KENYA

WASH Matters: Assessing Sanitation and Hygiene in Critical Facilities in host and refugee communities in Turkana and Garissa

An assessment of the WASH Practices and Needs in Schools and Health Facilities in Garissa and Turkana Counties

June 2024

Funded by:

Kingdom of the Netherlands

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About REACH

REACH facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACTInitiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT). For more information, please visit our website. You can contact us directly at: geneva@reach-initiative.org and follow us on Twitter @REACH_info.

SUMMARY

Kenya frequently experiences extreme climate events, such as floods and droughts, which are worsening due to climate change. Prolonged drought (2021–2023)[1], a cholera outbreak in 2022, and floods in 2023[2] have increased the vulnerable populations in Turkana and Garissa Counties, including refugees and host communities. These challenges have exacerbated the difficulties related to water, sanitation, and hygiene (WASH) in households, schools, and healthcare facilities (HFs). The extreme climatic events have severely damaged and led to the neglect of WASH facilities, depriving users of reliable water for essential needs such as service delivery, consumption, cooking, hygiene, and waste management. The increasing influx of refugees into the camps in Dadaab, Garissa County, and Kakuma, Turkana County has placed additional strain on these already inadequate facilities.[3] This deterioration, coupled with the insufficient number of WASH amenities, has hampered efforts to respond effectively to disease outbreaks, leaving the affected populations even more susceptible. The WASH sector estimates that 1.1 million people, including refugees and Internally Displaced Persons (IDPs), in these counties need WASH assistance.[4]

Despite the valuable evidence provided by the REACH Multi-Sector Needs Assessment (MSNA) in 2023 and 2024 on WASH needs at the household and community levels, there are no updated data on the current WASH status in schools and HFs in Garissa and Turkana Counties. This data gap limits the ability to identify and prioritize areas in urgent need of intervention, exacerbates inequalities in access to essential WASH services, and undermines efforts to secure resources, track progress, and design sustainable evidence-based policies. As a result, these critical facilities remain ill-equipped to meet the needs of vulnerable populations, leaving them at greater risk during emergencies.

Supported by the Government of the Netherlands and UNICEF, this WASH assessment was conducted in June 2024 by REACH in collaboration with the County Governments of Garissa and Turkana, the Ministry of Education, the Ministry of Health, UNHCR, and the Refugee Affairs Secretariat. The assessment aimed to provide evidence-based information to influence humanitarian planning and responses within the WASH sector. Schools and HFs in Turkana and Garissa Counties were targeted in the host communities, Kalobeyei integrated settlement, and in Dadaab and Kakuma refugee camps. A descriptive study design, census methodology, and quantitative approach were employed to collect and analyze the data.[5] The assessment included 723 public primary schools and 306 public HFs in the two counties and camps. The findings revealed that communities face diverse priority WASH needs, underscoring the critical importance of developing tailored responses that address specific gaps and challenges in each facility.

It is worth noting that the findings of this assessment represent the perspective of key informants (KIs) and may provide subjective opinions influenced by personal interests, resulting from biased information, which may not reflect the broader reality of the population. Additionally, while face-to-face data collection was the preferred mode of data collection, remote phone-based data collection was used in inaccessible or insecure areas.

Intended Impact

This assessment aims to support a comprehensive WASH response that covers schools and HFs by providing data regarding needs, additional impact on vulnerable groups, and coping mechanisms at the facility level. By achieving this goal, the assessment will contribute to a more informed and strategic approach to enhancing WASH services, ultimately leading to better health outcomes and quality of life for communities served by these facilities.

[1] Drought response in Kenya, OCHA-2022
[2] Reaching vulnerable populations in Kenya's cholera outbreak, WHO-2023
[3] Refugee population in Kakuma and Dadaab (July, 2024)
[4] Progress of health and WASH in ASAL Counties, (Oct, 2020)
[5] WASH ToR, June 2024

Key Findings

Garissa County

Garissa-Host

Schools (59%) and health facilities (49%) in the host communities of Garissa faced challenges **in accessing safe water for drinking**, with 35% of these schools relying on water sources located over 500 meters away. These water sources were often unsafe and required additional treatment. Moreover, schools had a **high toilet-to-student ratio (1:68 boys and 1:38 girls),** with the least proportion of schools having gender-segregated facilities (82%) compared to those in the refugee camp. The situation was exacerbated by the fact **that 51% of schools lacked proper handwashing stations,** which undermines hygiene practices in public schools. The **HFs had limited access to basic waste management and environmental cleaning services**. Without proper hygiene practices and the disposal of hazardous materials, healthcare workers, patients, and the surrounding community are exposed to infectious diseases.

Garissa-Camp (Dadaab)

Although the majority (94%) of schools had reliable water access, infrastructure maintenance was needed as 66% of the schools reported that their water stations had major to minor damage. The sanitation facilities in these schools were better than those in host communities, reflected in more favorable toilet-to-student ratios, especially for boys' toilets (1:42); however, maintenance challenges affected their overall condition. Additionally, most **HFs (86%) had basic waste management services**, indicating minimized health risks to patients, healthcare workers, and the community. Even so, the absence of handwashing stations and soap in critical areas like waste disposal sites could hinder effective hygiene practices.

Turkana County

Turkana-Host

In Turkana's host communities, water scarcity was a challenge, **with 25% of schools lacking water services and 29% relying on distant, often unreliable sources**. Inadequate sanitation facilities were also reported, with only **16% of schools meeting the national standard for female toilets (1:30) and 19% for male toilets (1:25)**. This suggests that schools were struggling with overcrowded toilets that were often shared between genders, compromising privacy and hygiene. This extended to HFs, where 33% operated without a reliable water supply, impacting infection control and patient care. **Additionally, 53% of HFs lacked proper waste management services, increasing the risk of contamination and the spread of diseases.**

Turkana-Camp (Kakuma, Kalobeyei)

Kakuma and Kalobeyei's disparities in WASH infrastructure brought out a contrast between the two locations. In Kakuma, **87% of schools reported reliable water access** supported by storage facilities. Despite having gender-segregated toilets, many schools in **Kakuma lacked proper lighting and locks, compromising privacy and security**. In Kalobeyei, **water access was significantly lower, with only 38% of schools reporting a reliable supply**, the lowest among all assessed locations. Overcrowded sanitation facilities compound the crisis, **with schools reporting a ratio of 1:73 and 1:89 for girls and boys, respectively.** Handwashing facilities were accessible, with 67% of HFs having them near toilets, yet all health facilities required infrastructural improvements to ensure adequate service delivery. **Hygiene promotion remains inadequate; all HFs in Kakuma and half in Kalobeyei lacked signs encouraging proper handwashing**. Waste management was also a critical concern in Kakuma, with the open burning (33%) of infectious waste posing severe health and environmental risks.

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Acronyms

ASAL - Arid and Semi-Arid Lands

ECDE - Early Childhood Development and Education

HFs - Health Facilities

IDPs – Internally Displaced Persons

IPC - Integrated Phase Classification

IPs - Implementing Partners

JMP – Joint Monitoring Programme

KESHP- Kenya Environmental Sanitation and Hygiene Policy

KNBS - Kenya National Bureau of Statistics

KRCS - Kenya Red Cross Society

MHM - Menstrual Hygiene Management

MSNA – Multi-Sectoral-Needs Assessment

PHO - Public Health Officer

SCDE - Sub-County Director of Education

SCPHOs - Sub-County Public Health Officer

SDGs – Sustainable Development Goals

UNHCR - United Nations High Commissioner for Refugees

UNICEF – United Nations Children's Fund

WASH - Water Sanitation and Hygiene

WHO - World Health Organization

INTRODUCTION

The United Nations' Sustainable Development Goals (SDGs) detail specific objectives for education, water access, and sanitation respectively, as outlined in Goals 4a, 6.1, and 6.2.[6] These goals focus on establishing effective learning environments, ensuring access to safe drinking water, proper sanitation and hygiene in schools and health facilities (HFs). The availability of WASH services in schools and HFs is essential for health, educational success, and gender equity.[7] However, many schools and HFs in Arid and Semi-Arid Lands (ASALs), such as Garissa and Turkana Counties, encounter various challenges. These two counties experience severe weather conditions, including droughts and occasional floods, which affect water availability, sanitation infrastructure, and WASH practices.[8] Water scarcity during drought hinders schools' and HFs' capacity to provide clean, safe water, causing its users to obtain water from unimproved water sources, thus jeopardizing their health and education. Similarly, floods destroy and/or contaminate water points and hygiene facilities, leaving these facilities without functioning toilets and thereby increasing the risk of waterborne illnesses.

Communities in the two target areas are predominately pastoral, afflicted by poverty and malnutrition. Garissa is currently classified as level 3 (serious) and Turkana as level 4 (crisis) in terms of acute malnutrition, according to the Integrated Food Security Phase Classification (IPC).[9] In addition, more than half a million refugees and asylum seekers (including 414,708 children)[10] are hosted in the two refugee camps, further straining the WASH resources. These challenges negatively impact the provision of WASH services in schools and HFs, especially with the reduction in humanitarian aid.[11] The inadequate provision of WASH amenities in schools and HFs increases vulnerability to health problems, impacting school attendance and academic performance and increasing the rate of morbidity associated with infections such as cholera, diarrhea, and other waterborne diseases. Investing in WASH in these facilities is crucial for breaking the disease cycle.

Children depend on schools not only for education but also for their general well-being. Schools and healthcare facilities are vital for promoting hygiene and enhancing public health. Enhancing WASH infrastructure in these facilities leads to better hygiene habits among students and patients, thereby reducing the spread of diseases in the community.[12]

The Kenya Environmental Sanitation and Hygiene Policy 2016-2030 (KESHP)[13] envisions a clean, healthy, and economically prosperous Kenya that is free from sanitation and hygiene-related diseases and seeks to ensure universal access to improved sanitation and a clean and healthy environment by 2030.[14] However, the WASH sector is not prioritized in most ASAL counties, which negatively impacts the attainment of policy objectives. According to the 2023 and 2024 MSNA findings, more than three-quarters of households (83% in 2023 and 74% in 2024, respectively) lacked access to essential WASH services. The scaling up of WASH services has further been constrained by the high incidence of poverty in the region and inadequate data to assist the budgeting process. Addressing these challenges must be prioritized to meet the goal of access to the WASH. Supported by UNICEF, REACH conducted a WASH assessment in schools and HFs in Garissa and Turkana Counties to fill this information gap.

The objective of the assessment was to provide evidence-based information to implementing partners and donors regarding the WASH-related needs of both the camp and host community populations in Turkana and Garissa. This information pertains to schools and healthcare facilities and aims to guide the prioritization of WASH interventions for emergency response.

REACH, in partnership with UNICEF and funded by the Government of the Netherlands, conducted a comprehensive WASH assessment in June 2024 with support from the County Governments of Garissa and Turkana, the Ministry of Education, the Ministry of Health, UNHCR, and the Refugee Affairs Secretariat.

REACH Initiatives undertook an in-depth assessment to understand the WASH needs in these facilities. The assessment sought to address the following research questions:

I. What are the priority WASH needs of refugees and host communities in public, primary schools, and public healthcare facilities in Garissa and Turkana Counties, including the Dadaab and Kakuma refugee camps?
II. How do the WASH needs in public, primary schools, and public healthcare facilities vary between the host community and refugee camps in Garissa and Turkana?
III. What is the impact of the prolonged drought from 2021 to 2023 on WASH in public primary schools and public healthcare facilities in Garissa and Turkana Counties, including the Dadaab and Kakuma refugee camps?
IV. What is the impact of the October 2023 to May 2024 floods on WASH in public primary schools and public healthcare facilities in Garissa and Turkana Counties, including the Dadaab and Kakuma refugee camps?
V. What are the challenges in accessing WASH services in public primary schools and public healthcare facilities in Garissa and Turkana Counties, including the Dadaab and Kakuma refugee camps?

The findings from this assessment aim to address data gaps, thereby enhancing the understanding of WASH needs and prioritizing WASH interventions in public schools and healthcare facilities within host and refugee communities. This report provides a detailed description of the methodology and outlines the key assessment findings. The first section provides an overview of the study's key findings on education, while the second section addresses health facilities.

6 Sustainable Development Goals.
7 National Library of Medicine, "Water, sanitation and hygiene: measuring gender equality and empowerment" (June 2019).
8 ACAPS, "Impact of drought on the arid and semi-arid regions" (March 2022).
9 National Long Rains Assessment Report-NDMA 2024
10 Refugee population in Kakuma and Dadaab (July 2024).
11 Sida, "Humanitarian Crisis Analysis" (March 2022).
12 WaterAid, Promoting inclusivity of WASH infrastructure in schools and health facilities.
13 The Kenya Environmental Sanitation and Hygiene Policy.
14 Development Initiative, Progress of health and WASH in ASAL counties (October 2020).

