TEMWA

WHEN COMMUNITIES COME TOGETHER

Water, Sanitation and Hygiene Project

End of Project Evaluation Report

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Executive Summary

This report presents findings of the end-line evaluation of the Water, Sanitation and Hygiene (WASH) Project implemented between 2024 and 2026 in the communities of Khondowe, Bua and Chikondo. The project aimed to contribute towards the reduction of WASH-related diseases by improving household hygiene practices, increasing access to safe water, and strengthening local governance systems in WASH service delivery. The evaluation assessed project performance at outcome and impact levels. A mixed-methods approach was employed, combining quantitative household surveys, direct observations, focus group discussions, and analysis of health facility data. A total of 217 households were sampled and participated in the evaluation survey.

The evaluation has established that the WASH project substantially achieved its intended outcome level expected results. Knowledge of WASH practices has increased among community members, with at least 90% of community members being estimated to have sufficient understanding, compared to a baseline value of 68%. Community members exposed to the project's awareness raising interventions had nearly four times higher odds of possessing sufficient knowledge on WASH, compared to those not exposed. This has provided strong evidence that the project has contributed to improved community awareness.

Improvements in knowledge were linked to improved adoption of recommended WASH practices. Approximately, 78% of households are achieving proper adoption, compared to 61% at baseline. Likewise, exposure to WASH promotion interventions was also associated with improved adoption by households. Possibility of moderate to high adoption of WASH practices was estimated to be three times higher among households exposed to project interventions, than those not exposed. Almost 7 out of every 10 households that reported new adoption, attributed their decision to door – to – door follow up by WASH committees. This has demonstrated the key role of community-based structures in promotion of behaviour change.

Household facility inspections, however, revealed inconsistency in quality of adoption for some of the promoted WASH practices. Facilities such as latrines and waste pits were observed to be of low standards as a result of poor maintenance, incomplete or makeshift structures and inconsistent adherence to hygiene standards. Long-term usage of ceramic water filters is largely being hindered by limited access to spare parts or replacement units.

Nevertheless, this evaluation has found strong evidence of improved health outcomes. The proportion of households reporting WASH related diseases in previous three months declined from 19% at baseline to 13%. Amongst households exposed to project interventions, the odds of reporting WASH related diseases were 60% lower than those not exposed. This suggests that increase in knowledge and improved adoption of recommended WASH practices have contributed to better household health.

Overall, this evaluation has concluded that through the WASH project, a behaviour change pathway has been established, where exposure to WASH promotion and awareness is associated with increased knowledge, better adoption and reduced likelihood of WASH related diseases. Sustaining these achievements will require continued investment in community engagement and strengthening WASH governance to ensure improved support systems for sustainable water treatment technologies.

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List of Acronyms

DHIS- District Health Information System
HSAs – Health Surveillance Assistants
LGs- Local Governance Structures
VDC- Village Development Committee
WASH – Water, Sanitation, and Hygiene
ODF – Open Defecation

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Background

Between 2024 and 2026, Temwa implemented a Water, Sanitation and Hygiene (WASH) project across three locations in the lakeshore areas of NkhataBay North. In Mlenda Village Development Committee (VDC), the project was implemented in Bua between 2024 and 2025. In Chikondo VDC, implementation covered Theya, Livuwu, and Dankhanyo during the same period. Under Mulwezi VDC, the project was implemented in Khondowe from January to December 2025.

The overall goal of the project was to contribute towards reduction in the prevalence of WASH-related diseases among community members in NkhataBay North. To achieve this, the project focused on three key objectives: promoting the adoption of improved sanitation and hygiene practices at household level, increasing access to safe and clean water; and strengthening Local Governance Structures (LGS) to enhance their participation in WASH service delivery.

Project implementation in all locations involved establishment of three VDC-level WASH committees. In total, 30 committee members were directly engaged, 10 per each committee, with additional support from VDC members and local leaders. These committees conducted household visits, including door-to-door inspections, to promote the adoption of sanitation and hygiene facilities. Across Bua and Chikondo, the project reached at least 900 households, while 235 households were directly supported in Khondowe. Overall, the project benefited approximately 6,000 community members.

In addition to strengthening local governance systems, the project distributed 900 ceramic water filters across Bua, Theya, and Chikondo, and a further 235 filters in Khondowe, targeting one set per household. Community awareness activities were conducted quarterly in Bua, Theya, and Chikondo, and biannually in Khondowe. These activities included drama performances and sports events such as netball and football. Through these awareness events, key messages on WASH practices were disseminated.

Baseline surveys were conducted in each location prior to implementation to establish the status of household sanitation and hygiene practices and to define benchmarks for key performance indicators, primarily at outcome level. This report presents the findings of the end-line evaluation, assessing project performance against the baseline results.

Purpose and Objectives

The end-line evaluation was conducted to assess the effectiveness and efficiency of the WASH project. The evaluation also aimed to generate evidence on project performance to inform decision-making and future programming. The specific objectives of the evaluation were to:

- Assess the level of knowledge and understanding of WASH best practices among community members
- Determine the adoption of improved sanitation and hygiene practices at household level
- Assess changes in the reported occurrence of WASH-related diseases among households
- Examine the extent to which project interventions contributed to observed changes among direct beneficiaries
- Identify key lessons learned and provide recommendations to inform future WASH programming.

Methodology

Approach:

The evaluation adopted a mixed-methods approach, combining both quantitative and qualitative techniques. Quantitative data collection focused primarily on household-level surveys aligned with the evaluation objectives. This was complemented by direct observations conducted at each sampled household to validate reported adoption of WASH practices.

To supplement the findings, secondary data on the prevalence of WASH-related diseases was obtained from the District Health Information System (DHIS) for Usisya and Khondowe Health Centres. In addition, two focus group discussions were conducted with key stakeholders involved in the project implementation to capture qualitative insights on project performance, community response, and sustainability of interventions.

