



Implementation Research (process) on the UNICEF WASH in Health Care Facilities Initiative

Final Report

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Acronyms

ACSM	Advocacy, communication and social mobilization
AMR	Antimicrobial resistance
CSII	Centro de Saúde Tipo II (Health center type II)
CSO	Civil society organization
DEH	Department of Environmental Health
DHS	Demographic health survey
DHIS	District health information system
DPOP	Direcção Provincial de Obras Públicas (Provincial Directorate of Public Works)
DPS	Direcção Provincial de Saúde (Provincial Health Directorate)
FGD	Focus group discussion
FP	Focal point
GEDSI	Gender Equality, Disability and Social Inclusion
GoM	Government of Mozambique
HCF	Health care facilities
HeRAMS	Health Resources and Services Availability Monitoring System
IPC	Infection prevention and control
IQC	Internal quality control
JMP	Joint Monitoring Program
KII	Key informant interview
MCH	Maternal and child health
MoH	Ministry of Health
MOPHRH	Ministério de Obras Públicas, Habitação e Recursos Hídricos (Ministry of Public Works, Housing and Water Resources)
MoU	Memorandum of understanding
NGO	Non-governmental organization
O&M	Operations and maintenance
PPE	Personal protective equipment
QI	Quality improvement
SARA	Service availability and readiness assessment
SDC	Swiss Development Cooperation
SDG	Sustainable Development Goals
SDPI	Serviço Distrital de Planeamento e Infraestrutura (District Planning and Infrastructure Services)
SDSMAS	Serviços Distrital de Saúde, Mulher e Ação Social (District Health, Woman and Social Action Services)
SIS-MA	Sistema de Informação de Saúde para Monitoria e Avaliação (Routine health information system)
SoP	Standard operating procedure
SPS	Serviço Provincial de Saúde (Provincial Health Services)
SSA	Sub-Saharan Africa
ToC	Theory of change
ToT	Training of trainers
TWG	Technical working group
WASH	Water, sanitation and hygiene
WASH-FIT	Water, sanitation and hygiene facility improvement tool
WB	World Bank
WHO	World Health Organization
WinHCFs	WASH in health care facilities

Executive Summary

Mozambique WASH in HCF initiative

Since 2018, UNICEF Mozambique has supported the Government of Mozambique (GoM) in **expanding and sustaining access to safe water, sanitation, and hygiene (WASH) services in health care facilities (HCFs)**. The WinHCFs initiative aims to improve both the coverage and maintenance of WASH infrastructure while strengthening the enabling environment for long-term service sustainability. Alongside infrastructure improvements, the WASH in HCFs (WinHCFs) focuses on setting and updating standards, developing guidelines and a national roadmap, institutionalizing multi-sectoral coordination mechanisms, and enhancing planning, monitoring, data use, and advocacy for increased national investment. A **key element** of the initiative is the WASH Facility Improvement Tool (**WASH-FIT**), a **structured framework for facility-level assessment, planning, and quality improvement**.

Between 2018 and 2026, 229 HCFs across six provinces have been prioritized for WASH service upgrades, predominantly type II health centers with maternity units. **By late 2024, 126 facilities had completed infrastructure improvements**, personnel training, and handover to the Ministry of Health (MoH), with the remainder at various stages of design or construction. The program is funded through UNICEF and five donor partners, with a total investment exceeding US\$20 million.

Study purpose and methodology

The study was commissioned to assess which components of the WinHCFs initiative have contributed most to its successes and where adaptations are needed to strengthen implementation and sustainability. A **theory-based, mixed-methods** design was applied, drawing on the program's Theory of Change to guide enquiry. Methods included document and literature review (142 documents), 111 key informant interviews, nine focus group discussions (73 participants) and an online survey (49 respondents).

The study was conducted by a team of four in-country health, WASH and research experts supported by Tropical Health management and quality assurance personnel. It ran from January 2024 until April 2025. Fieldwork conducted in the last quarter of 2024 covered **24 HCFs across eight districts** in Sofala, Nampula, and Zambézia provinces, using purposeful sampling to ensure representation of facility types and implementation stages. Data were triangulated across levels (national, provincial, district, facility, and community). Ethical clearance was obtained from UNICEF's contracted Bioethics Committee, and all research activities adhered to strict ethical standards.

Key findings

The WinHCFs initiative has achieved **strong progress in infrastructure development** but continues to face major challenges in **institutionalization and sustainability**—particularly regarding ownership, financing, monitoring, and O&M. By the end of 2025, with the finalization of national standards and the costed roadmap, Mozambique will have the core building blocks in place to systematically advance WinHCFs implementation.