METHODOLOGY

Geographical scope

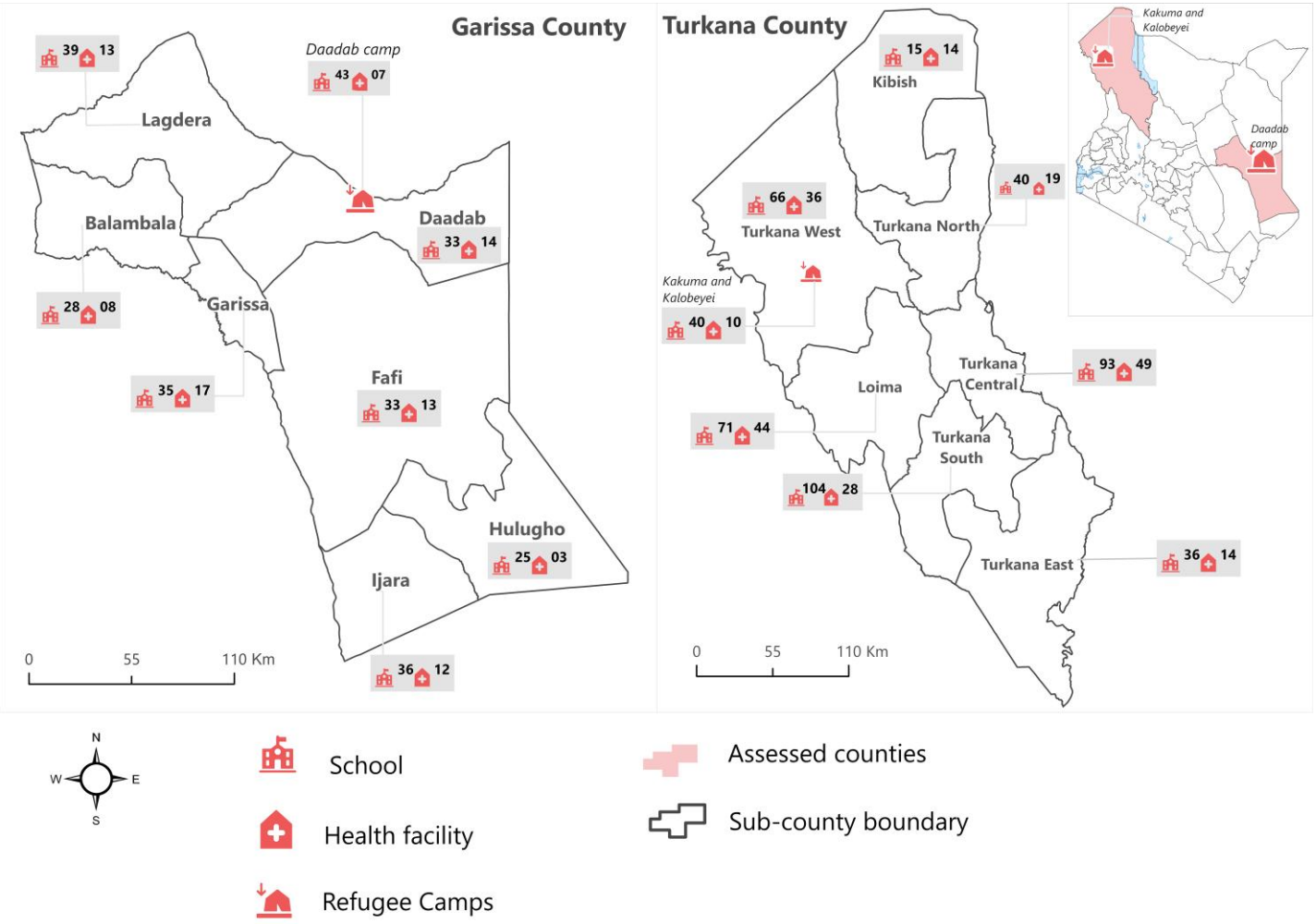

Figure 1: Coverage Maps

Sampling Strategy

The WASH assessment targeted public schools and HFs in Turkana and Garissa Counties, including the host community, Dadaab and Kakuma refugee camps, and Kalobeyei integrated settlements. A descriptive study, census methodology, and quantitative approach were employed to collect and analyze the data (i.e., all public primary schools and HFs). REACH collected secondary information, including the list of public schools and HFs from the Government and WASH implementing partner records through the Garissa and Turkana County Government Department of Health and Education and the United Nations High Commissioner for Refugees (UNHCR). This data included a complete list of public schools and health facilities, which was essential for determining the total number of facilities in the two counties and logistical planning. The secondary data also formed the basis for targeting facilities to be mapped through primary data collection and providing standards for categorizing facility types, as the coordinates from the list of facilities were used for spatial reference. **Exclusion Criteria:** In the sampling strategy, private schools, faith-based and NGO run schools and health facilities (except in the refugee camps) were excluded from the assessment to maintain a focus on publicly funded/ government-operated schools and health facilities. This criterion was implemented to ensure the assessment accurately reflects the public sector's capacities and challenges in delivering WASH services within the targeted counties.

Table 1: Key Informant interviewed per location

Population Group	Location	Health facilities	Schools	Community leaders	Implementing partners
Host Community	Turkana	205	425	97	14
	Garissa	80	225	89	13
Refugee Community	Dadaab	7	42	10	7
	Kakuma	6	31	24	7
	Kalobeyei	4	9	0	0
Total		**302**	**732**	**220**	**14**

Data Collection Method

Data collection was conducted face-to-face using the mobile application KoboCollect. Enumerators received two days of training on KoboCollect and the best practices for effective data collection. Additionally, a one-day pilot was conducted to ensure that enumerators fully understood the questionnaire. At each facility the heads of the facilities were interviewed using a structured questionnaire. Following each interview, GPS coordinates were recorded and uploaded to ensure accurate location verification and aid in developing detailed infrastructure maps. The process also included an observational component to evaluate the WASH conditions of the facilities based on the interview guide. Additionally, face-to-face key informant interviews were conducted with community leaders in the host community and refugee camps, key informants from WASH implementation agencies, and public health officers from the County Government. While face-to-face data collection was preferred, remote phone-based data collection was used in inaccessible or insecure areas. Remote data collection was conducted for 14 schools and 6 HFs in Turkana East and South. The snowballing method was used to obtain contact information for key informants in these locations. Cumulatively, 732 public primary schools (including 15 secondary schools in refugee camps that were part of the analysis) and 302 public health facilities were assessed (excluding 5 HFs in the Dadaab Dagahaley camp). Additional information regarding the facilities assessed is annexed (pg. 32). Data was collected between 18th June and July 5, 2024.

Analysis

All data from the key informant interviews from the two types of facilities (public primary schools and public health facilities) were entered into KoboCollect and uploaded daily onto the Kobo Toolbox server. The REACH database officer conducted daily data cleaning to identify potential errors and anomalies. The outcomes of the data quality checks formed the basis for debriefing the enumerators before further data collection. For data cleaning, the data was analyzed separately for each county and refugee camp using statistical software (R).

The analysis presented a descriptive overview of WASH data collected from schools and HFs across the targeted counties. Data was aggregated at the county and camp levels to allow for tailored responses based on challenges across the various locations and to capture the unique dynamics in the camp, such as high population and provision of humanitarian aid. Charts, maps, graphs, and descriptive statistics were used to summarize the results. The findings were discussed and contextualized with relevant facility partners through a joint analysis workshop with stakeholders, and presentations of the key findings were prepared to aid in the discussions.

Challenges and Limitations

- **Five healthcare facilities in the Dagahaley refugee camp in Dadaab were excluded** from the assessment due to challenges in obtaining permission from interview informants.
- **Due to the inaccessibility** of certain locations and security concerns, interviews in Turkana East and South were conducted via phone (14 schools and 6 HFs).
- **KI selection bias**: The selection of key informants may introduce bias, as those chosen might be the most accessible rather than a representative cross-section of the population.
- **Response bias:** Key informants may provide subjective opinions influenced by personal interests. This can result in biased **information that may not reflect the broader population's reality.**
- **These findings should be used as indicative** and cannot be generalized to the entire population.

FINDINGS

Overall Findings - Schools

Assessment Coverage in Schools

Schools per county reached

A total of **732** schools were assessed across two counties. In Turkana County, **465** schools were assessed, while 267 schools were assessed in Garissa County. This assessment primarily included public primary schools, along with 15 secondary schools located within the refugee community, which were included at the request of our partners.

Table 2: Schools assessed per county

	Garissa County		Turkana County			
	Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**	**Total**
Primary schools	225	36	425	25	6	717
Secondary schools	0	6	0	7	2	15
Total	**225**	**42**	**425**	**32**	**8**	**732**

Population of learners

The total population of learners in the assessed schools was **190,630,** of which 93,055 (48.81%) were female and **97,575** (51.19%) were male.

Table 3: Population of pupils

	Garissa County		Turkana County		
Gender	**Host**	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
Female	36,868 (45%)	22,586 (46%)	91,738 (50%)	25,868 (41%)	14,455 (42%)
Male	44,985 (55%)	26,831 (54%)	93,122 (50%)	36,868 (59%)	19,166 (58%)
Total Learners	**81,853**	**49,417**	**184,860**	**62,736**	**33,621**

Nearly half of the pupils (46%) were female, indicating the importance of investing in WASH amenities that cater to their needs and safety.

Water Situation in Schools

Water services

Schools in refugee camps had more reliable water access than those in host communities, where some schools lacked water services entirely. Specifically, 59% of schools in the Garissa host and 25% in the Turkana host had no water services (based on the joint monitoring programme (JMP) service ladder for water access).[15] This was attributed to the high proportion of schools relying on unimproved water sources or lacking access to any water source. Additionally, approximately 35% and 29% of schools in Garissa and Turkana, respectively, reported that their main source of water was located more than 500m away, further limiting access and contributing to the gap in basic water service. To cope with the unavailability of water, schools reported depending on water vendors and fetching water outside the school.

Proportion of schools by availability of water services

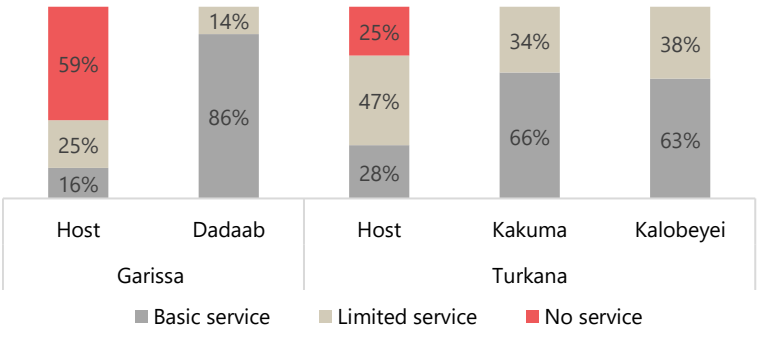

Figure 2: Availability of water services based on JMP standards

[15] The JMP for water services by WHO and UNICEF monitors global progress on water services, based on water availability, source and location

Water availability

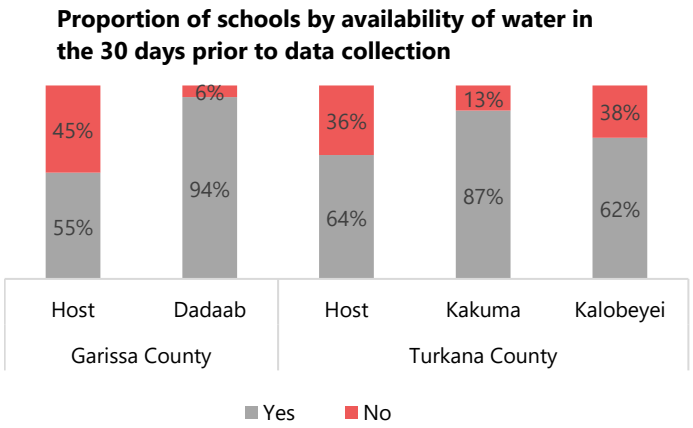

Figure 3: Water availability

Water availability varied significantly among schools. Dadaab (94%) and Kakuma (87%) reported higher availability compared to Kalobeyei (38%) and host community schools in Garissa (45%) and Turkana (36%). This highlights inconsistencies in water supply within refugee camps, such as the disparity between Kakuma and Kalobeyei, and among schools in host communities, where WASH infrastructure was limited. Furthermore, 60% of community leaders in host communities reported water shortages in host schools compared to 23% of those in camps. The main causes of water shortages in schools were reported as a lack of sufficient water storage facilities (63%) and insufficient water sources (53%), prompting schools to cope by resorting to water vendors and fetching water from outside the school.

Availability of water in schools (number of days per week)

Table 4: Daily water availability

	Garissa County		Turkana County		
	Host (n=225)	**Dadaab (n=42)**	**Host (n=425)**	**Kakuma (n=32)**	**Kalobeyei (n=8)**
1 Day	4%		4%		12%
2-3 Days	39%	2%	21%	7%	50%
4-6 Days	34%	5%	10%	4%	
Daily	23%	93%	65%	89%	38%

In terms of daily water access, schools in the camps in both counties, particularly Dadaab and Kakuma, had a higher daily access to water compared to host communities, especially in Garissa, where schools had less frequent access to water.

Water storage capacity in schools

Almost all schools in the camps (99%) and 39% of the host community used tap stands or water piped into schools as their main sources of water supply. Even so, 34% of schools in the host community and 62% in Kalobeyei accessed water only three days or less within the seven days before data collection, which indicates an inconsistent supply of water (see Table 4 above). The inconsistent water supply in schools was likely due to inadequate water storage capacity. Notably, 34% of schools in Turkana and 25% in the Garissa host community reportedly lacked water storage tanks. Furthermore, 77% of implementing partners and 73% of community leader key informants identified water storage containers as a priority need amongst schools.

Table 5: Median water storage capacity in litres

Water storage capacity					
	Garissa County		**Turkana County**		
	Host (n=168)	**Dadaab (n=41)**	**Host (n=281)**	**Kakuma (n=30)**	**Kalobeyei (n=8)**
Median litres per location	10,000	9,037	10,000	16,483	26,375

In general, water storage tanks in public schools were insufficient to meet WASH needs, considering the school population and the prolonged dry seasons experienced in the two counties. For example, despite the majority (96%) of schools in the camps reporting the availability of storage tanks, the water can only serve the schools for 2-4 days at full capacity, which was a challenge because the water supply was inconsistent.

According to UNICEF guidelines, schools should ensure a minimum daily water provision of 5 liters per child for drinking, handwashing, and cooking in primary schools.[16] In addition, more than half (53%) of the implementing partners reported a lack of funding to finalize the piping systems, hence some schools have non-functional storage tanks.

Water treatment

Most schools in the camps reported receiving treated water directly from the source. Key informants from implementing partners confirmed that this water was treated at the source before being supplied to the schools. As a result, the water provided to these schools was considered safe for consumption, eliminating the need for further treatment. However, this was not the case for public schools in the host community, where the majority reported (81% in Garissa and 76% in Turkana) that water was not treated. Consequently, children in the host communities' public schools were more exposed to waterborne illnesses.