Sampling and data collection

Every household in Khondowe, Bua and Chikondo constituted the sampling frame. Stratified random sampling was applied to determine representative sample sizes for each location, ensuring adequate coverage across project. Household data was collected using mWater, an open-source mobile-based data collection and management system. Enumerators used an mWater Surveyor application to capture and submit data in real time to the evaluation survey's online dataset, to ensure data accuracy and consistency. All the data was exported to SPSS for analysis and storage.

Household survey questionnaires were administered to adult members, whose responses were representative of other household members. Despite the questionnaire designed in English, interviews were conducted in local language, primarily Tumbuka, followed by Tonga with an option of Chichewa where necessary. Apart from oral questions, the questionnaire had sections requiring physical observations and verifications especially on WASH practices adoption.

Prior to commencing data collection in every village, an introductory meeting was conducted with the Chief or his representative to obtain permission to visit the households. Where needed, the Chiefs appointed a community volunteer to guide and introduce the enumerators in sampled households. Every household was recorded using pseudo identification code with no personal names recorded, to ensure confidentiality and anonymity. Each interview was conducted with consent from the respondent. The consent was further sought during physical inspection and verification of facilities, including taking of pictures of the inspected facilities.

Analysis

Quantitative data analysis was done to establish descriptive statistics, including frequency distributions of key indicators aligned with expected project results and objectives of the evaluation. Trend analysis was applied to assess changes in the prevalence of WASH-related diseases over time using health facility data. To assess project impact, comparative analysis was conducted across different levels of adoption of household sanitation and hygiene practices, examining their relationship with reported changes in disease occurrence. Qualitative data from focus group discussions was analysed thematically for more insight on quantitative findings.

Limitations of the Evaluation

While the evaluation provides useful insights into project performance, a few methodological considerations are worth noting. The assessment relied partly on self-reported household data, including information on the occurrence of WASH-related diseases. As with most surveys of this nature, responses may be influenced by recall challenges, particularly when referring to past illness episodes over a defined period. This could lead to over-reporting or under-reporting by respondents.

In addition, access to disaggregated health facility data was delayed at the time of analysis. Nevertheless, HSAs were able to submit relevant disease prevalence data for the specific locations where the project was being implemented. Consolidated data, at health facility level, was accessed from a centralised government information system, District Health Information System (DHIS), where updated available data was only for one WASH related disease among under-5 children.

FINDINGS

Sample Description

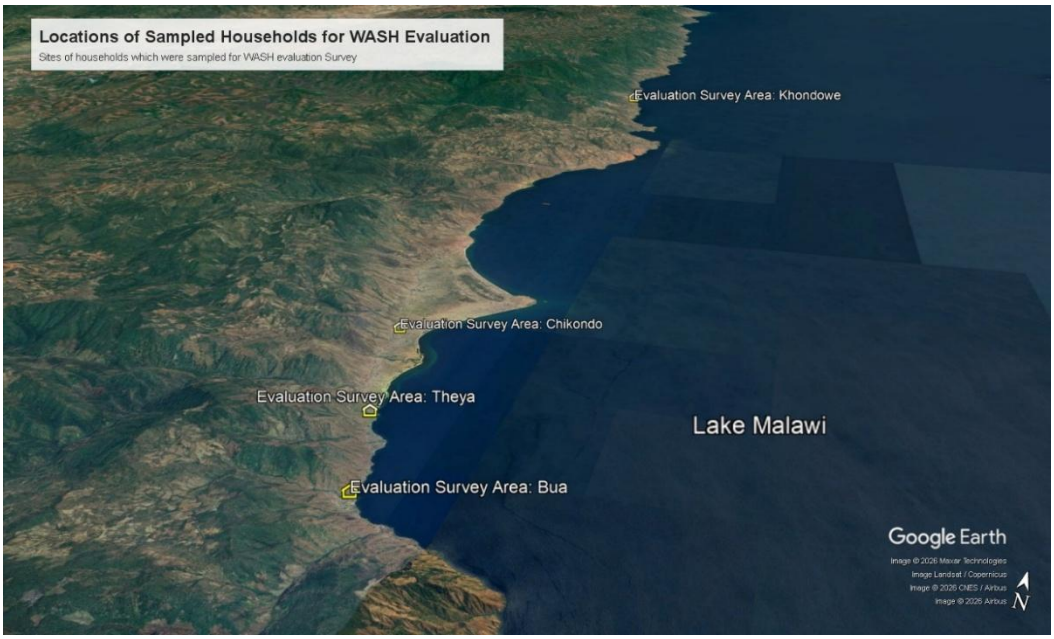


Figure 1. Map of locations where households were sampled for evaluation survey

A total of 217 households participated in the evaluation, distributed proportionally across the four locations of Khondowe (72), Chikondo (82), as well as Theya and Bua 63), as depicted in the map in figure 1 above. Of the respondents, 80 were male and 138 were female, representing 37% and 63% of the sample, respectively. The average age of respondents was 38 years, with a minimum of 17 and a maximum of 76 years, indicating that adult community members provided the majority of responses. Only seven respondents reported having lived in their respective locations for a short period during the WASH project (2024–2026), which further supports the credibility of the survey data.

Household size averaged six members, consistent with national and district-level estimates. Based on household size, 11% of households were categorized as small, 51% as medium, and 39% as large. This shows that most households fall within the medium size category, with a substantial proportion in the large category, suggesting moderate to high potential pressure on WASH facilities and services. Households in the medium and large categories (90%) are likely to place increased demand on water access, sanitation facilities, and hygiene resources, with implications on the adequacy and quality of WASH services.

In addition, only 67 households (31%) reported not hosting children below the age of five, meaning that under-five children are present in approximately 69% of households. This high prevalence emphasizes the importance of safe water, adequate sanitation, and proper hygiene practices, given the heightened vulnerability of young children to WASH-related diseases.

Knowledge and adoption of WASH practices

Community Members' Knowledge about WASH Practices

Out of the 217 respondents, 215 were able to correctly describe at least one WASH practice, indicating a high level of community awareness, at approximately 99%. During baseline, this was estimated at 87%. This implies that, after two years of implementing the project, general community awareness of WASH practices has increased by more than 10%. Across the recommended WASH practices, knowledge of handwashing with soap was the most mentioned (84%), followed by water sanitation (79%) and home cleanliness (74%). Moderate levels of awareness (70%) were observed in food hygiene, body hygiene and use of latrines.

