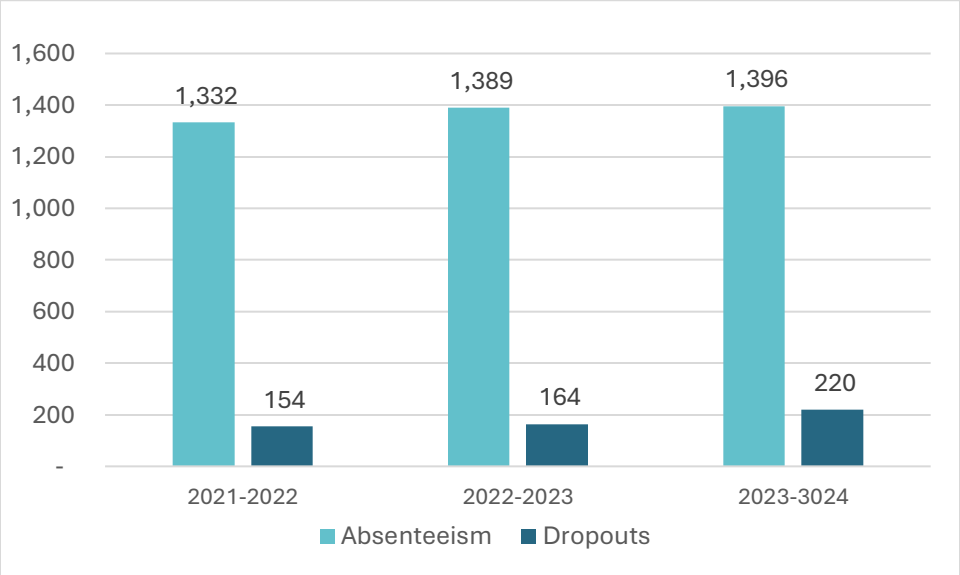

# Community Institutions

## Schools

Lifewater worked in two schools in the Dodola Project 2. Data collected from the project schools in 2025 indicate that student dropout rates remained consistent at Amba Hole Qanku Primary school and raised

slightly in Amiro Nageso Primary School. Despite this, total enrollment was reported to increase slightly over the years in both schools.

Figure 9. Absentism and dropout data at Dodola Project 2 schools




In the qualitative interviews, student absenteeism was reported to have decreased over the Water for Good project as a result of improved health and improved privacy for menstruating girls. Notable improvements at project schools were reported by community members, including construction of new latrines, safe water points, and menstrual management facilities.

# Conclusion

Water, sanitation, and hygiene conditions improved in the Dodola Project 2 area between baseline and endline. Households received training on WASH practices, schools were mobilized to teach their students about WASH, water points were rehabilitated and constructed, and water committees were established for ongoing maintenance and operations of water points. As a result, communities are equipped to prevent WASH-related diseases through healthy practices such as safe water consumption, handwashing,and improved latrine use. Of the 3,097 households in the project area, 93% were registered as Healthy Homes, and 100% of the villages were verified as Open Defecation Free over the course of the project.

Due to improved water, sanitation, and hygiene conditions, households at endline were generally more equipped to reduce the transmission of WASH-related diseases than at baseline. All of the households at endline were using safe water, and they were spending less time collecting it; safe water usage increased from 5.4% to 100%, and the median journey time to collect water decreased from 86 minutes to 19 minutes in the dry season.

Considerable improvements were also observed in latrine quality and hygiene facilities, with the percentage of households with improved latrines with dignity increasing from 0.0% to 57%. Essential hygiene infrastructure was more prevalent at endline, as 80% had fully equipped handwashing stations near their latrine at endline (compared to 0.3% at baseline), and 87% had raised drying racks (compared to 0.26% at baseline).

Households also demonstrated improved awareness of WASH practices and disease transmission. The percentage of respondents who recognized using a latrine as a key diarrhea prevention method increased from 45% at baseline to 99% at endline. Reported handwashing behavior after using the latrine increased from 22% at baseline to 99% at endline.

Reported WASH illness prevalence also decreased between the studies. Diarrhea cases in children under the age of five decreased from 31% at baseline to 1.0% at endline, and the percentage of respondents who believed their health had improved in the previous year increased from 32% at baseline to 94% at endline. Households were demonstrated to have an increased ability to prevent waterborne illnesses through their practices and infrastructure, as the median Healthy Home grade increased from 16% at baseline to 97% at endline.

These findings will be used to inform future project implementation.