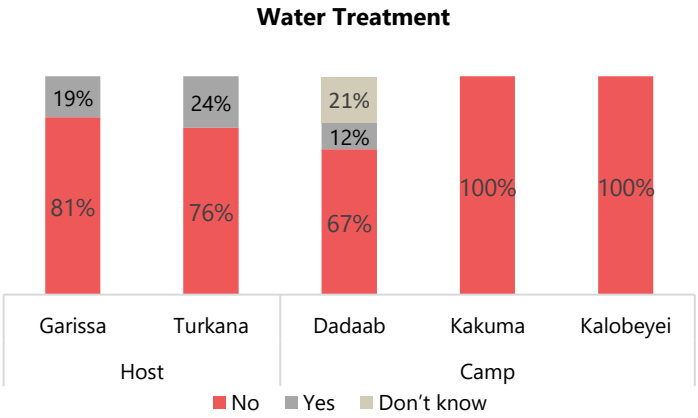

Figure 4: Water treatment

Functionality and conditions of the water stations

Host community schools in Turkana reported the highest proportion of functional water stations (designated facilities providing water for drinking, handwashing, and other hygiene purposes) without damage (63%), indicating relatively better water infrastructure compared to schools in Garissa host communities, where only 26% had fully functional water stations as many schools relied on water stations with minor damage. Within the camps, there was also variability in water station damage: 63% of Kakuma schools reported damages, while 87% of Kalobeyei schools reported no damages. The most commonly reported issues included leakage and broken taps, which can negatively impact the reliability and quality of water. In schools with dysfunctional water stations, over half (54%) in the camps and 42% in the host community reported that school leadership was working with various stakeholders to seek assistance for repairs. Moreover, 25% of KIs in schools in the host community and 30% of those in the camps reported that assessments had been conducted to analyze the level of damage to the water stations.

Table 6: Functionality and condition of the water stations in schools

	Garissa County		Turkana County		
	Host (n=70)	**Dadaab (n=42)**	**Host (n=253)**	**Kakuma (n=32)**	**Kalobeyei (n=8)**
Functional without damage	26%	33%	63%	37%	87%
Functional with minor damage	56%	52%	24%	48%	0%
Functional with major damage	10%	14%	11%	15%	13%
Not functional	6%	2%	0%	0%	0%

Picture 1: Leaking tank at Morning Star Primary school in Kalobeyei

Causes of water shortage/inconsistent supply

In both Garissa and Turkana Counties, the insufficient availability of water storage containers was identified as a significant barrier to consistent water supply in schools. In Garissa County, inadequate water storage containers were reported as the primary cause of inconsistent water supply in schools, with 67% of host community schools and all schools in Dadaab citing the unavailability of sufficient tanks.

[16] WASH in schools guidelines

To cope with water scarcity, 55% of host schools and 50% of Dadaab schools resorted to fetching water from external sources. Additionally, some schools relied on unimproved water sources, including surface water, unprotected springs, and water pans. This was reported by 28% of host schools and 50% of Dadaab schools. These measures are temporary and unsustainable, posing significant challenges. Fetching water from outside often disrupts children's learning due to the time taken to fetch the water, while reliance on unimproved sources increases the risk of waterborne illnesses.

Similarly, in Turkana County, over half of the schools reported inadequate water storage containers as the main factor behind inconsistent water supply, with 59% of host schools, 60% of schools in Kakuma, and 50% in Kalobeyei facing this challenge. Coping mechanisms included fetching water from outside the school (75% in Kalobeyei, 67% in host communities, and 50% in Kakuma) and relying on unimproved water sources, with 75% of Kakuma schools and the majority of host schools reported using this coping mechanism. These challenges significantly impact pupils' well-being. A report by Save the Children in Turkana County revealed that long distances traveled by children to fetch water led to delays in meal preparation and increased student dropouts.[17] Additionally, water shortages negatively affect academic performance, with some schools forced to release students early due to a lack of drinking water. One of the school's key informants in Kalobeyei noted that high temperatures and physical exertion left students extremely thirsty, impairing their ability to concentrate and remain in class.

Sanitation in Schools

Sanitation services

Proportion of schools by availability of sanitation services

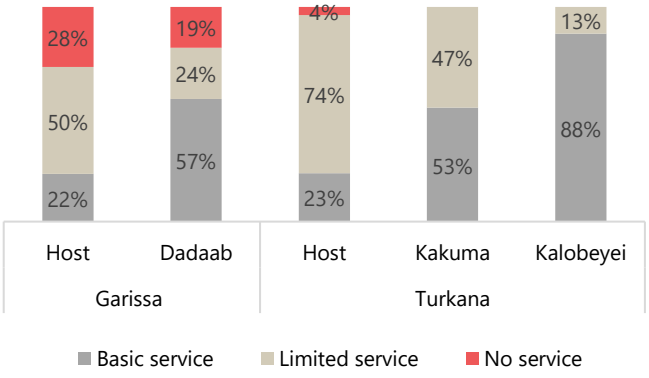

Figure 5: Availability of sanitation services based to JMP standards[19]

Schools in host communities faced challenges in providing adequate sanitation as only 22% in Garissa and 23% in Turkana had basic services.[18] Basic sanitation services were available in 88% of schools in Kalobeyei, 57% in Dadaab, and 53% in Kakuma refugee camps. This had a significant impact on learners, as the lack of improved sanitation facilities and clean, private, and gender-separated toilets affects their health, attendance, academic performance, and overall well-being. The findings also revealed that most schools in the host community (50% in Garissa and 74% in Turkana) had inadequate and poorly maintained latrines. Additionally, 28% of schools in Garissa reported having no sanitation services. This lack of proper sanitation increases the risk of waterborne diseases.

Separate toilets for staff and learners

Schools in both Garissa and Turkana Counties had a lower percentage of facilities with separate toilets, at 63% and 78%, respectively. In contrast, all schools in Kakuma provided separate sanitation facilities for staff and students. Having separate toilets is essential as it ensures privacy and dignity for staff and learners.

Proportion of schools with separate toilets for staff and learners

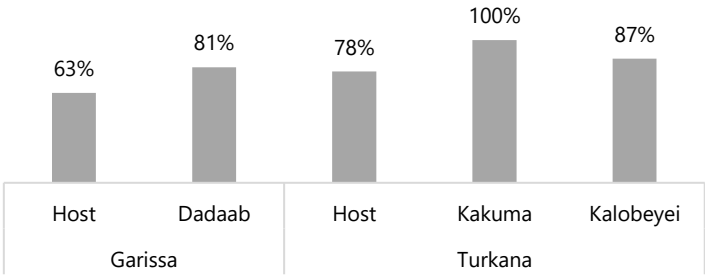

Figure 6: Availability of separate toilets for staff and learners

[17] Save the children, "school dropout due to drought" (2022)
[18] The JMP for sanitation services by the WHO and UNICEF monitors global progress on sanitation services.
[19] Due to rounding off some proportions exceed or are below 100.

Gender-segregated toilets for learners

Schools in the Dadaab camp and Kalobeyei reported the highest proportion of gender-separated toilets, with both locations having 100%. In contrast, host schools in Garissa and Turkana Counties had lower proportions: 82% and 92% of schools, respectively, reported having gender-segregated toilets. The World Health Organization (WHO) emphasizes the importance of gender-separated toilets in schools to ensure privacy, safety, and dignity for all students, especially girls. [20]

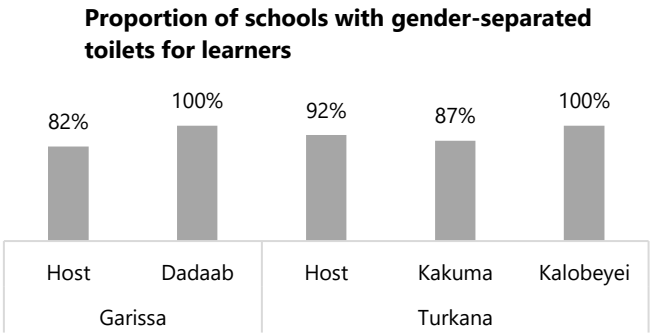

Figure 7: Availability of gender segregated toilets

Toilet-to-learner ratio

Although all schools in Kalobeyei have separate toilets for boys and girls, none of them meet the national recommended toilet-to-pupil ratio for male and female students. Over 80% of the evaluated schools fail to achieve the recommended ratio of 1 toilet for every 30 girls and 1 toilet for every 25 boys.[20] This discrepancy results in limited access to toilets for students, leading to overcrowding, challenges in maintaining cleanliness, and potentially poor hygiene practices.

Table 7: Toilet-to-learner ratio

		Garissa County		Turkana County		
	National standards	**Host**	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
Female	1:25	1:38	1:50	1:51	1:80	1:73
Proportion of schools that attained female national standard ratio		17%	15%	16%	4%	0%
Male	1:30	1:68	1:42	1:60	1:101	1:89
Proportion of schools that attained male national standard ratio		18%	20%	19%	4%	7%

Condition of sanitation infrastructure

Table 8: Conditions of the school's sanitation facilities infrastructure [21]

	Garissa County		Turkana County		
Infrastructure available	**Host**	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
Door	83%	93%	85%	74%	92%
Walls that provide privacy	91%	90%	94%	94%	92%
Lock to close door	69%	76%	71%	61%	85%
Solid structure that prevents the entry of water runoff	2%	41%	48%	48%	0%
Inside light	0%	0%	3%	0%	0%
Outside light	0%	0%	2%	3%	0%
Proper drainage	8%	14%	2%	6%	8%

Picture 2: Latrines at Fafi primary school in Garissa.

Infrastructural challenges were observed, with only a small percentage of schools having installed indoor and outdoor lighting, while many lack doors and locks for privacy and security.

[20bis] WASH in schools guidelines.
[21] Respondents could select multiple options, the findings may exceed 100%.

Additionally, solid structures preventing water runoff were almost absent in Garissa's host schools (2%) and Kalobeyei (0%). This demonstrates a significant infrastructural challenge, especially in the host communities and Kalobeyei.

The lack of proper drainage and adequate safety features suggests vulnerability in terms of safety, accessibility, and environmental health. There are structures to promote privacy and security, with most schools reporting on the availability of doors and walls to provide privacy and lockable doors. However, the inconsistency, especially in the availability of locks, suggests a need for investing in resources to ensure the facilities provide security and privacy. This will likely encourage usage.

Over half of the implementing partners (53%) were engaged in projects focused on constructing and renovating sanitation facilities. However, the situation in most schools remains dire due to a lack of resources and challenges posed by climate change, such as prolonged droughts and flooding. These factors strain existing infrastructure and hinder further development efforts.

Sludge disposal

Picture 2: A toilet marked for decommissioning in Kalobeyei settlement primary school

The practice of digging additional latrines when existing ones become full is common in host communities and refugee camp schools. In Garissa, 60% of schools resorted to this method, while 65% of schools in Turkana did the same. Similarly, in the Dadaab camps, 83% of schools, 81% in Kakuma, and 55% in Kalobeyei also rely on digging new toilets once the current ones fill up. This practice contributes to land overuse and complicates long-term waste management.

According to the implementing partners, some sanitation facilities required decommissioning because they were filled up and/or were damaged, which poses a danger to children. Furthermore, 100% of KIs in Turkana highlighted that they faced challenges in acquiring additional land to build more toilets. At the same time, schools in both Garissa and Turkana host communities reported that they also relied heavily on compost pits as a method of sludge disposal. Although this is a low-cost waste management method, it may have limitations in handling if not managed correctly, potentially leading to environmental health issues.[22] Additionally, open dumping, which poses significant health and environmental hazards and can potentially contaminate water sources, was also reported in 30% of schools in the Garissa host community, as well as in schools located in the camps (see Table 9 below).

Table 9: Sludge disposal methods in schools[23]

	Host		Camp		
	Garissa	**Turkana**	**Dadaab**	**Kakuma**	**Kalobeyei**
Collected by municipal waste system	0%	3%	0%	0%	7%
Treated on-site	8%	24%	0%	13%	0%
Treated off-site	0%	6%	0%	0%	0%
Compost pit	100%	100%	0%	0%	0%
Dig another latrine	60%	65%	83%	81%	55%
Openly dumped away from the premises	30%	5%	14%	16%	7%

[22] Sludge disposal methods in wastewater,

[23] Respondents could select multiple options, the findings may exceed 100%.

Hygiene in Schools

Hygiene services in schools

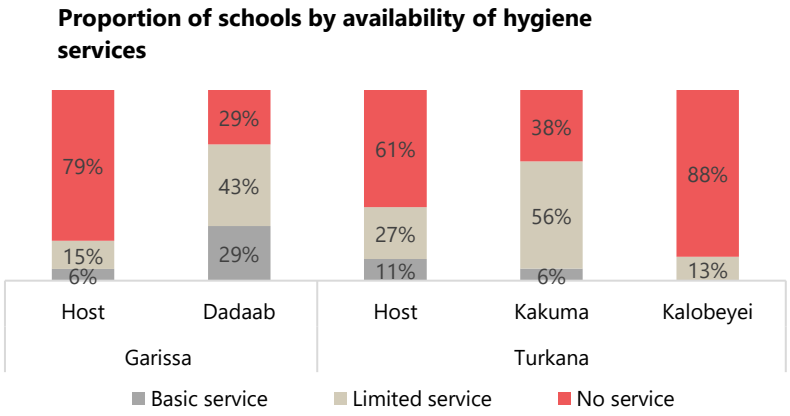

Figure 8: Availability of hygiene services in school according to JMP standards[25]

Access to adequate hygiene services[24] in schools was a critical challenge in schools in both the host community and camps. In particular, 88%, 79%, and 61% of schools in Kalobeyei, Turkana, and Garissa's host communities lacked water and soap at the handwashing stations. In Dadaab and Kakuma, a significant proportion of schools had access to limited hygiene services (43% and 56%, respectively), indicating the availability of water but a lack of soap at the handwashing facility. These findings indicate gaps in hygiene services in schools, as fewer schools had access to functional handwashing facilities with soap and water (basic services). These hygiene practices pose a heightened risk of exposing children to hygiene-related diseases.

Water stations in schools

Table 10: Water station-to-learners ratio

Garissa County		Turkana County		
Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
1:426	1:218	1:527	1:299	1:1307

Findings suggest a lack of adequate water stations for pupils, particularly in public schools in Turkana County. These ratios indicate limited access to water in schools the camps and host community. The situation was more severe in Kalobeyei and the host schools, where the harsh climatic conditions further impacted students' ability to focus. KIs in Kalobeyei reported that the extreme heat often led to thirst, affecting children's concentration and forcing schools to release students early, disrupting the academic calendar. In addition, the limited number of water stations can lead to long wait times and potential overcrowding at water points, affecting both the time available for learning, durability of the water stations and the general hygiene standards. In this context, the water station provides both drinking water and handwashing.