Percentage of people who can describe at least three measures of preventing WASH-related diseases

Out of the 217 respondents with knowledge of WASH practices, 195 (89%) were able to describe at least three practices, indicating knowledge sufficiency among community members. This suggests that nearly 9 in every 10 community members have adequate understanding of key WASH practices. Compared to baseline levels, 68% in Khondowe and 61% for Bua and Chikondo, the evaluation finding reflects knowledge increase among community members, by 21 and 28 percent, respectively. This suggests that the project's sanitation and hygiene promotion efforts have been effective in enhancing WASH awareness to a substantial proportion of community members.

Attribution of Knowledge Gain to Project Interventions

During the evaluation, respondents were asked to identify the specific areas where they had gained new knowledge. Nearly half of the respondents (49.7%) indicated that they had newly acquired knowledge on water sanitation including the usage of ceramic water filters. Another highly reported area of knowledge gain was on latrines (41%) with food hygiene, personal body hygiene, handwashing and household sanitation were least mentioned by less than 25% of the respondents.

Influence of WASH promotion Interventions on Community Members' Knowledge of WASH practices

	New Knowledge Gained	New Knowledge **Not** Gained
Respondents exposed to project specific awareness raising interventions	**97%**	**3%**
Respondents **Not** exposed to project specific awareness raising interventions	**68.9%**	**36.1%**

A very strong association between exposure to project awareness raising interventions and gaining of new knowledge of WASH was noted. Analysis showed that among respondents who reported not to be exposed to such interventions, 64% reported gaining new knowledge. On the other hand, among the respondents who reported to have been exposed to project awareness raising interventions, 97% reported to have gained new knowledge, within the 2 years of project implementation. Altogether, the evaluation findings suggest that the project's awareness raising activities made an important

contribution to improving knowledge of WASH practices. Community members who had been exposed to project awareness raising interventions were 52% more likely to gain new knowledge of WASH compared to those who had not been exposed to such interventions.[1]

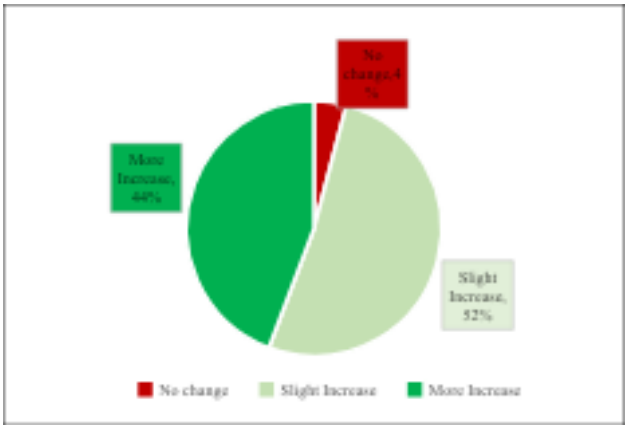
Association between WASH promotion interventions and knowledge sufficiency

Table 1.Correlation between knowledge sufficiency and project awareness raising interventions

	Sufficient Knowledge	Less Knowledge
Respondents exposed to project specific awareness raising interventions	84.6%	59.1%
Respondents **Not** exposed to project specific awareness raising interventions	15.4%	40.9%

Exposure to the project's awareness activities was associated with sufficient WASH knowledge among community members. During the evaluation survey, of those with sufficient WASH knowledge, majority (85%) had been exposed to at least one of the implemented awareness interventions, compared with 15%. Statistical analysis showed that the observed association was not random[2]. Approximately, respondents who participated in awareness activities had four times higher chances to have sufficient WASH knowledge than those who were not exposed[3]. These findings suggest that the project's awareness-raising efforts had made a meaningful contribution to improving community knowledge of recommended WASH practices.

Perceived Change in Knowledge of WASH Practices



When asked to evaluate the overall change in the levels of their knowledge of WASH practices, only a small proportion of respondents (4%) reported no change. Overall, more than 95% reported to have observed an improvement in their levels of WASH knowledge, with 52% indicating a slight increase and 44% reporting a more significant increase. These perceptions, highlight the positive impact of the project in enhancing community knowledge of WASH practices.

Household Adoption of WASH Practices

The evaluation findings have shown that the least adopted sanitation and hygiene facility is Mpondagiya, at 12%. However, all other key sanitation and hygiene facilities had moderate and relatively higher rates of adoption. More than 88% of the visited households had adopted kitchens, 75% had latrines, 65% had bathrooms and 44% had pits for waste disposal. Figure 3 below summarizes and compares the rates of adoption to the period of baseline survey.

[1] Relative Risk (RR) = 1.52, Odds Ratio (OR) = 18.4, (Pearson $\chi^2 = 42.65$, df = 1, $p < 0.001$)

[2] P=0.003

[3] (OR = 3.81)

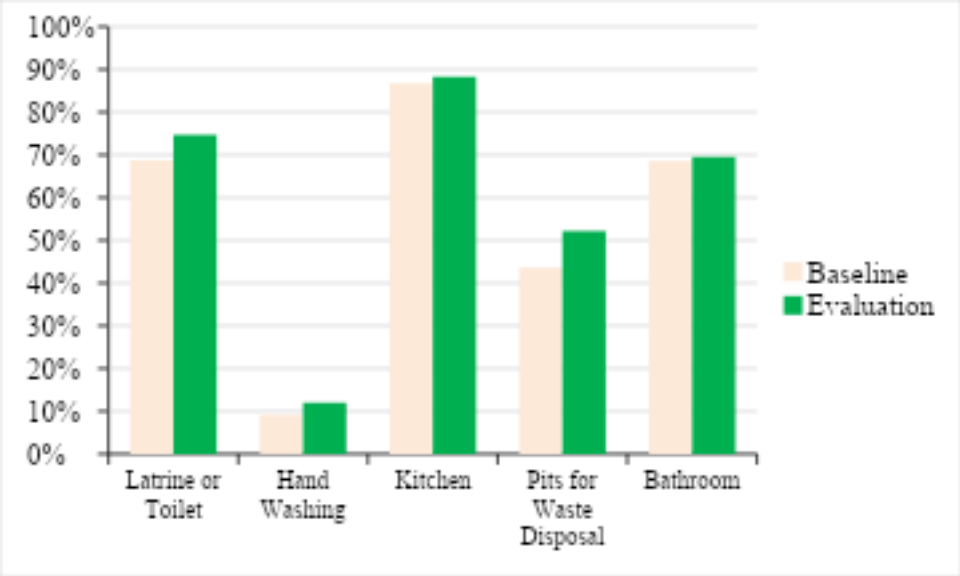


Figure 3. Household Adoption of Sanitation and Hygiene Facilities: Baseline Vs Evaluation