Main successes include:

- **Infrastructure Improvement:** Construction and rehabilitation completed in 126 HCFs (2018–2024), on track to reach 229 by 2026 despite climatic, security, and logistical challenges.
- **Technical Standards:** Development of national WASH in HCF standards, now being updated with UNICEF support to align with climate resilience, gender, and inclusion priorities.
- **Capacity Building for Operations and Maintenance:** Progressive shift from formal classroom-based training to shorter, practical, and on-the-job learning models.
- **WASH-FIT Roll-out:** Renewed national commitment to the tool, including contextual adaptation and CSO-supported implementation pilots.

Persistent bottlenecks relate to limited government ownership and fragmented leadership, inadequate and inequitable funding (especially for O&M), weak policy and coordination frameworks, and insufficient monitoring and supervision systems. The table below highlights the main gaps identified through this study across key components of the WinHCFs Initiative, their current status, and the underlying causes.

Component	Status	Underlying cause
National Roadmap and Investment Plan	Not developed but consultant recently recruited to develop the roadmap. Limited evidence base to guide prioritization and costing to date.	Primary focus of the Initiative has been on ‘hardware’ to date. Investment plan depends on roadmap finalization (expected late 2025).
Monitoring and Use of Data	Limited data coverage and use; weak feedback loops. A digital WASH-FIT platform is under development.	WinHCFs indicators not yet integrated into national HIS and lack of guidance on data use. Fragmented reporting tools. WASH-FIT data not routinely analyzed or shared.
Operation and Maintenance (O&M)	Lack of routine maintenance leading to approximately 25% of non-functional services at any time.	No dedicated budgets, unclear roles across HCFs/districts/communities, and lack of capacity and/or repair materials.
Budget Allocation for O&M	Government allocation low and decreasing; donor dependency remains high.	Health sector prioritization limits funds for WASH; poor budget execution; lack of decentralized support for O&M; limited success in raising community funds; no cost tracking to inform realistic budgeting.
Government Ownership and Leadership	Initiative still perceived as UNICEF-led; multi-sectoral coordination groups exist but weakly institutionalized.	Limited visibility and leadership within MoH, fragmented coordination across departments, and absence of a strong national champion.
Advocacy and Visibility	No comprehensive advocacy strategy or high-level campaign in place.	Focus of advocacy confined to coordination groups; absence of communication plan targeting decision-makers to raise program profile.
Hygiene Promotion and Infection Prevention and Control Practices	Training materials outdated and job aids limited, follow-up and supervision inconsistent. Promotional tools limited.	Limited investment in “software” components (capacity building, supervision); lack of standard tools and updated SoPs.

Key recommendations

In an era of declining external aid, sustaining WASH services in HCFs demands stronger national ownership, integration into health sector systems, and predictable domestic financing. The study identifies **three strategic entry points** for UNICEF and the MoH to consolidate and sustain WinHCFs gains:

1. **Institutionalize WASH-FIT nationwide** to ensure regular assessments, supervision, and data-driven accountability for continuous quality improvement.
2. **Rebrand and integrate WinHCFs** within the MoH as a core quality-of-care initiative—linked to maternal and child health and IPC strategies.
3. **Build an investment case** for WinHCFs by generating robust evidence on cost-effectiveness and return on investment to strengthen advocacy for sustained government and partner funding.

Additional recommendations emphasize **strengthening the “software” components of the Initiative**, including: expanding and systematizing capacity building in O&M, environmental cleaning, and health care waste management; establishing viable mechanisms for O&M financing and local procurement of cleaning materials; ensuring adherence to standards through regular monitoring and data-sharing across all administrative levels; and supporting operational research on life-cycle costing, sustainable O&M funding models and capacity development methods.

Conclusion

Overall, the WinHCFs initiative has laid a **strong foundation** for achieving universal WASH access in Mozambique’s health care facilities with UNICEF support. The **next phase** must **consolidate** these infrastructure gains **by embedding accountability, financing, and continuous improvement mechanisms** within the health system to ensure lasting public health impact.