Location of all water stations

The findings indicated that there were variations in the locations of water stations within the schools. This significantly impacts key areas, including toilets, food preparation and consumption spaces, classrooms, and schoolyards, where the risk of germ exposure to children is elevated. Notably, the food consumption area is one of the critical zones with the lowest proportion of schools equipped with handwashing stations. This deficiency greatly increases the risk of hygiene-related illnesses, such as diarrhea.

Location of the handwashing stations, by the proportion of schools with these facilities

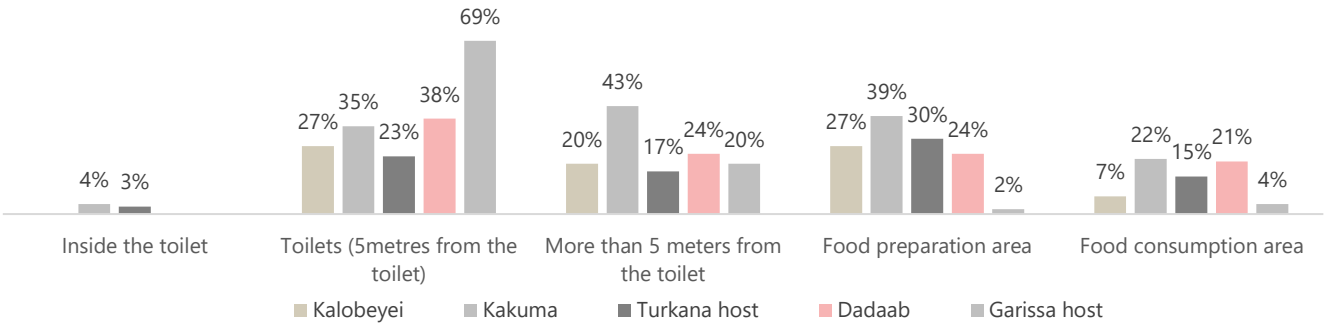

Figure 9: Location of the handwashing stations[26]

[24] The JMP for hygiene services by WHO and UNICEF monitors global progress on hygiene services,
[25] Due to rounding off some proportions exceed or are below 100%.
[26] Respondents could select multiple options, the findings may exceed 100%.

Handwashing promotion signs

In addition to inadequate hygiene services and Kalobeyei's high tap-to-student toilet ratio, more than one third of the schools in Kalobeyei (37%) lacked signs promoting and demonstrating proper handwashing techniques, highlighting a critical gap in hygiene awareness and practice for students. A high proportion of schools in Garissa County (80% in Dadaab and 64% in the host community) had signs promoting handwashing. These can be associated with the health sensitizations following cases of cholera outbreaks that were reported in the area.[27]

Proportion of schools with signs promoting handwashing

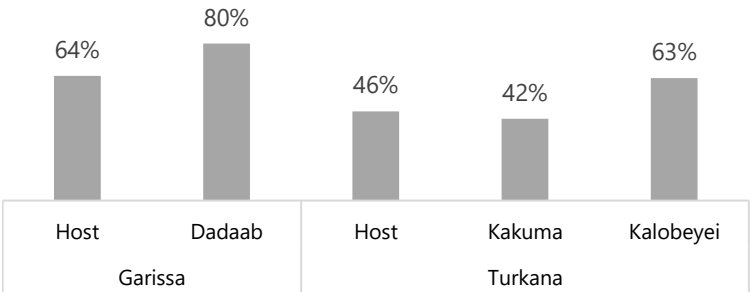

Figure 10: Handwashing promotion sign in schools

Factors contributing to the unavailability of soap in schools

Top reported reasons for unavailability of soap in schools

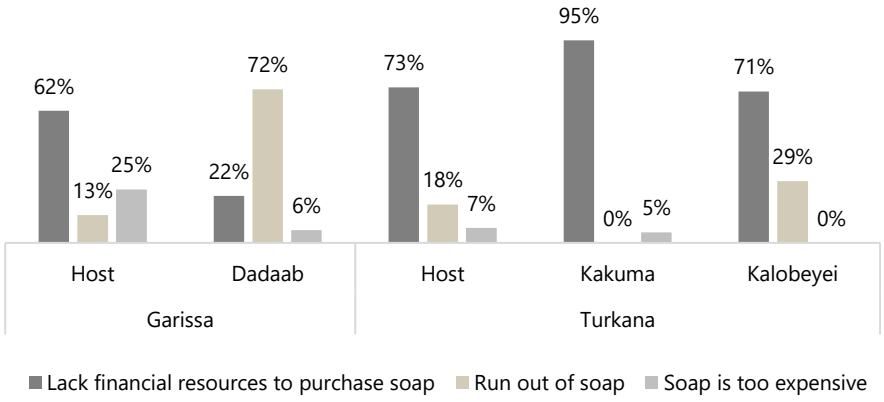

Figure 11: Top reported reasons for unavailability of soap in schools

The absence of soap at handwashing stations was a common issue, with 78% of schools in host communities and 80% of schools in camps reportedly lacking soap at the time of data collection. More than half of community leaders (52%) confirmed that schools frequently do not have soap and water for handwashing, attributing this problem to inadequate financial resources for purchasing soap. This situation undermines the effectiveness of handwashing practices and leaves children vulnerable to waterborne diseases.

Menstrual Health Management (MHM) in Schools

Availability of menstrual products in schools

Access to school menstrual materials such as pads plays a vital role in enhancing school attendance and academic performance for girls, particularly in resource-constrained regions like the two target counties. The findings indicate that a higher proportion of schools in the camps were provided with menstrual products compared with schools in the host community. Garissa host community schools had the least number of schools (39%) reporting the availability of free materials. Numerous studies have indicated a strong correlation between access to menstrual products in schools and improved retention rates for girls, highlighting the importance of proper menstrual health management in supporting girls' education.[28]

Proportion of schools with menstrual products in schools

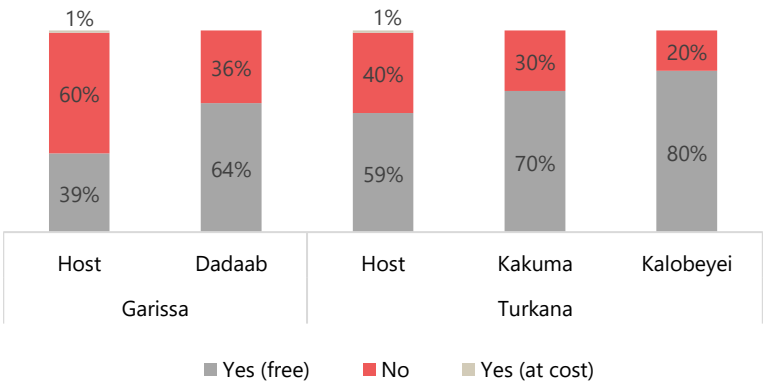

Figure 12: Availability of menstrual products in the schools

[27] Cholera outbreak in Garissa County WHO, 2023.
[28] Evaluating the impact of the implementation of the sanitary pads policy in schools

Availability of water and soap for MHM in schools

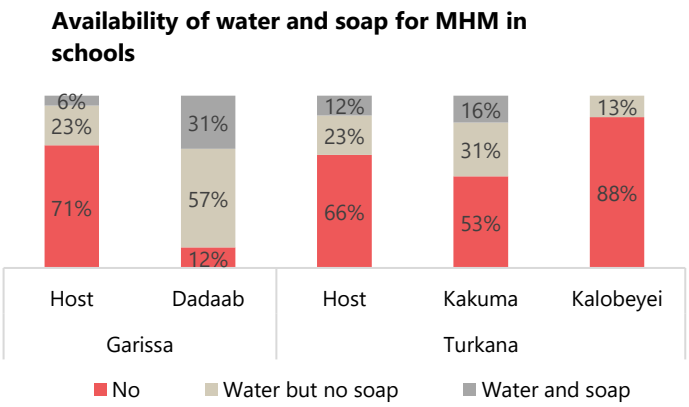

Figure 13: Availability of water and soap for MHM in schools[29]

Many schools lack access to essential resources, such as soap and water, which prevents girls from managing their menstrual hygiene safely and with dignity. Female key informants in schools identified insufficient water and soap as a critical barrier to effective MHM in most schools. This situation increases the risk of infections and other health complications for girls.

On a more positive note, a higher proportion of schools in the Dadaab camp (31%) reported the availability of water and soap for MHM. However, this also highlighted the disparity between schools in the camp and public schools in Garissa County in terms of access to essential hygiene products.

Availability of menstrual disposal bins

Many schools in host communities and refugee camps lacked waste disposal bins, especially in bathrooms and toilets. In Garissa, 78% of host community schools reported the unavailability of these amenities. Similarly, 79% of schools in the Turkana host communities and 67% in the Kakuma camps also reported the absence of waste disposal bins. The lack of disposal bins in schools was highlighted as a significant challenge by the KIs, primarily due to the costs associated with improper waste management. The use of non-biodegradable materials, such as sanitary pads, contributes to the rapid filling of pit latrines, leading to them reaching full capacity quickly. These highlight a significant unmet need in MHM across the schools, which can lead to unsanitary school environments.

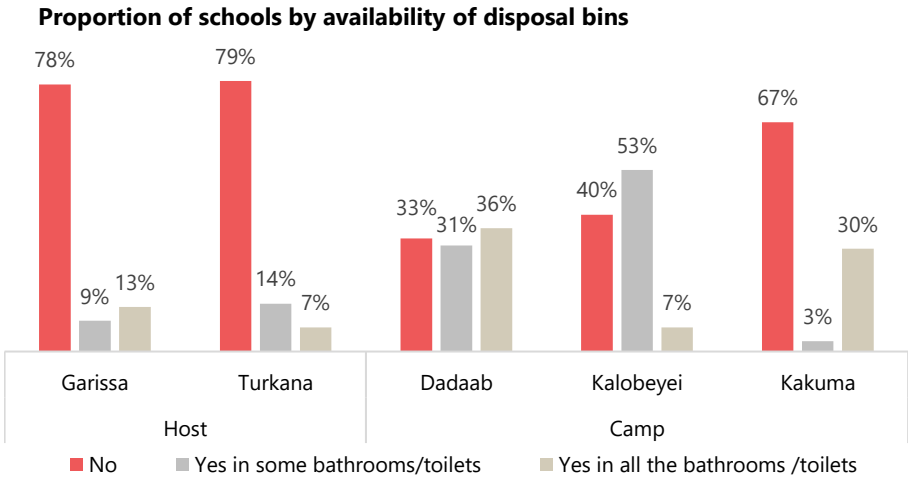

Figure 14: Proportion of schools by availability of disposal bin[30]

Challenges faced by girls in regard to MHM

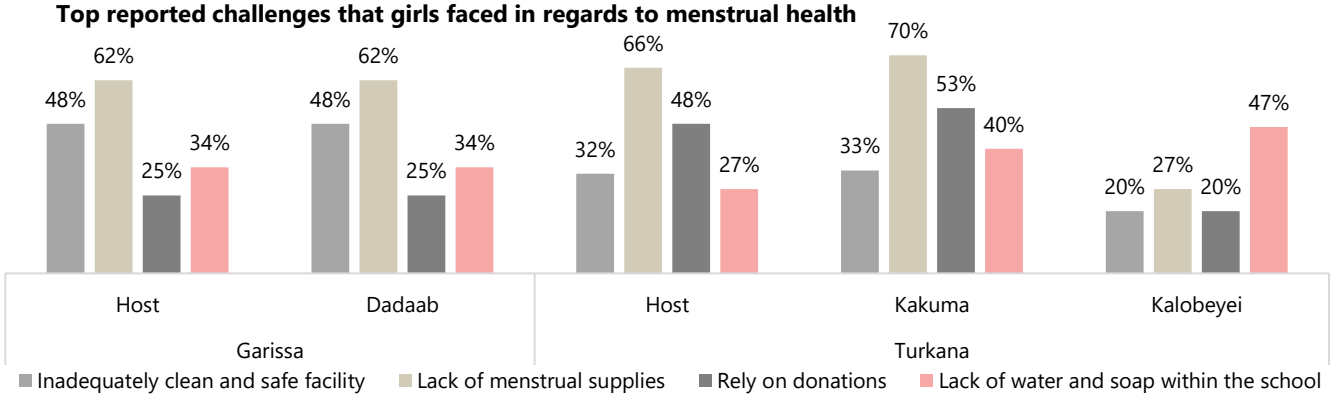

Figure 15: Challenges faced by girls regarding menstrual health as reported by the KIs[30]

[29] Due to rounding off some proportions exceed or are below 100%.

[30] Respondents could select multiple options, the findings may exceed 100%

The lack of menstrual supplies and inadequate clean and safe facilities were reported as the major challenges faced by girls regarding their menstrual health. There was reliance on donated supplies delivered in schools because the majority of the children are from low-income households, as the two locations are among the top counties with the highest number of households living below the poverty line.[31] As a result, households are unable to afford MHM supplies. This lack of access to MHM supplies further compounds the challenges girls face in attending school, often causing them to miss classes or struggle to focus due to discomfort or stress about managing their periods.[32] In many cases, they are more likely to stay home to help their families fetch water or manage household chores, especially during periods of water scarcity caused by drought, and in some instances, this can even lead to them dropping out of school.[33]

Coping mechanisms adopted by girls in response to MHM challenges

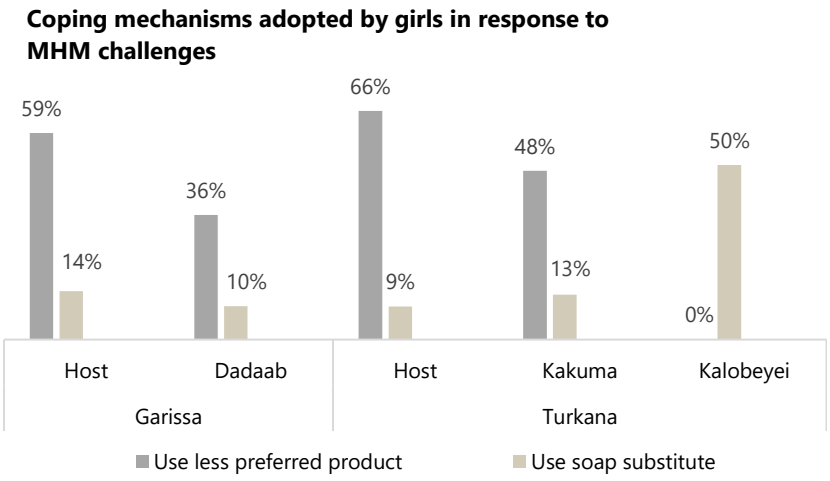

Figure 16: Coping mechanisms adopted by girls in response to MHM challenges

According to the KIs in schools, girls resorted to the use of less preferred menstrual products like old pieces of cloth or rugs to cope with the unavailability of menstrual products. This was commonly reported in host schools (59% in Garissa and 66% in Turkana). A substantial proportion of schools in Dadaab (36%) and Kakuma (48%) also reported similar coping mechanisms. The employment of these strategies increases the likelihood of infections, such as urinary tract infections (UTIs), due to poor hygiene and the use of low-quality

Inclusive Sanitation Facilities

Adaptation of WASH amenities for individuals with limited mobility and visual impairment

Schools in Garissa and Turkana host communities reported a significantly lower proportion of disability-friendly sanitation facilities compared to schools in refugee camps. In Garissa, 90% of KIs indicated that school sanitation facilities lacked infrastructure adapted for individuals with limited mobility and visual impairment. Similarly, 63% of schools in Turkana faced the same challenge.