The comparison of adoption rates indicates that there has been a positive change across the five key sanitation and hygiene facilities. The use of latrines had increased from 69% at baseline to 75% at evaluation, while households with waste disposal pits rose from 44% to 52%. Smaller improvements were observed in the use of kitchens (87% to 88%) and bathrooms (69% to 70%). Notably, handwashing facilities showed a relative increase, rising from 9% to 13%, although the adoption remained relatively low.

Quality of Adoption for Sanitation and Hygiene Facilities

Inspection and Observations on Latrines





Figure 4. Inside and outside one of the inspected latrines demonstrating adherence to quality standards

A majority of latrines (78%) had a structure enough to provide privacy. In terms of structural safety, it was observed that 68% of latrines had a slab or floor not dangerously open, indicating moderate compliance with safety standards. Only 54% of the latrines were observed to be clean while just 40% of the latrines had properly covered drop holes, a major safety and hygiene concern.

Exclusivity was observed in slightly half (51%) of the latrines, implying that nearly half of households rely on shared latrines which may affect maintenance and hygiene. These observations indicate that while basic latrine infrastructure exists, the quality, maintenance and hygienic safety are inconsistent. The relatively low performance in cleanliness and drop hole coverage signify behavioural and maintenance gaps, rather than just access challenges.

Using a 5-point checklist, the average household score was 2.8, an indication of partial achievement of recommended latrine standards. About 32% of the households were classified as best adopters (scoring 4 – 5), implying that they have latrines that largely meet the recommended hygiene and safety criteria. On the other hand, approximately 46% of the households were classified as poor adopters (scoring 0-2), signifying that nearly half of households are using latrines that are short of acceptable standards. These observations have shown that while access to latrines has improved, quality and proper maintenance are not consistent among households. Poorly maintained or incomplete latrines can still expose household members to health risks, reducing the overall benefits of sanitation interventions.

Inspection and Observation of Kitchens

Using a checklist of three key standards, the assessment of household kitchen facilities established moderate adoption, with an average score of approximately 1.9 out of 3. About 35% of households achieved the highest score of 3, indicating good compliance with recommended kitchen standards. However, a combined 31% of households scored 0 or 1, reflecting poor or minimal adherence to safe kitchen practices. The remaining 34% were noted to have had partial compliance to the recommended standards of kitchen facilities.

Amongst the observed kitchens, only 33% had proper structures and reasonable barriers to prevent animal access to the kitchen area. Having well cleaned and maintained structures was observed in 39% of the inspected kitchens. The most notable standard was proper storage of kitchen utensils, observed in 61% of the inspected kitchens.

The relatively higher performance in utensil storage shows awareness of contamination risks, but this is undermined by poor adherence to kitchen cleanliness and maintenance. The low adoption of enclosed or protected kitchen spaces is particularly critical, as it exposes food and cooking environments to contamination from animals and other environmental factors. Overall, this reflects a situation where knowledge may exist, but consistent application of safe practices is still lacking

Inspection and Observation of Waste Disposal Facilities



Figure 5. One of the inspected pit used for waste disposal

Findings on quality assessment for the waste disposal facilities were not different from kitchens and latrines. Overall, proper adoption of waste disposal facilities was moderate. Using a four-point quality checklist, the assessment established that less than half (48%) of households were implementing key aspects of waste management and disposal by having at least three of the four recommended quality standards. These standards included: Pit Present and identifiable (Not a random open space), Waste pit in use (Evidence of waste inside), Pit safely located and distant to dwelling house, and Surrounding area tidy (no scattered waste).

However, only 4% of the inspected rubbish pits had all the required standards, implying that full compliance is very limited. A combined 25% of households scored 0 or 1, reflecting poor adoption and likely reliance on unsafe or informal waste disposal facilities. Only 18% of the pits were exclusive to a household, meaning the majority are shared waste disposal facilities. The low proportion of exclusive pits and moderate cleanliness levels shows that while households are disposing of waste in designated areas, proper management and quality are still weak. This reflects partial behaviour change, where infrastructure exists but not always maintained to acceptable standards. The poor maintenance and shared usage may reduce effectiveness, allowing frequent waste accumulation and increasing the risk of hygiene-related diseases.