1 Introduction

Tropical Health was commissioned by UNICEF to conduct implementation research on its Water, Sanitation and Hygiene (WASH) in Health Care Facilities (WinHCFs) Initiative. This report provides a brief background to the study and outlines its scope and methodological approach. The research findings begin with an overview of progress to date, followed by detailed analysis of program implementation and cost considerations. The report concludes with key lessons, overarching conclusions, and a consolidated list of recommendations. A series of annexes provide complementary information and include: Annex 1: Study protocols, Annex 2: Research matrix, Annex 3: List of documents and data reviewed, Annex 4: Study sample, Annex 5: Costing data overview, Annex 6: Recommendations list; Annex 7: Strengthening the theory of change for scale-up; and Annex 8: Research questions’ answers overview.

1.1 Context

Access to adequate WASH services in HCFs is essential for preventing infections, reducing antimicrobial resistance (AMR), ending preventable maternal and newborn deaths, and responding effectively to outbreaks and emergencies. In low- and middle-income countries (LMICs), poor-quality care, driven in part by inadequate WASH, causes an estimated 8 million deaths annually, resulting in US\$6 trillion in economic losses (WHO and UNICEF, 2023¹). Lack of WASH undermines infection control, service uptake, staff performance, and patient dignity (Bouzid et al., 2018²). Vulnerable populations are particularly at risk, and poor WASH provision has been linked to reduced patient satisfaction and care-seeking, including avoidance of facility-based childbirth (Bouzid et al., 2018; Transform International, 2019³).

Despite global recognition of its importance, **many HCFs in LMICs still lack basic WASH services** (WHO and UNICEF, 2023). Barriers to achieving full coverage are multifaceted, including incomplete standards, weak monitoring, disease-specific budgeting, limited human and financial capacity for maintenance, and disempowered workforces (WHO and UNICEF, 2019⁴). Infrastructure failures are common—especially in rural sub-Saharan Africa—due to disrepair, service disruptions, and uncleanness (Montgomery et al., 2009⁵; Transform International, 2019⁶). Decentralization has further complicated management and accountability for WASH service delivery, including in Mozambique.

Globally, growing awareness on the lack of access and availability of WASH in HCF has driven efforts to accelerate progress toward Sustainable Development Goals (SDGs) 3 (good health and well-being) and 6 (clean water and sanitation). The transition from the Millennium Development Goals to the SDGs expanded focus from simple access to include service quality, reliability, and affordability (World Bank, 2018)⁷. However, there remains limited data on the availability and use of WASH services by patients and caregivers in HCFs—critical elements for infection prevention (Bouzid et al., 2018)⁸.

In **Mozambique, the lack of WASH in HCFs has significant public health implications**. The country has a high neonatal mortality rate (24 per 1,000 live births⁹) and maternal mortality ratio (127 per 100,000 live births¹⁰), with **many deaths preventable through essential health interventions and improved hygiene and WASH infrastructure**. About 69% of diarrheal deaths are attributed to unsafe water, inadequate sanitation, and poor hygiene. As of 2023, only 52% of HCFs have basic water, 43% have sanitation, 40% have hygiene, and 29% have basic waste services (Joint Monitoring Program (JMP), 2023)¹¹. In rural areas, only half of facilities have access to basic WASH.

¹ World Health Organization and the United Nations Children’s Fund (UNICEF), 2023. Water, sanitation, hygiene, waste and electricity services in health care facilities: progress on the fundamentals. 2023 global report. Geneva: Licence: CC BY-NC-SA 3.0 IGO

² Bouzid M, Cumming O, Hunter PR. What is the impact of water sanitation and hygiene in healthcare facilities on care seeking behaviour and patient satisfaction? A systematic review of the evidence from low-income and middle-income countries. *BMJ Glob Health*. 2018 May 9;3(3):e000648. doi: 10.1136/bmjgh-2017-000648. PMID: 29765776; PMCID: PMC5950627.

³ Transform International. 2019. Water, sanitation, and hygiene in health care facilities: The global landscape of sustainability

⁴ UNICEF/WHO, WASH in HCFs: Eight practical Steps WASH in HCF 2019

⁵ Montgomery M., Bartram J. and Elimelech M. Increasing Functional Sustainability of Water and Sanitation Supplies in Rural Sub-Saharan Africa. *Environmental Engineering Science*, Vol. 26, Nb. 5, 2009

⁶ as footnote 3

⁷ World Bank. 2018. Findings of the Mozambique Water Supply, Sanitation, and Hygiene Poverty Diagnostic. WASH Poverty Diagnostic. World Bank, Washington, DC.