In contrast, all schools in Kalobeyei reported functional, disability-friendly sanitation facilities featuring wide spaces for wheelchair access, handrails, and paths without stairs. However, schools in Dadaab and Kakuma camps still face gaps, with 40% and 38% respectively lacking such infrastructure. These disparities in disability-friendly infrastructure highlight the need to address these gaps to ensure inclusive and equitable access to sanitation for all pupils.

Two-thirds of the schools in the host community (64% in Garissa and 65% in Turkana) and 75% of schools in Kalobeyei reported that their handwashing facilities were not designed to accommodate individuals with limited mobility and visual impairment. This indicates that pupils with disabilities in these schools may struggle to access basic hygiene services.

[31] Poverty levels in Kenya; Business daily, June 2023.
[32] Save the children, "school dropout due to drought" (2022)
[33] UNICEF, "Guidance on Menstrual Health and Hygiene" (2019).

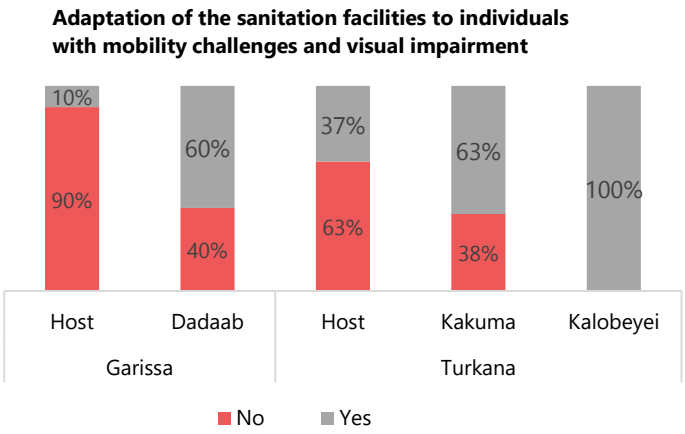

Figure 17: Adaptation of the sanitation facilities to individuals with mobility challenges and visual impairment

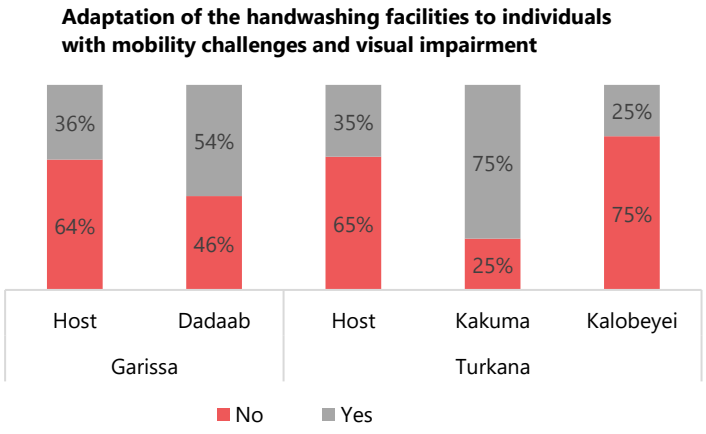

Figure 18: Adaptation of the handwashing facilities to individuals with mobility challenges and visual impairment

Adaptation of WASH amenities for children aged 5 years and younger

The handwashing stations in the majority of schools were not child-friendly. On the contrary, most schools in Kalobeyei had child-friendly handwashing infrastructure unlike in the other locations where about one-quarter of the schools reported that their handwashing stations were not accommodative to young children. As 91% of host schools and 44% of camp schools have pre-primary levels, adjustment to making handwashing stations child-friendly is vital, they include: lower and easier-to-open taps, step stools, and child-proof features.

Similarly, only Kalobeyei reported a 100% improved sanitation infrastructure that allows children aged 5 years and younger to access sanitation facilities, including lower toilet seats, smaller toilet holes, and lower door handles to allow access for small children. In the host community, 79% of schools in Garissa and 68% in Turkana reported the absence of sanitation infrastructure to allow access for small children. Likewise, 76% of schools in Dadaab and 43% in Kakuma reported that they did not have sanitation facilities accessible to children under five. Due to these circumstances, children can resort to open defecation.

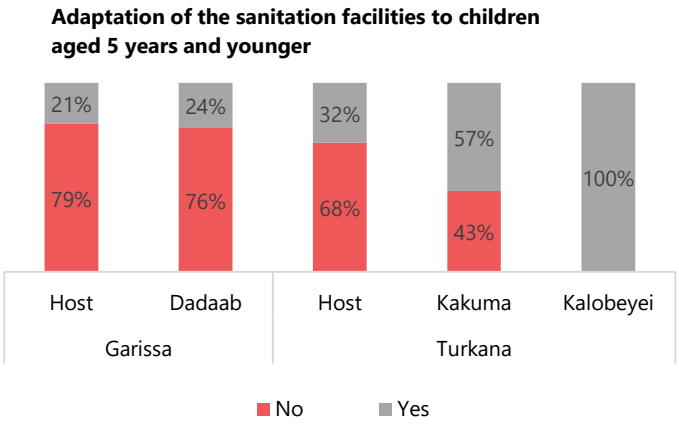

Figure 19: Adaptation of the sanitation facilities to children under 5 years and younger

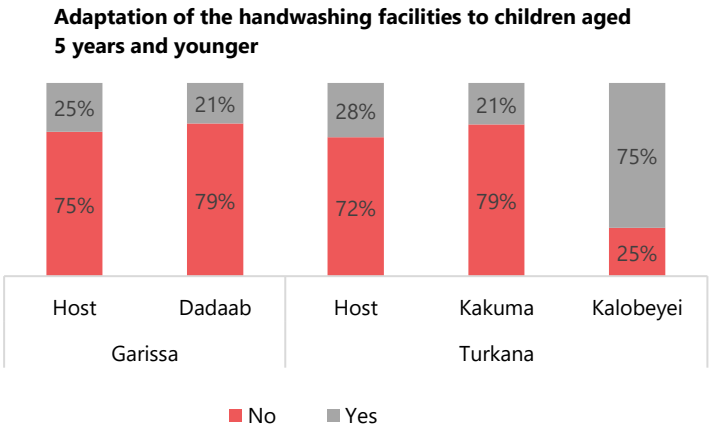

Figure 20: Adaptation of handwashing facilities to children aged 5 years and younger

Effect of Floods on WASH Status in Schools

Floods were experienced in the region during the March-May 2024 rainfall season. The above-average rainfall led to the destruction of toilet infrastructure and the waste management system. The situation was exacerbated by the displaced people who sought refuge in schools. These effects were corroborated by 71% of the implementing partners, who reported infrastructure damage as a direct consequence of the floods. These findings underscore the need for resilient WASH infrastructure that can withstand extreme weather changes and ensure continuous access to sanitation services, particularly in these flood prone regions.

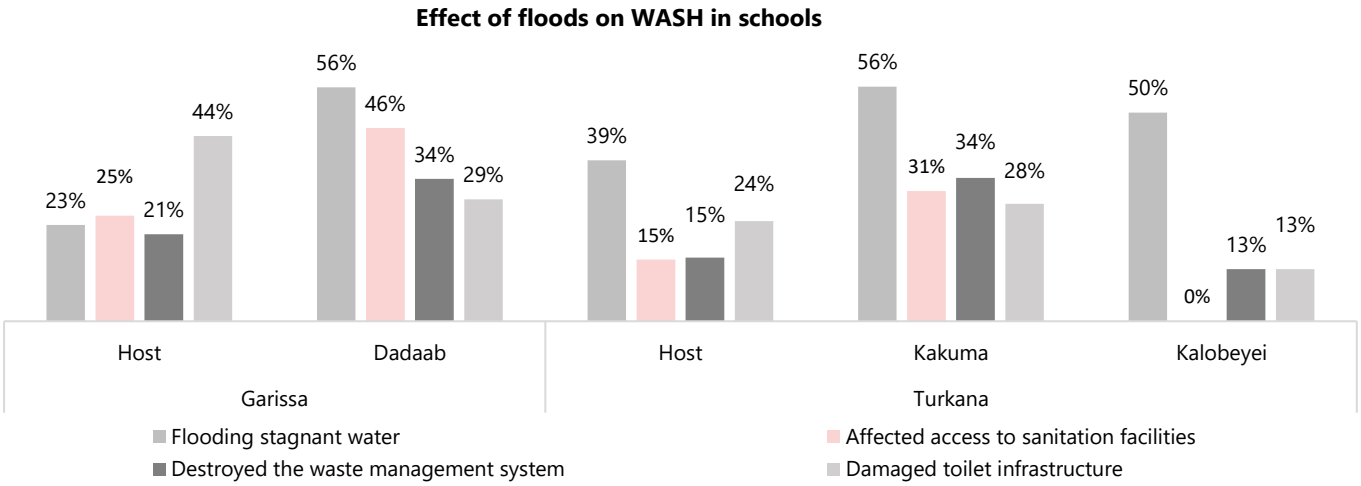

Figure 21: Effect of floods on WASH in schools[34]

Top Reported WASH-Related Needs in Schools

The disparity in WASH-related needs between host communities and camp schools indicates unequal access to essential WASH services. In host communities, particularly in Turkana, 63% of schools reported a need for access to clean water, compared to 0% in Kalobeyei and 13% in Kakuma camps. Meanwhile, sanitation facilities were reported as pressing WASH-related needs, especially in Kalobeyei. This was echoed by 86% of implementing partners who emphasized the need for improved sanitation. Handwashing facilities were also reported as a priority need in most schools although less pressing in schools in Dadaab and Kakuma (38%).

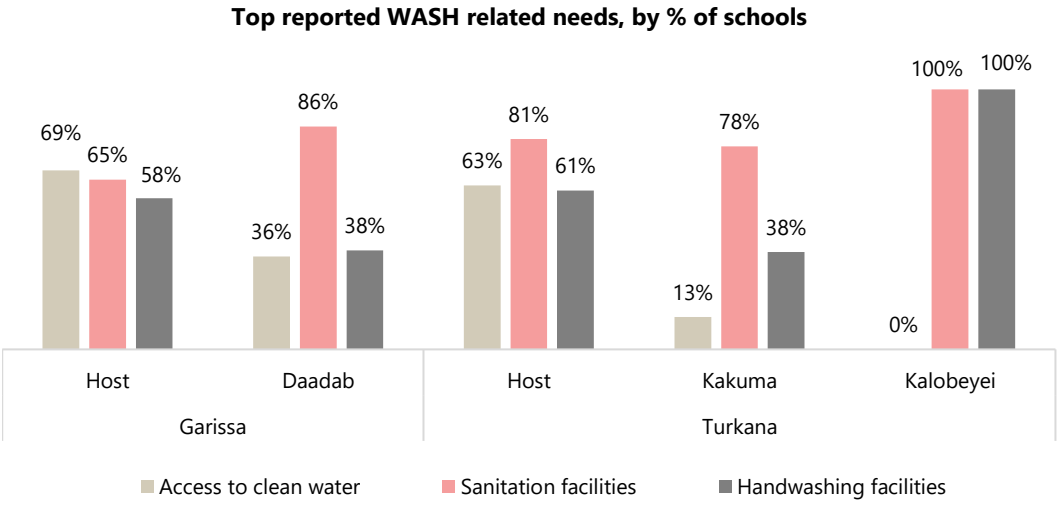

Figure 22: WASH-reported needs in schools[34]

[34bis] Respondents could select multiple options, the findings may exceed 100%.

Actions needed to improve WASH in schools.