Water Sanitation

Household Adoption of Safe Water Treatment Methods

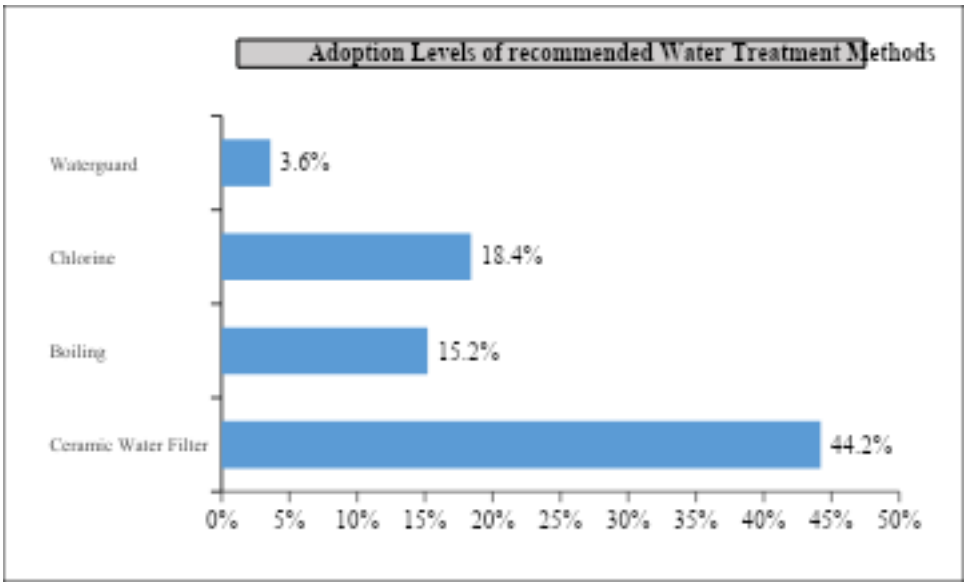


Figure 6. Rate of Adoption for recommended water treatment methods

Along the lakeshore areas, including Khondowe, Bua, and Chikondo, the primary source of drinking water is the lake, an open water source. This necessitates proper treatment of water to prevent waterborne diseases. Of the 217 households surveyed, 176 (81%) reported using recommended water treatment methods. As shown in Figure 6 above, ceramic water filters were the most commonly adopted method (44%), followed by chlorine (18%), boiling (15%) and water-guard solution (4%). In addition, adoption levels and achievement varied by location. Bua and Chikondo recorded a substantial increase in safe water treatment practices, from 51% at baseline to 83% at end-line. In contrast, Khondowe showed a slight increase, from 77% to 78%, indicating uneven progress across the two project catchment areas.

Adoption of Ceramic Water Filters

Despite the overall adoption levels of the ceramic water filter technology (44%), specific project locations had fewer varying levels of integrating the technology. In Khondowe, the evaluation findings estimated that 43% of households were relying on the technology as their main water treatment method. In Chikondo and Bua, the proportion was slightly higher at 45%. Altogether, this signifies partial achievement of the project's expected long-term output on the investment of ceramic water filters. The table below summarises reasons that were shared by respondents, during household survey, for not adopting the ceramic water filter technology.

Table 2. Common reasons for not adopting ceramic water filter technology

Reason for not adopting usage of water filter	Households
i. Advised by others not buy one	0.9%
ii. Found the technology complex to use and maintain	3.8%
iii. Not satisfied with the water filter's effectiveness	4.7%
iv. No apparent reason (Negligence)	7.5%
v. Could not afford to buy at the set price	17.9%
vi. Lack of awareness about the technology	16%
vii. Never had an opportunity to purchase one	24.5%
viii. Water filter broke down and failed to access spare parts	30.2%

The findings show a combination of technical, economic and behavioural factors influencing non-adoption of the ceramic water filter technology, among households. However, the results indicate that the main barriers to adopting the usage of water filters were related to access and availability rather than dissatisfaction of the users. Among the households that were not adopting water filters, the most commonly cited reason was that their set had broken down and they were not able to access spare parts (30%). This points to a critical project implementation gap in terms of post intervention support and sustainability of the technology. About 25% of respondents reported that their households never had the opportunity to acquire one, while 18% cited inability to afford buying a water filter at a set subsidized price.

In addition, 16% of the respondents reported that they lacked awareness about the technology. This suggests that despite the project efforts, information dissemination may not have fully reached the intended target. Across the two locations of implementation, lack of awareness and lack of opportunity to acquire the filters were reported at comparable levels, indicating parallel gaps in terms of outreach and access. In Khondowe, 9% of non-water filter adopters cited lack of awareness compared to 19% in Bua and Chikondo. Other significant variations in adoption were noted on economic and technical factors. Challenge related to breakdown or worn-out parts were highly reported in Bua (36%) compared to Khondowe at 18%. On the other hand, price barrier was more common in Khondowe area (32%) than in Bua and Chikondo area (11%). In Bua, the water filters were subsidized at MWK10,000.00, in Chikondo the price was MWK4,000.00 while in Khondowe the price was set at MWK10,000.00.

Overall, these findings highlight that despite that a considerable proportion of households are able to procure water filters, sustained use is being undermined by lack of repair and replacement mechanisms. This has critical implications towards achievement of the project's long-term impact. Without properly addressing these challenges, community members are most likely to revert to less effective or inconsistent water treatment methods.

Nevertheless, the investment in supporting households with ceramic water filters has positively contributed towards water sanitation. At baseline, 67% of households reported that water treatment was not consistent, in both project locations. The primary reason was lack of supplies especially chlorine, which was the most reliable water treatment method at the time. However, findings from this evaluation have indicated a substantial improvement. The proportion of households reporting inconsistent water treatment has decreased from 67 to 37 percent (Figure 7). This is an indication that

the ceramic water filters have provided a significant solution to inconsistencies in safe water treatment among households.