⁸ As footnote 2

⁹ DHS Mozambique 2022-2023 – Draft key Indicators

¹⁰ <https://www.healthynewbornnetwork.org/hnn-content/uploads/MOZ.pdf>

¹¹ World Health Organization and UNICEF, Joint Monitoring Programme Data 2023 <https://washdata.org/data/healthcare#!/> Accessed April 2025

The lack of WASH services contributes to poor quality of care, heightened infection risks, and limited service utilization. In 2019, 12% of neonatal deaths were linked to preventable hospital-acquired infections such as sepsis, and neonatal mortality accounted for 41% of under-five deaths (UNICEF, 2023)¹². Mozambique's vulnerability to climate change, extreme weather events (floods, cyclones), epidemics (COVID-19, cholera), and conflict in the north further strain fragile WASH and health systems. Investment in integrated and preventive WASH and electricity services, alongside sustainable operations and maintenance, is therefore critical to achieving universal health coverage and improved health outcomes.

WHO and UNICEF have proposed an eight-step action plan to achieve universal WASH coverage in HCFs by 2030 and, to date, 101 countries (WHO and UNICEF Global Progress Report 2025)¹³, including Mozambique (2018), have agreed to commit to follow the plan and submit progress reports. The steps of the plan are shown in Figure 2¹⁴.

Figure 1 - WHO/UNICEF Universal WASH Coverage in HCFs Eight-step Action Plan



This **eight-step plan is to guide countries in delivering higher quality of care**, highlighting progress and where actions are required (WHO and UNICEF, 2019¹⁵). Activities include:

- **Creating an enabling environment** (coordination, standards, roadmap, advocacy, budget for operations and maintenance, improve monitoring and evaluation of performance)
- **Provision of services** (design and construction of infrastructures, capacity building and health promotion on hygiene practices, use of the facilities and infection prevention and control (IPC) and introduction of WASH Facility Improvement Tool (WASH-FIT) for continuous improvement).

These steps do not need to be followed in any particular order, and they can be carried out simultaneously. Some steps apply across all levels, while others are relevant for national, subnational, or facility levels.

1.2 WASH in HCF Initiative in Mozambique

In line with SDG 6 and the UNICEF WASH Strategy (2016–2030), **UNICEF Mozambique has worked with the Government of Mozambique (GoM) since 2018** to expand coverage and strengthen maintenance of WASH infrastructure in HCFs, aiming to increase resilience and ensure sustainable access to water services.

The initiative **goes beyond construction and maintenance** to focus on creating an enabling environment through standard setting, guideline and roadmap development, institutionalizing multi-sectoral coordination, strengthening planning and monitoring systems, promoting data use for decision-making, and advocating for increased national budget allocations. Capacity building for implementing partners and HCF staff has been central, focusing on infection prevention, hygiene practices, and the maintenance of WASH services. The initiative also supports the rollout of the WASH-FIT, developed by WHO and UNICEF (2018, updated 2022), to **help HCF staff prioritize and maintain WASH improvements through continuous assessment and improvement processes**.

¹² UNICEF, 2023. Countdown to 2030. Mozambique Country Profile/ <https://data.unicef.org/countdown-2030/country/Mozambique/2/>

¹³ WHO and UNICEF. Global Progress Report on WASH, Waste and Electricity in Health Care Facilities (2025)

¹⁴ UNICEF/WHO, WASH in HCFs: Eight practical Steps WASH in HCF 2019

¹⁵ UNICEF/WHO, WASH in HCFs: Eight practical Steps WASH in HCF 2019

Interventions target **Type II health centers with maternity units in rural areas**, which deliver primary health care including maternal and child health services and represent the majority of HCFs nationwide. A total of **229 HCFs, mainly Type II with maternity units**, across **Cabo Delgado, Nampula, Niassa, Sofala, Tete, Zambezia** provinces have been prioritized for WASH improvements between 2018 and 2026. At the time of the design of this study (June 2024), **126 facilities** had completed both hardware and software components of WASH improvements across three construction phases, while the remainder were at different stages of targeting, design or construction. This progress has been made possible through funding from **five donors and UNICEF's own resources**, totaling about **USD 20 million**.

The HCFs are grouped into construction phases based on prioritized facility lists (see Section 3.2 for prioritization criteria) and organized by province. Each phase follows a **two-year cycle** comprising hardware steps—prioritization, design, and construction of WASH infrastructure—and software or post-construction steps, including operation and maintenance (O&M) training, hygiene promotion, and WASH-FIT training, culminating in the official handover to the Ministry of Health (MoH). **Table 1** presents the number of HCFs per province and phase, as well as the distribution of the **24 HCFs sampled** for this study. At the time of data collection, **phases four and five were ongoing**, while this study focused on HCFs from the first three phases (126 HCFs).