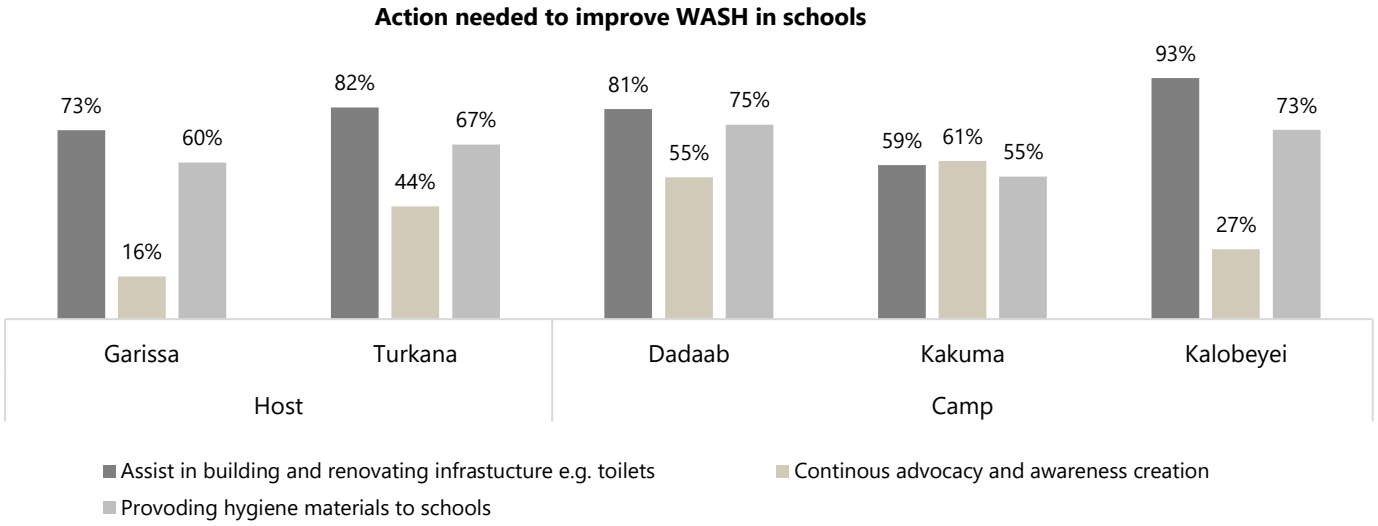

Figure 23: Action needed to improve WASH in school[35]

To improve the WASH situation in schools, most KIs, including the implementing partners (71%), advocated for the need for resources to assist in building and renovating the infrastructure. The implementing partners further indicated the need for developing guidelines for the construction of WASH amenities to ensure they meet minimum standards and withstand harsh climatic conditions like the strong winds that are experienced in the region. However, the guidelines do exist, hence, the focus should be on disseminating these guidelines and building the capacity of school leaders to understand and effectively apply them. The provision of hygiene materials such as soap and menstrual products was also highlighted in schools. Beyond maintaining hygiene and preventing disease, this support plays a crucial role in improving school retention rates, ultimately increasing the number of children completing their education and enhancing their economic empowerment.

[35] Respondents could select multiple options; the findings may exceed 100.

Overall Findings - Health facilities

Health Facilities Coverage

Number of health facilities assessed per County

The total number of health facilities assessed was **301** in the two counties.[36]

Table 11: Health facilities coverage

Garissa County		Turkana County		
Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
80	7	204	6	4
	87			**214**

Levels of health facilities

Table 12: Levels of health facilities

	Garissa		Turkana		
	Host (n=204)	**Dadaab (n=7)**	**Host (n=80)**	**Kakuma (n=6)**	**Kalobeyei (n=4)**
Level 1	3%	14%	2%	0%	0%
Level 2	63%	43%	83%	0%	75%
Level 3	25%	14%	11%	83%	25%
Level 4	9%	29%	3%	17%	0%
Level 5	1%	0%	0%	0%	0%

The majority of the assessed hospitals in the area were categorized as Level 2 (dispensaries) and Level 3 (health centers and sub-district hospitals), primarily providing outpatient services. Given the vastness of the two counties, these facilities are often the sole healthcare providers in large geographic areas with no nearby alternatives, serving substantial populations.[37]

Water Availability

Water service availability

Health facilities in the host communities were facing challenges in accessing basic water services. Nearly half (49%) of HFs facilities in Garissa and 33% in Turkana host communities had no water service, thus commonly utilizing water from unimproved sources such as surface water and tanker trucks.[38] Also, **9% of HFs in Garissa and 4% in Turkana lacked a water source** (See figure 25 below). This makes it difficult to maintain cleanliness in the HFs and increases the risk of infections for both the patients and healthcare workers.

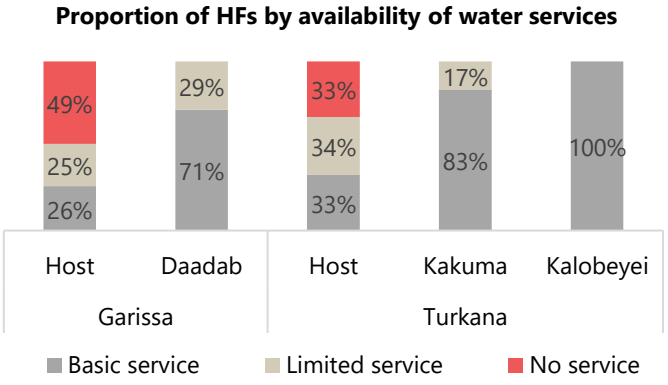

Figure 17: Availability of water services

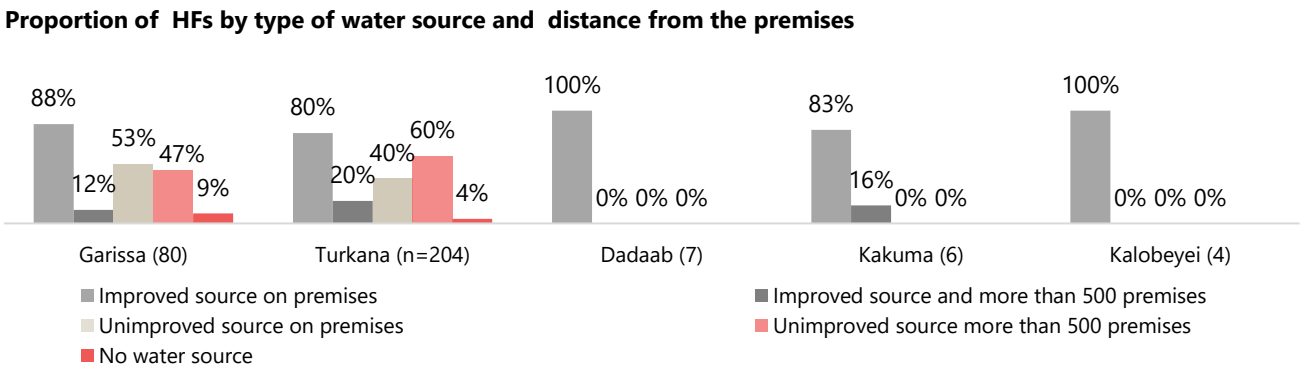

Figure 18: Proportion of HFs by distance from the premises

[36] Five Health facilities in Dagahaley camp were not included in the assessment.
[37] Kenya hospital categorization in Kenya
[38] The JMP for water services by WHO and UNICEF monitors global progress on water services, based on water availability, source and location

Water storage capacity

Health facilities faced challenges in maintaining a reliable water supply due to the lack of adequate storage tanks. A considerable proportion of HFs lacked storage tanks, with 27% of HFs in Turkana and 14% in the Garissa host community reporting the absence of storage tanks (n=HFs with storage tanks). This gap in water storage tanks can be associated with the proportion reporting unavailability of water in the 30 days prior to data collection. Additionally, 9% of HFs in Garissa and 4% in Turkana reported a complete lack of access to a water source, compounding the challenges faced by these facilities in providing healthcare services.

Table 13: Median water storage capacity in litres

	Garissa County		Turkana County		
	Host (n=69)	**Dadaab (n=6)**	**Host (n=149)**	**Kakuma (n=5)**	**Kalobeyei (n=4)**
Median litres per location	10,000	11,250	10,000	10,000	12,500

Functionality and conditions of the water stations

Damage to the water station disrupts the water supply. The majority of water stations, particularly in the host community, were functioning with minor to major damage. In particular, nearly two thirds of the HFs in the host community (67% in Garissa and 68% in Turkana) reported minor to major damage to their water stations, which can potentially impact water reliability and quality. The most commonly reported issues included leaking taps, tanks, and pipes, leading to substantial water loss, hence reducing the overall availability of water for HFs operations and also compromising the delivery of services. To address dysfunctional water stations, 46% of HFs in the host community and 20% in Dadaab reached out to stakeholders to seek assistance with the repairs. Furthermore, 40% of HFs in Dadaab reportedly had plans to repair the damaged water stations. Although the HFs in Kakuma and Kalobeyei reported that their water stations were fully functional without damage, 21% indicated that the stations were insufficient to meet their needs.

Table 14: Functionality of the water stations in the HFs

	Garissa County		Turkana County		
	Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
Functional without damage	33%	29%	25%	100%	100%
Functional with minor damage	67%	71%	68%	0%	0%
Functional with major damage	0%	0%	5%	0%	0%
Not functional	0%	0%	2%	0%	0%

Water-related challenges faced by healthcare facilities

The most commonly reported water challenges by HFs in host communities were the long distance to water points, followed by lack of proper storage facilities and insufficient number of water points. All these challenges can lead to the disruption of continuous supply of water, hence affecting the provision of essential services like patient care and cleaning.

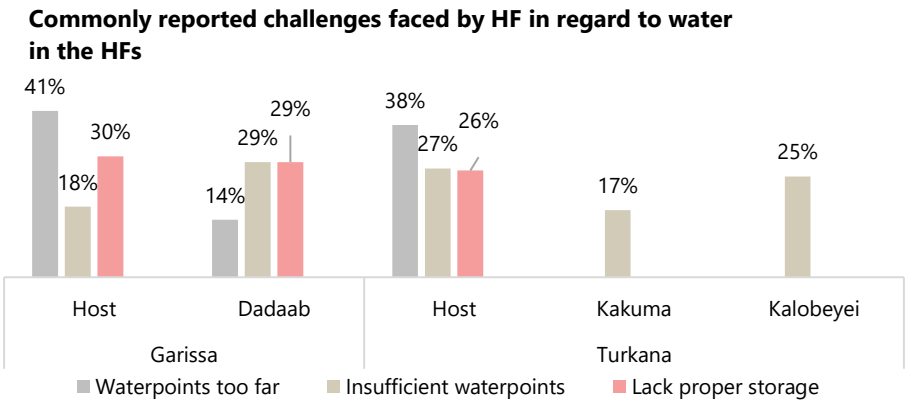

Figure 19: Water related challenges faced by the HFs

Sanitation Facilities

Proportion of HFs with separate toilets for staff and patients

Separate toilets for staff and patients are essential for the prevention of infectious diseases and for providing a comfortable and dignified working environment for staff. All the HFs in the camps had separate sanitation facilities for staff. However, more than half of the HFs (58% in Garissa, 53% in Turkana) had shared facilities for patients and staff. Similarly, all the sanitation facilities in camp were gender-segregated but half (50%) of HFs in the host communities reported the use of same toilets for both sexes. This highlights the need for improved infrastructure in the host HFs to ensure privacy and dignity.

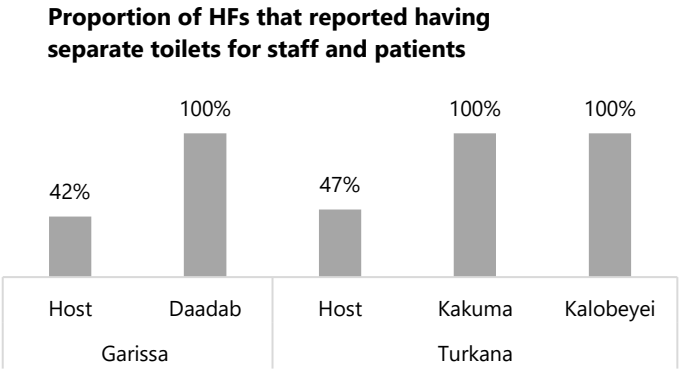

Figure 20: Proportion of HFs with separate toilets for staff and patients

Availability of sanitation services in HFs

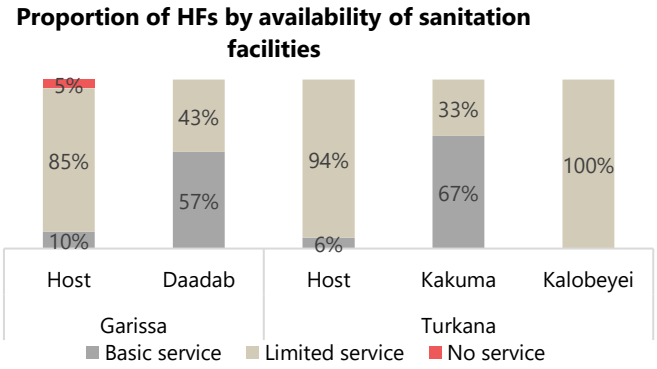

Figure 21: Proportion of HFs by availability of sanitation facilities

Overcrowded and inadequately equipped sanitation facilities in HFs across Kalobeyei, Garissa, and Turkana not only compromised hygiene standards but also undermined the dignity and privacy of women and girls. None of the HFs in Kalobeyei and a small proportion in the host community of Garissa (10%) and Turkana (6%) Counties had basic sanitation facilities. Although, all the sanitation facilities in Kalobeyei were improved, the toilet-to-patient ratio was quite high (1:72 female, 1:50 male) indicating that the facilities were often overcrowded, leading to reduced hygiene standards and difficulties in maintaining cleanliness. In the host community HFs, gender and staff segregation were the main limiting factors potentially hindering proper use of the facilities or resorting to open defecation.[39]

Conditions of sanitation facility infrastructure

Lighting was lacking in most sanitation facilities, with hospitals in Kalobeyei reporting absence of inside or outside lighting. Poorly lit toilets increase risks of accidents, improper use of toilets, and deter use after dark, creating health risks from delayed toilet use (especially where the sample is required) or open defecation.[39] These unhygienic conditions can lead to foul smells, and breeding grounds for disease vectors, exacerbating hygiene issues. Few HFs had non-functional sanitation facilities as they lacked all the infrastructure features stated below.

Table 15: Available infrastructure features in sanitation facilities[40]

	Garissa		Turkana		
	Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
Doors	91%	86%	91%	100%	100%
Walls	97%	100%	90%	100%	100%
Locks	81%	100%	72%	83%	100%
Solid structure	38%	71%	49%	17%	50%
Inside light	3%	57%	5%	17%	0%
Outside light	3%	57%	2%	17%	0%
Proper drainage	13%	14%	2%	17%	0%
Close dwelling	3%	29%	11%	17%	0%
None of the above	3%	0%	1%	0%	0%

[39bis] MSNA 2024 findings on open defecation

[40] Respondents could select multiple options; the findings may exceed 100

Sludge disposal

Similar to schools, most healthcare facilities (opted to dig new latrines when the existing ones became full. Over half of the facilities reported using this approach: 63% in Garissa, 52% in Turkana host communities and camps, 71% in Dadaab, and 100% in Kalobeyei. However, this practice can lead to land overuse and complicate long-term waste management. Additionally, a significant number of HFs in Garissa reported that they openly dumped sludge away from their locations, which poses a risk of contaminating water bodies and potentially leading to disease outbreaks.