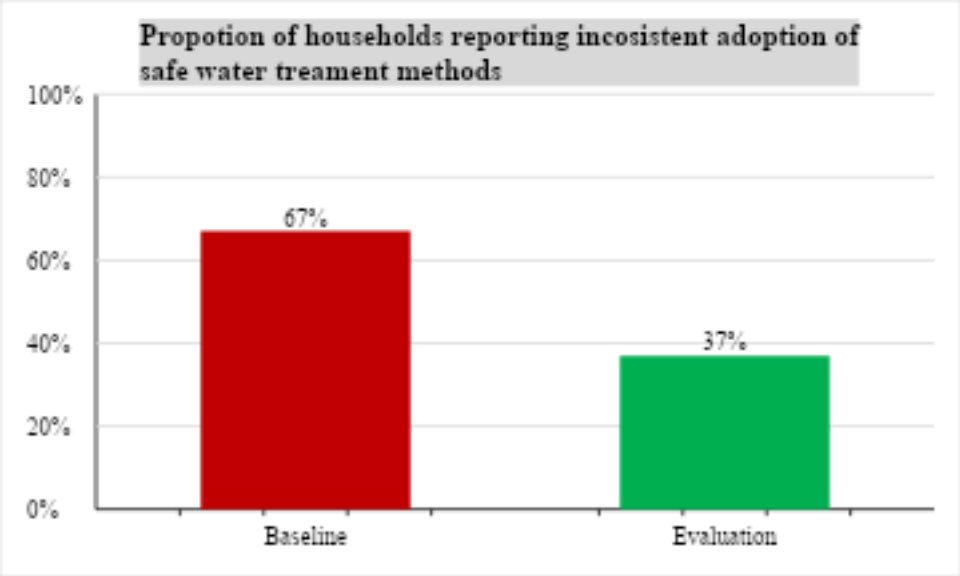


Figure 7. Comparison of inconsistency levels in safe water treatment

Overall Household WASH Adoption Index

A six-point adoption index was developed based on the key sanitation and hygiene facilities as well as proper water treatment. Out of the 217 households surveyed, only 47 were categorized as low adopters (22%), 105 had moderate adoption (48%) while 65 had high overall adoption of WASH practices (30%). On average, households scored 4 out of 6, indicating that most of the households had adopted at least four of the six key WASH practices. There has been a substantial increase, though on a lower scale, in the percentage of households achieving optimal adoption (all practices). The following table summarizes and compares categorized levels of adoption between evaluation and baseline.

Table 3. Categories of WASH Adoption Index

Category Of Adoption	Baseline	Evaluation
i. Low Adoption *(0 to 2 practices)*	40%	21.7%
ii. Moderate Adoption *(3 to 4 practices)*	35%	48.4%
iii. High Adoption *(more than 5 practices)*	26%	30%

The increase in households within the high adoption category (i.e., those adopting at least 5 WASH practices) from 26% to 30% demonstrates substantial progress in integrated adoption. This suggests that a growing proportion of households are moving towards comprehensive adoption. Overall, the proportion of households adopting at least three recommended WASH practices has increased from 61% at baseline to 78%, indicating substantial progress in integrated adoption of WASH practices among households. Nevertheless, the established rates for least and high adoption implies that continued behaviour change support and follow ups will be required to drive more households towards optimal adoption of WASH practices.

Attribution of WASH Practices Adoption to Project Interventions

Findings of this evaluation have demonstrated a positive association between overall household adoption and the project's sanitation and hygiene promotion interventions. Among households with moderate or low adoption, 87% had been exposed to sanitation and hygiene promotion interventions, compared to only 13% who had not been exposed. In addition, the odds of attaining moderate or high adoption were higher among exposed households (4.6) than the unexposed (1.5). Thus, exposed households were nearly three times more likely to achieve moderate or high adoption than the unexposed households[4]. These findings provide strong evidence that the project's interventions contributed to improved adoption of WASH practices among households.

Out of the 217 respondents, 166 reported that their households had newly adopted at least one of the recommended WASH practices, between 2024 and 2026. This implies that at least 7 in every 10 households from Khondowe, Bua and Chikondo have adopted one or more of the recommended WASH practices, during the two-year implementation period of the WASH project. Table 4 below summarizes the distribution of newly adopted WASH practices. The findings indicate that water sanitation and latrine use were the most common newly adopted practices during the project period. This pattern suggests that interventions related to safe water handling and sanitation infrastructure were particularly effective or prioritized by households.

Table 4. WASH Practices that have been newly adopted within the project period

Newly Adopted WASH Practice	Percentage of Households
i. Use of latrine or toilet	36.7%
ii. Handwashing facility (Mpondagiya or Tippy Tap)	9%
iii. Kitchen	25.9%
iv. Pit for waste disposal	17.5%
v. Bathroom	19.9%
vi. Water sanitation	49.4%

To further examine factors influencing new WASH adoption, respondents identified multiple reasons for their respective households' decision[5]. Findings have shown that nearly 70% of the new adopters attributed their decision to visits and advice from WASH committees, while 45% cited HSAs or health facilities. Enforcement of community bylaws by LGSs was reported by 23%, while 34% reported adopting practices based on personal decision or health concerns. Only 2% of households indicated peer influence as a primary driver. This distribution highlights that project-supported community structures, particularly WASH committees were the dominant drivers of behaviour change. Overall, the findings point to a strong and credible link between project strategies and observed improvement in the adoption of WASH practices.

[4] OR=2.99, 95% CI: 1.41–6.37

[5] Respondents were allowed to select more than one reason. Therefore, the percentages reported below represent the proportion of households citing each influence and do not sum to 100%

Local Governance Efforts and Participation on WASH

Findings have shown that community-level governance structures are actively contributing to improvements in WASH. Respondents mentioned WASH Committees (79%) and HSAs (72%) as the most prominent actors. Traditional leadership was also noted to be playing a role, as reflected by 54% of respondents who recognized the involvement of chiefs, while VDCs had a reported moderate engagement (39%). In contrast, formal political leadership remains minimally visible, with only 4% of respondents identifying elected leaders' role. This distribution suggests that community-based and project-supported structures have been primary drivers of WASH service delivery.

A substantial proportion of respondents expressed satisfaction with the efforts of key structures, particularly WASH Committees (89% satisfied: 42% very satisfied, 47% somewhat satisfied) and HSAs (85% satisfied: 38% very satisfied, 47% somewhat satisfied). Satisfaction with chiefs (68%) and VDCs (53%) was comparatively moderate, while satisfaction with elected leaders remained very low (11%). Overall, this feedback demonstrate that a majority of community members are satisfied with current WASH efforts led by local leadership. This provides credible evidence of strengthened local governance support in WASH service delivery. This is contributing to improved management of community WASH services.

Compared to the baseline, there has been a notable increase in the levels of community satisfaction with efforts of LGSs on WASH, despite weak engagement from the elected leaders. The evaluation has estimated that, overall, 78% of community members are satisfied with the efforts of LGSs while during the baseline, the overall proportion was at 54%, thus a 44% increase. During the evaluation, 38% of respondents reported that open defecation was not common in their respective areas while 41% indicated that it was rarely common. This suggests a significant reduction in open defecation, following the project's support to LGSs in constructing public latrines in previously identified hotspot areas of ODF.