Table 16: Sludge disposal methods[41]

	Garissa		Turkana		
	Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
Municipal waste system	5%	14%	4%	0%	0%
Treated on site	13%	0%	28%	17%	0%
Treated off site	1%	14%	7%	17%	0%
Dig another latrine	63%	71%	52%	17%	100%
Manually by vacuum tank	4%	14%	2%	50%	0%
Openly dumped away	15%	0%	8%	17%	0%

Sanitation-related challenges faced by healthcare facilities.

The common challenge faced by most HFs (71% in the Turkana host community and Dadaab, and 63% in the Garissa host community) is the inadequate number of sanitation facilities. This issue was echoed by 66% of community leaders and 72% of implementing partners in the two counties. In Kalobeyei, half of the HFs reported difficulties in accessing sanitation facilities. These challenges have the potential to undermine hygiene standards and affect access for vulnerable populations, including individuals with limited mobility, visual impairment, and children.

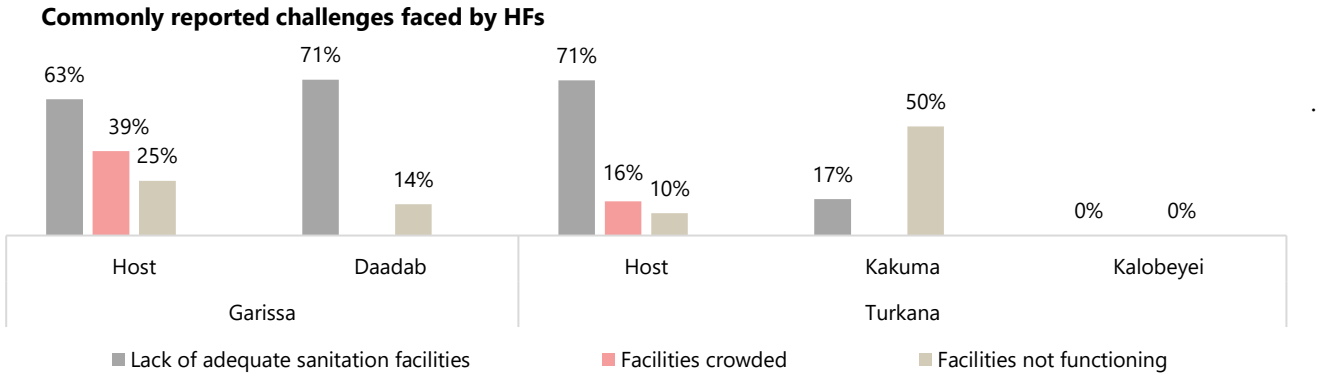

Figure 22: Challenges faced by HFs regarding sanitation facilities[41]

Coping mechanisms employed to deal with sanitation challenges.

To deal with the above-reported challenges (Figure 29), most of the patients reportedly resorted to the use of less preferred/ unimproved sanitation facilities, such as pit latrines without slabs (75% of HFs in the Garissa host community and 73% in the Turkana host community). Unimproved sanitation facilities can worsen infections in vulnerable patients and hinder recovery by increasing contamination risks.

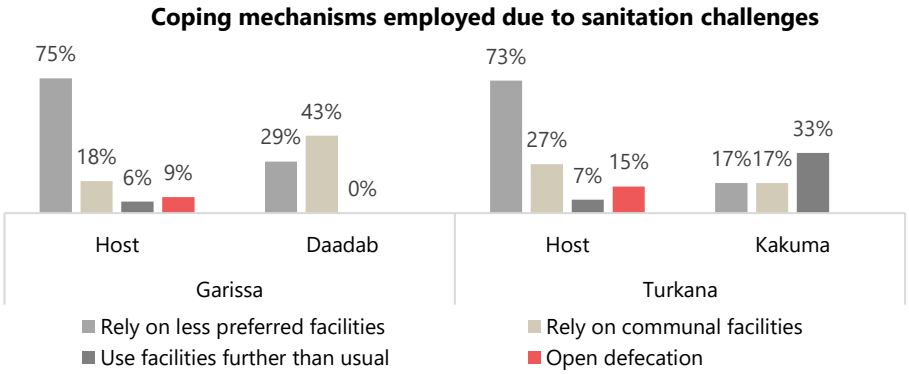

Figure 30: Coping mechanisms employed due to sanitation challenges[41]

[41bis] Respondents could select multiple options; the findings may exceed 100

In addition, 15% of key informants in Turkana host HFs and 9% in Garissa reported incidences of open defecation. This poses a serious risk to public health and the environment and can also cause HF closure since it violates sanitation and health regulations.

Hygiene Facilities

Hygiene services availability

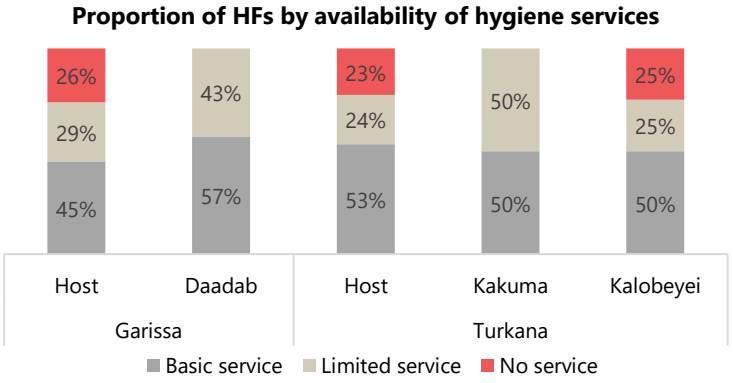

Figure 31: Proportion of HFs by availability of hygiene services

Nearly half of the HFs had basic hygiene services,[42] indicating that water and soap were available at the handwashing station during data collection. However, about one-quarter of the HFs in the host community (26% in Garissa and 23% in Turkana) and one in Kalobeyei did not have a handwashing station. This compromises the health status of the patients and the staff and can predispose them to nosocomial infections.

Washing stations-to-patient ratios

Most HFs nearly achieved the WHO-recommended tap-to-patient of 1 to 10-20 patients.[43] However, the situation was quite critical in Kalobeyei. This is because two of the four HFs were located at the reception centre, which serves a larger population with limited resources. A key informant in Kalobeyei described the situation as difficult, as the rate of damage and vandalism was quite high, making it difficult to maintain water supply and WASH infrastructure in the two health posts. Despite almost achieving the recommended tap-patient ratio, a considerable proportion of the HFs did not have handwashing stations in some critical areas, such as the consultation room or the waste disposal area, as reported by the KIs (Figure 32).

Table 17: Water stations-to-patient ratio

Garissa County		Turkana County		
Host	**Dadaab**	**Host**	**Kakuma**	**Kalobeyei**
1:25	1:21	1:22	1:26	1:408

Location of the handwashing stations in the HF

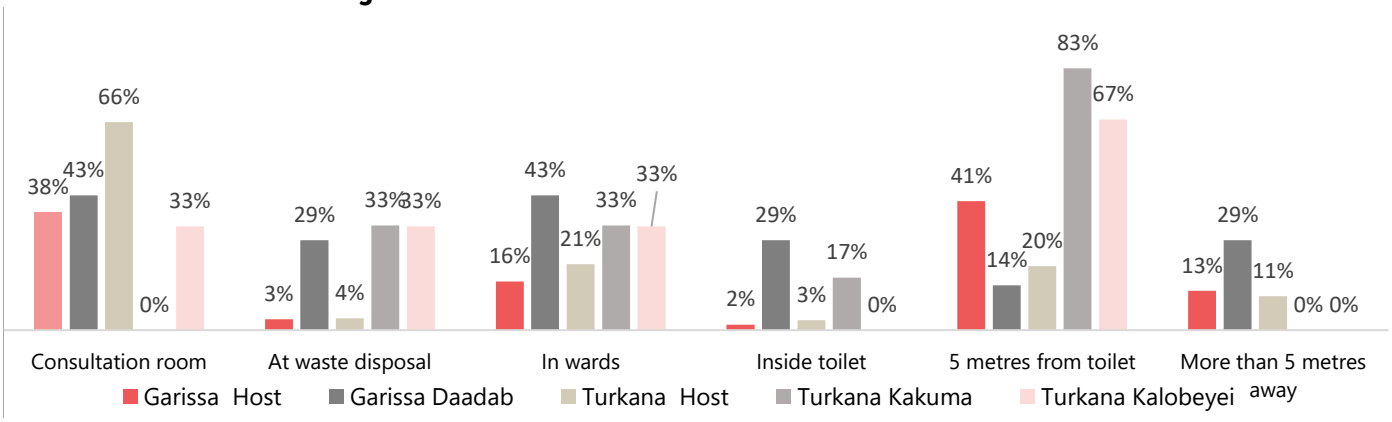

Figure 32: Proportion of HFs by location of the handwashing station[44]

Handwashing stations in HFs are meant to ensure hygiene, but their placement in many locations remains suboptimal, limiting their accessibility and effectiveness in improving handwashing.

[42] The JMP for hygiene services by WHO and UNICEF monitors global progress on hygiene services.
[43] WHO water station recommendation
[44] Respondents could select multiple options; the findings may exceed 100%

Health facilities in Kalobeyei (67%) and Kakuma (83%) had the highest percentage of handwashing stations located near toilets. In contrast, only 20% of HFs in Dadaab reported having handwashing stations close to toilets, which could compromise hygiene efforts. Additionally, HFs indicated that handwashing facilities were unavailable in consultation rooms, posing a risk to infection control and increasing the potential for disease spread.

Handwashing promotion signs

In addition to inadequate hygiene services and Kalobeyei's high tap-to-patient toilet ratio, half of the HFs in Kalobeyei lacked signs promoting and demonstrating proper handwashing techniques, highlighting a critical gap in hygiene awareness and practice for both patients and HFs staff. Similarly, a high proportion of HFs in the host communities did not have signs promoting handwashing.

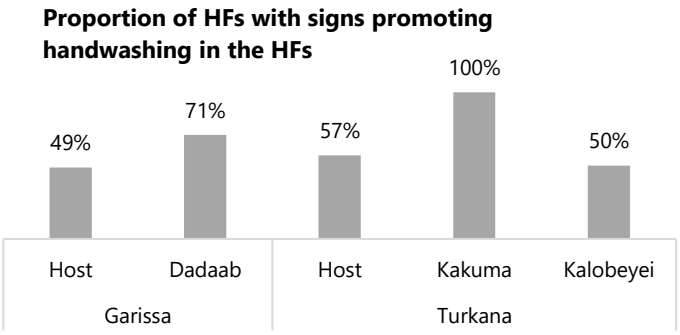

Figure 33: Proportion of HFs with signs promoting handwashing in the HFs

Waste Management in HFs

Availability of waste management services

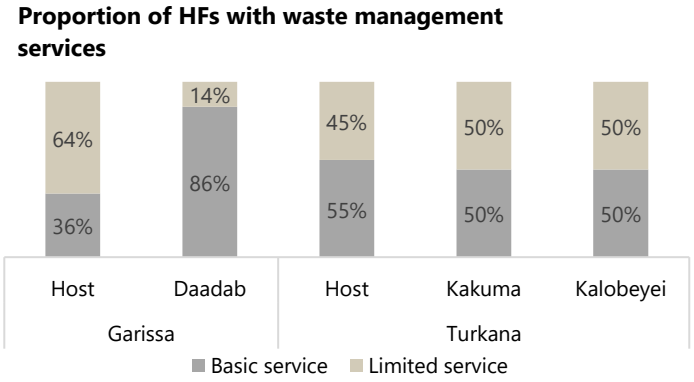

Figure 23: Proportion of HFs by availability of waste management services

HFs in Garissa faced significant challenges in waste management, with only 36% of the HFs having basic waste management services. This was mainly attributed to HFs (46%) lacking waste segregation services, specifically three waste segregation bins for infectious, sharp, and noninfectious waste.[45,46] In Turkana County, about half of the HFs in both the host and refugee communities (see Figure 34) provided access to basic services, indicating the need to improve the provision of waste-segregated bins. Inadequate waste management services not only increase the risk of infection spread but also contribute to environmental contamination.

Infectious waste disposal methods

The most common method for disposing of infectious waste in HFs has been burning in protective pits. However, this method is not as effective as incineration, as it may fail to destroy all infectious materials and can produce harmful pollutants if not managed properly. In the Turkana host community, 12% of HFs reported using open burning for infectious waste disposal, while in Kakuma, the percentage was 33%. Aside from its ineffectiveness, this method is detrimental to the environment.

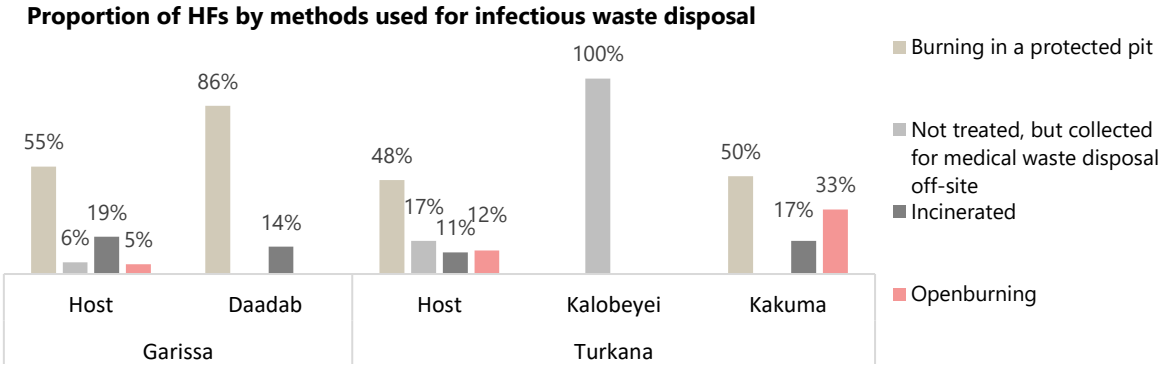

Figure 24: Commonly reported methods for infectious waste management[47,48]

[45] The JMP for waste management services by WHO and UNICEF monitors global progress on waste management services.
[46] WASH in Health Care Facilities: Practical Steps to Achieve Universal Access; WHO-2019
[47] Respondents could select multiple options, the findings may exceed 100%.
[48] Two out of the four health care facilities in Kalobeyei reception centre are for common illnesses, maternal and child health services, and nutritional support.

Environmental cleaning services

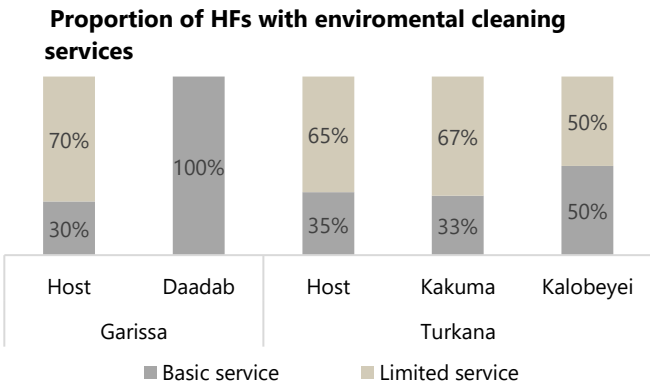

Figure 25: Availability of environmental cleaning services

Adequate environment cleaning services were only available in the assessed HFs in the Dadaab camp.[49] In contrast, only about one-third of the HFs in the host communities and Kakuma had basic environmental cleaning services. This suggests that there may have been insufficient provision of protective clothing and equipment, as well as a lack of regular training for staff involved in waste management. This deficiency raises the risk of direct contact with contaminated materials and sharp objects, thereby increasing the likelihood of disease transmission.

Waste management protocols

Most of the HFs reported relying on disposal pits for waste disposal. The ability of waste pits to withstand climate-related shocks is crucial, especially in regions that experience floods or droughts. Examples of features needed include having the pit elevated with a drainage system, covered with UV-resistant material, etc. Dadaab has a much higher percentage (57%) of waste pits built to withstand such shocks, while the rest have small proportions. These structures can lead to waste leakage and environmental contamination. Although HFs in Kalobeyei reported using incineration as the primary method for infectious waste disposal (Table 18), the effectiveness of this method was hindered by the prohibitive maintenance costs. This challenge has made it difficult to operate the incinerators consistently, as reported by KIs.

Observed protocols in the HFs by proportions

	Garissa		Turkana		
	Host	Dadaab	Host	Kakuma	Kalobeyei
Waste not stored on the premises	58%	14%	74%	67%	50%
Appropriate standards in place for treatment of infectious waste	35%	29%	43%	17%	0%
Sufficient energy is available for incineration	9%	14%	11%	0%	25%
Waste collected offsite	28%	29%	22%	0%	0%
Waste pits are built to withstand climate related shocks	3%	57%	8%	0%	0%
Staff are well trained to handle waste disposal	25%	29%	16%	17%	50%

Effect of Climate Change on WASH in HFs

Effect of drought on WASH status

The prolonged drought between 2021 and 2023 experienced in the region had a significant effect on WASH across the HFs in Garissa and Turkana Counties, with water shortages being the most prevalent issue, affecting 68% of the host community HFs in Garissa, 70% of the facilities in Turkana and 67% in Kakuma. The rising cost of water has significantly impacted access to WASH services, particularly in Dadaab, where it increased by 29%, and among host communities in Turkana, where it rose by 10%. It is important to note that the HFs in Kalobeyei are directly connected to a piping system from the main water source. This connection ensures that their water supply is rarely disrupted. Supply interruptions only occur in the event of pipe damage, as reported by the implementing partners.

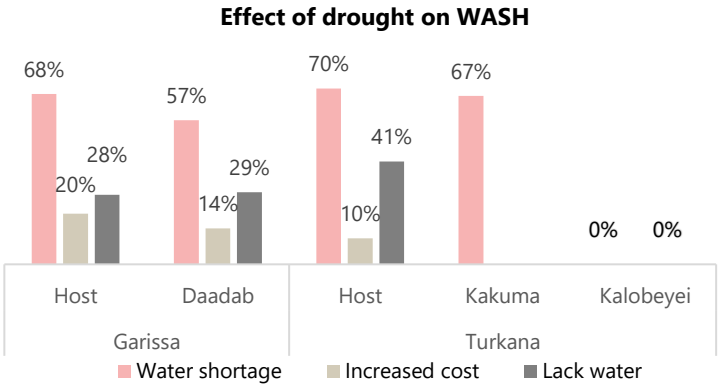

Figure 26: Effect of drought on WASH[50]

[49] The JMP for waste management services by WHO and UNICEF monitors global progress on waste management services.
[50] Respondents could select multiple options, the findings may exceed 100%.

Effect of floods on WASH

The findings indicate that HFs in Kakuma were positively affected by the above-average rainfall experienced from the last quarter of 2023 to the first quarter of 2024. An improved water supply was reported by 67% of the HFs. However, challenges such as flooding and stagnant water continue to pose significant issues. During the flooding, 41% of Turkana's host communities and 28% in Garissa experienced these problems, which exacerbate the risks of waterborne diseases.

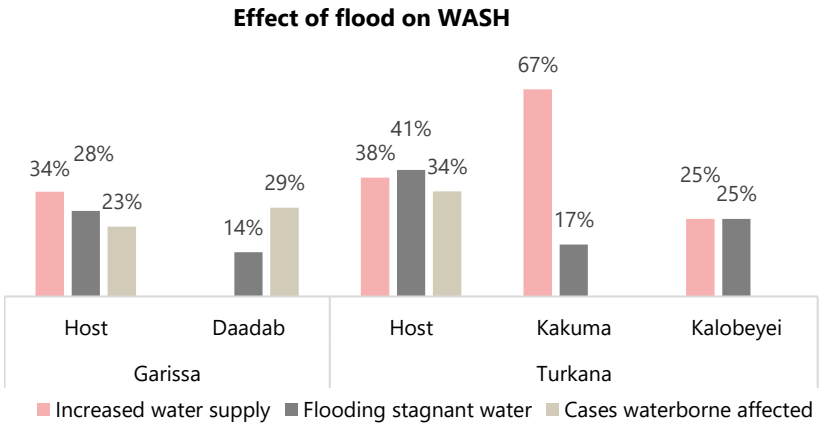

Figure 27: Effect of floods on WASH in HFs[51]

Top reported primary WASH needs in HFs

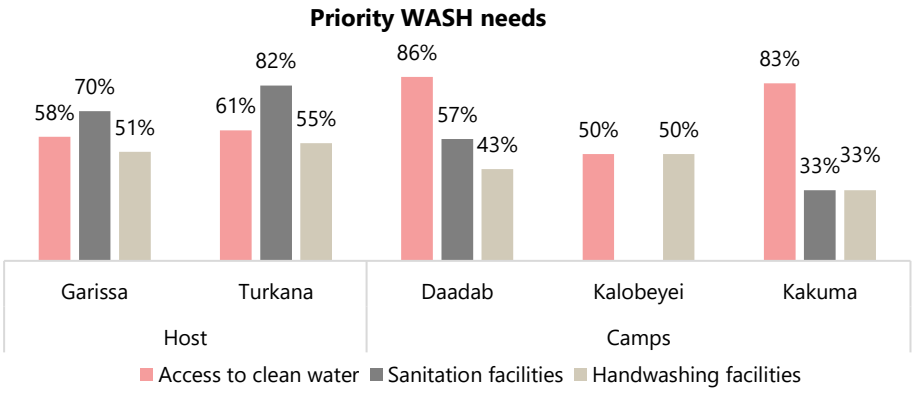

Figure 28: Top priority WASH needs in the HFs[51]

The WASH needs assessment revealed that access to sanitation facilities was a cross-cutting need across all assessed locations. The findings suggest that while access to clean water and sanitation were the top priorities, addressing waste management and handwashing facilities is also crucial for improving overall WASH conditions in the HFs.

Actions Needed to Improve WASH in HFs

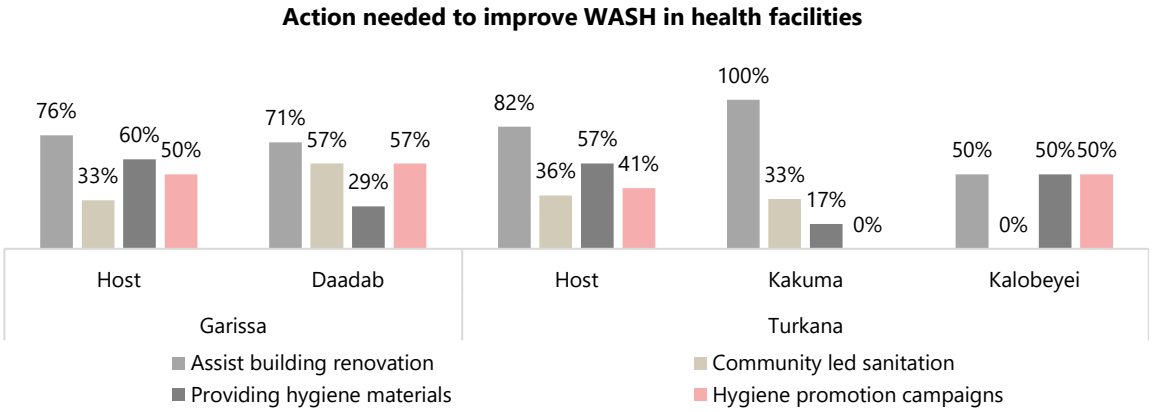

Figure 40: Action to improve WASH in the HFs[51]

Assistance with building and renovating facilities was also the most prioritized action needed to improve WASH in HFs across the assessed counties. This was commonly reported in Kakuma (100%), Turkana (82%), and Garissa host communities (76%). Providing hygiene materials was a significant need across all locations, with notable demand in Garissa host communities (60%) and Dadaab (57%). Hygiene promotion campaigns were highly requested in Dadaab (57%) and Turkana host communities (41%), while community-led sanitation was relatively less emphasized, with the highest need being 36% in the Turkana host community. These results highlight the critical need for infrastructural support and material provision to enhance WASH services in health facilities, coupled with targeted hygiene awareness initiatives.

[51] Respondents could select multiple options, the findings may exceed 100%.

CONCLUSION

Garissa County

Host Community

Water scarcity was a challenge in Garissa's host communities, significantly impacting both schools and HFs. The limited availability of clean water exacerbates poor hygiene and sanitation conditions, making it difficult for schools and HFs to provide safe and dignified WASH infrastructure for students and patients. **The lack of proper waste management in HFs** further compounds the risk of infections, posing serious public health threats.

Dadaab Refugee Camp

While water services in Dadaab were more reliable than in host communities, **water station damage issues threaten its consistency**. Schools had better toilet-to-student ratios, yet infrastructure maintenance remains a concern. Despite these advantages, HFs still face challenges with poorly placed handwashing stations and gaps in WASH services and waste management.

Turkana County

Host Community

Turkana's host communities reported facing water shortages**, with a significant portion of schools and HFs lacking reliable access to clean water and water treatment services.** Poor sanitation infrastructure was a critical issue, **as many schools had inadequate toilets that were often shared between genders,** undermining privacy and hygiene. The situation was equally dire in HFs, **where inadequate waste management and hygiene services were reported**, increasing health risks for both patients and healthcare workers.

Kakuma Refugee Camp

WASH services in Kakuma were relatively better than in host communities, **with 87% of schools reportedly having reliable water access and storage facilities.** However, while gender-segregated toilets were available, many lacked proper lighting and locks, reducing their effectiveness in providing safe and dignified sanitation. **Handwashing stations in HFs in Kakuma were better positioned than in other locations**, yet infrastructure damages were reported, **with all HFs requiring improvements**.

Kalobeyei Integrated Settlement

Kalobeyei faces the most severe water access challenges among the assessed locations, with only 38% of schools having a reliable water supply. Sanitation facilities were also critically inadequate, with toilets overcrowding in schools, reaching ratios as high as 1:100 for the students' toilets, and none of the schools attaining the recommended toilet to student ratio for girls (1:30) at the time of data collection. The lack of hygiene promotion measures, such as handwashing signs in schools and HFs, further exacerbates the risk of disease transmission.

RECOMMENDATIONS

- Increase efforts to provide safe water services in schools and health facilities, particularly in the Garissa and Turkana host communities.
- Invest in basic sanitation services in schools (both in the camps and host communities) and in health facilities in Kalobeyei to address the current limitations in access to these essential services. The climatic condition of the region should be factored into the construction of the sanitation facilities as the strong winds continuously cause damage. This can be enshrined in a policy document to ensure the guidelines are adhered to.
- Strengthen hygiene services in schools and health facilities within the host communities by implementing targeted hygiene programs that include a regular supply of essential hygiene materials.
- Prioritizing WASH activities in health and school facilities is crucial for addressing existing gaps, improving overall health, and promoting better health outcomes.
- Creating a synergy of all partners implementing WASH activities in schools and health facilities. According to the implementing partners, nearly all aspects of WASH were being implemented in most schools and HFs. However, there is no coordination among the implementing partners and this causes a wastage of resources due to duplication of activities or incomplete infrastructure.

ANNEX

1, Garissa WASH Factsheet, June 2024

2, Turkana WASH Factsheet, June 2024

3, Number of schools reached per sub-county.

Garissa County			
Host community	**Number of schools assessed**	**Refugee community**	**Number of schools assessed**
Balambala	41	Dadaab	42
Dadaab	34		
Fafi	32		
Garissa	26		
Ijara	58		
Lagdera	34		
Total	**225**		**42**

Turkana County			
Host community	**Number of schools assessed**	**Refugee community**	**Number of schools assessed**
Kibish	10	Kakuma	32
Loima	61	Kalobeyei	8
Turkana Central	83		
Turkana East	45		
Turkana North	53		
Turkana South	109		
Turkana West	64		
Total	**425**		**40**

5, The number of HFs reached per sub-county

Garissa County			
Host community	**Number of HFs assessed**	**Refugee community**	**Number of HFs assessed**
Balambala	14	Dadaab	7
Dadaab	15		
Fafi	12		
Garissa	13		
Ijara	15		
Lagdera	11		
Total	**80**		**7**

Turkana County			
Host community	**Number of HFs assessed**	**Refugee community**	**Number of HFs assessed**
Kibish	10	Kakuma	6
Loima	40	Kalobeyei	4
Turkana Central	42		
Turkana East	18		
Turkana North	29		
Turkana South	31		
Turkana West	34		
Total	**204**		**10**