Project Impact

Households reporting occurrence of WASH related diseases

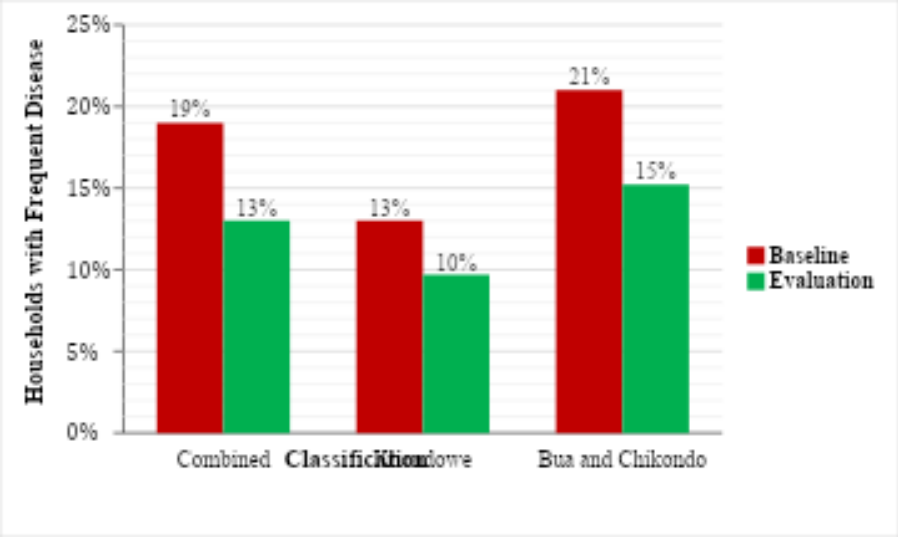


Figure 8. Classified Comparison of Reported WASH related Disease Occurrence among households

Overall, the evaluation findings have shown a decline in the occurrence of WASH-related diseases among community members from Khondowe as well as Bua and Chikondo areas. Figure 8 above indicates that the proportion of households reporting that at least one household member had experienced a WASH-related disease during the previous three months decreased with six percent points from 19% at baseline to 13% at end-line. Thus, the proportion of households reporting

occurrence of WASH-related diseases fell by almost one third, over the project period. Compared with the situation before the project, households were almost 30% less likely to report WASH-related diseases at the time of evaluation.

For households in Bua and Chikondo, where the project started in March 2024, the decline occurred from 21% to 15%, while in Khondowe, where the project started in March 2025, a three percent points decline was reported, from 13% to 10%.

Attribution of Changes in Disease Occurrence to Project Interventions

Further analyses were conducted to determine linkages between the project interventions and observed changes in the occurrence of WASH related diseases among community members.

Association between Exposure to WASH promotion Interventions and Disease Occurrence

Table 5. Association between exposure to project WASH interventions and reported household WASH-related disease occurrence

	Not Exposed to WASH Promotion Interventions	Exposed to WASH Promotion Interventions
No Reported Disease	76.3%	88.8%
Reported Disease	23.7%	11.2%

Findings presented in Table 5 suggest that exposure to the project's strategies of WASH promotion was associated with a lower occurrence of WASH-related disease among household members. Amongst households exposed to WASH promotion strategies, 11% reported diseases occurrence in previous three months, compared with 24% amongst households that were not exposed. Analysis showed that this association was not random[6]. Households exposed to WASH promotion strategies had approximately 60% lower chances of reporting disease occurrence than households that were not exposed[7]. Altogether, these findings suggest that the project's interventions in promoting adoption of WASH practices contributed to reducing the likelihood of WASH related disease occurrence among participating households.

Number of Recorded WASH related Diseases among Under-Five Children

Table 6. Total Recorded WASH-related Disease Cases Among Children Under Five

Project Location	Baseline (Cases)	Evaluation (Cases)
Bua and Chikondo	140	258
Khondowe	39	32

Source: HSA reports from Usisya and Khondowe Health Centre

Health facility records presented a mixed picture on the occurrence of diarrhoea among children under the age of five (Table 5). In Khondowe, facility records indicated a 13% decline in cases of diarrhoea among children between baseline (39 cases) and end-line (34 cases). This suggests partial improvements in household sanitation and hygiene among households from the project catchment in

[6] Pearson $\chi^2(1, N = 217) = 4.238$, $p = 0.040$

[7] (OR = 0.41; 95% CI: 0.17–0.98)

Khondowe. In contrast, facility data for Bua and Chikondo showed a substantial increase in recorded cases among under-five children between the baseline (142 cases) and end-line (262 cases).

Number of recorded cases of water-borne, sanitation and hygiene related diseases among community members from the targeted VDCs

Table 7. Total Recorded WASH-related Disease Cases in the Project Catchment Areas

Project Location	Baseline (Cases)	Evaluation (Cases)
Bua and Chikondo	178	200
Khondowe	111	94

Source: HSA reports from Usisya and Khondowe Health Center

Likewise, mixed feedback was obtained across the two project catchment areas. In Khondowe, a 15% reduction in recorded WASH related disease cases was noted between baseline (111 cases) and end-line (94). On the other, a partial increase of 12% in WASH related diseases among community members from Bua and Chikondo areas.

Altogether, the contrasting findings between household reporting of disease occurrence and health facility records can properly be explained by two factors. Firstly, hygiene promotion and community sensitization campaigns on WASH, by the project, may have led to improved health-seeking behaviour among community members. Hence more households opted to seek treatment at health facilities, resulting in increased number of recorded cases. Secondly, the two data sources measure different aspects of disease occurrence. The household survey was used to capture self-reported illness among sampled households for the preceding three months, whereas health facility records were for at least one year period. Certainly, some variation between the two sources is expected. Health facility records for the same specific three months period are likely to present a different picture.

CONCLUSION

Overall, findings of this evaluation have indicated that the WASH project has substantially achieved the intended results, mostly at outcome level. It further demonstrates a positive progress towards the intended community health impacts. The project has successfully improved community knowledge of recommended WASH practices, increased household adoption of WASH practices and strengthened community-led governance systems that support behaviour change.

This evaluation has generated evidence that demonstrates consistency in the pathway of change, as per the project's results framework. Findings have indicated that households where members had been exposed to the project's interventions, on awareness and promotion of WASH practices, were significantly more likely to have sufficient knowledge on WASH. They were also more likely to adequately adopt recommended WASH practices, and less likely to report occurrence of WASH related diseases. This suggests that the project's interventions have effectively influenced behavioural change among community members, translating increased awareness into improved household practices, with corresponding improvements in health outcomes.

Despite modest decrease, the observed reductions in disease reporting have been consistent with improved WASH knowledge and adoption of recommended practices. Lower odds of reporting disease occurrence were established among households exposed to the WASH project's behavioural change promotion strategies. However, the variations between household reported disease

occurrence and health facility records as well as differences across project locations, suggests that other factors are influencing disease trends.

Alongside the overall positive achievements, findings of this evaluation have shown that there are still challenges remaining to be addressed. These include inconsistent quality and maintenance of sanitation facilities, low adoption of handwashing facilities, short-term usage of ceramic water filters due to poor mechanisms of spare parts replacement. Addressing these challenges is key to sustained behavioural change and community health impacts.

Nevertheless, the evaluation findings have largely concluded that the WASH project has laid a strong foundation for long-term improvements in community health. With continued investment in community awareness, door – to – door household follow ups, strengthened local governance structures and consistent availability of sustainable water treatment solutions, will be essential in translating the current achievements into broader and long-term reductions in WASH related diseases.

RECOMMENDATIONS

Strengthen Quality Adoption of WASH Practices:
There is need for greater emphasis on proper use, cleanliness and adherence to standards of sanitation and hygiene facilities. Efforts should go beyond increasing access to sanitation and hygiene infrastructure. Targeted follow-ups for households and community bylaws should be considered to influence effective and full adoption of WASH practices. Practical demonstration activities, such as model latrines, kitchens, and waste disposal systems, should be prioritised to enhance learning and replication at household level.

Intensified and Consistent Community Engagement:
There is need for continued engagement of community members through awareness raising and household inspection. Effective and long-term behavioural change requires continuous engagement. Future implementations should have adequate resourcing to ensure frequent community awareness and household follow-ups, complemented by periodical reviews to address emerging barriers and prevent regression.

Complementary Water Sanitation Technologies:
Apart from the ceramic water filters technology, the project should consider investing in other long-term safe water alternatives. For the lakeshore areas, the most feasible alternative is gravity fed water distribution from readily available rivers that drain into lake Malawi. The project should consider such interventions with focus on home-based distribution systems of safe and clean water.

Enhance Affordability and Equitable Access to WASH technologies:
Financial barriers to water filters should be addressed through flexible and inclusive approaches. This includes staggered payment systems, targeted subsidies for most vulnerable households and integration into community savings groups. This will ensure that all households, including the most vulnerable, can adopt and sustain safe water practices. In future implementation, such approaches should be considered for other sanitation technologies such as cement latrine slabs, latrine ventilation pipes and digging of pits for waste management.

Strengthen Sustainability of Water Treatment Technologies:
To maximize the long-term benefits of ceramic water filters, there is need to establish reliable supply chains for spare parts and replacement units, alongside accessible user support systems.

Introducing community-based repair mechanisms, local vendors, or partnerships with private sector actors can help ensure sustained functionality and use of the technology.

Extended duration of Project Interventions:
Where feasible, the one-year implementation period of the project should be extended or complemented with phased follow-up support to allow sufficient time for behavioural change. The extended implementation needs to be complemented with establishment of post-implementation monitoring and support systems. This includes capacity building for the already established WASH committees, VDCs and local chiefs.

Strengthened Collaboration with Health Systems:
Improved collaboration with health centres, health management committees and HSAs is needed to enhance access to first-hand data on diseases prevalence. This will strengthen community-level health promotion and enable collaborated efforts, including enforcement of community bylaws to enhance adoption of WASH practices. This will in-turn enable proper tracking of project results and informed reinforcement of behavioural change messages.

Annex: Rural Household WASH Standards and Best Practices Criteria used in the Evaluation

WASH Practice		Rural Malawi standard / good practice	Assessment evidence
Latrine	**Location and Structure**	Household has a designated latrine that safely separates human excreta from people and the surrounding environment	Functional pit, slab/floor and superstructure
	Privacy	Latrine provides adequate privacy	Enclosed structure; appropriate door/closure
	Protection	Latrine has a roof and protected defecation hole/drop-hole cover or water seal	Physical observation
	Children's faeces	Children's faeces are safely disposed of in the latrine	Report by respondent
	Maintenance	Latrine is kept reasonably clean and functional	Observation
	Handwashing	Functional handwashing facility is available near the latrine	Water + soap/cleansing agent
Kitchen	**Hygiene**	Cooking and food-preparation area kept clean and protected from contamination	Observation
	Utensils	Cooking and eating utensils are cleaned and stored hygienically	Observation
Water Treatment	**Storage**	Drinking water is stored in a clean, covered container and retrieved hygienically	Observation
	Treatment	Where treatment is required, household uses the recommended treatment method correctly (Wate filter, Boiling and Chlorine/Water guard solution)	Report by respondent
	Adoption and usage	A water filter has water in both top and bottom buckets	Observation
	assembling	Filter is correctly installed and used according to the specified instructions	Observation
	maintenance	Water filter looks clean (Outlook), including the filter candle	Observation
Household Surrounding	**Environmental hygiene**	Household compound is free from exposed faeces and unmanaged waste	Observation
Bathroom	**Availability**	Household has a designated place for bathing that provides privacy	Observation
	Floor/drainage	Bathing area should allow wastewater to drain away without creating stagnant pools	Observations
	Cleanliness	No excessive mud, faecal contamination, rubbish or other visible contamination	Observation
Waste Management	**Availability and in use**	Household has a designated facility or area for disposal of routine household solid waste. Household waste is routinely disposed of in the designated facility rather than scattered around the compound.	Observation
	Location	Waste disposal pit is reasonably located from households with marginal risk to household members	Observation
	Management	Pit not overflowing; surrounding area reasonably clean	Observation