Table 1 - Distribution of HCFs prioritized to receive support from the WASH in HCF program across provinces and construction phases

Phase	Year	Province	Nampula	Zambezia	Sofala	Tete	Cabo Delgado	Niassa	Total
Phase 1	2019-2020	# HCFs	15	14	23	13	-	-	65
		# sampled	4	3	4	-	-	-	11
Phase 2	2020-2021	# HCFs	15	19	-	-	-	-	34
		# sampled	3	4	-	-	-	-	7
Phase 3	2022	# HCFs	17	10	-	-	-	-	27
		# sampled	3	3	-	-	-	-	6
Phase 4	2023-2024	# HCFs	25	37	-	-	6	-	68
		# sampled	-	-	-	-	-	-	-
Phase 5	2024-2026	# HCFs	9	9	-	-	12	5	35
		# sampled	-	-	-	-	-	-	-
Total WinHCFs		# HCFs	81	89	23	13	18	5	229
Total study sample		# sampled	10	10	4	-	-	-	24

2 Research scope and approach

Below we provide an overview of the scope and approach of the research, details of which can be found in the study protocols (see [Annex 1](#)), which outline the full study methodology and present all the study instruments.

2.1 Study objectives

After almost five years of implementing the WASH in HCF initiative, the UNICEF Mozambique team has commissioned implementation research to **determine which component(s) have contributed most significantly to successes and identify limitations, allowing for adaptations to the programmatic design**, if required. More specifically the objectives are to:

1. Determine which factors (internal and external) have contributed to the success or failure, during different stages of the project cycle of the WASH in HCF initiative implementation.
2. Identify which specific components have not been implemented as planned.
3. Identify the gaps affecting the implementation of the UNICEF WASH in HCFs initiative in Mozambique in terms of 1) policies and strategies, 2) regulations, standards, and guidelines, 3) capacity, 4) coordination, 5) funding.
4. Identify areas for improvement or streamlining of the WASH in HCF approach used by UNICEF and how to make the improvements.

5. Determine if the WASH in HCF approach used by UNICEF is cost-efficient.

The research findings are expected to inform decision-making by UNICEF, its country counterparts and funders who plan to consolidate and/or scale up the WASH in HCF initiative in Mozambique.

2.2 Study questions

The study aimed to respond to six main research questions outlined in Table 2 in line with the approved study protocols:

Table 2 - Final research questions

Research questions
What specific components of the program have been, or have not been implemented as intended? If not, why?
What are the internal (UNICEF) and external (local contexts, government counterparts, contractors etc.) factors that influenced the implementation success or failure of key interventions during the different stages of the project cycle (targeting, design and supervision procurement, design/costing, civil works procurement, construction, post-construction)?
Based on identified bottlenecks, how can the interventions be realistically modified to strengthen and increase the chances of program success? What are the main bottlenecks during implementation and their maintenance afterwards (for example in operations & maintenance (O&M))?
Are there activities or practices that are no longer effective or were never effective in the first place that should be removed from the program?
What are the main gaps affecting the implementation of the UNICEF WASH in HCFs initiative in Mozambique in terms of: 1) policies and strategies, 2) regulations, standards and guidelines, 3) capacity, 4) coordination, 5) funding?
What is the cost per output and beneficiary (focusing on expenditures related to program delivery mainly)? Are there areas for cost-saving and how can they be delivered in a more efficient way?

In [Annex 2](#), questions and sub-questions have been mapped in a research matrix showing how each sub-question were planned to be answered using our proposed primary data collection and secondary data review methods that are detailed later in the next Section.

2.3 Study approach

Study design

The research design used a **theory-based approach** whereby the intervention theory of change (ToC) is used to inform the research questions, allowing for exploration and verification of whether the expected change pathways have been realized and how that was achieved. More practically, the ToC was used to ensure that research questions cover all steps and key levels of the change chain of the WASH in HCFs initiative. This approach was chosen to assess and support the learning agenda on factors contributing to successes or failures based on the assumptions underlying the ToC.

The implementation research study used a **mixed-method approach**, including document review, a literature review, key informant interviews (KIIs), focus group discussions (FGDs), an online survey, and analysis of secondary results and cost data where appropriate. The study involved **four groups of participants** at national, provincial and district levels, i.e. implementation stakeholders, end managers, end users, other stakeholders (with some overlap between groups for certain stakeholders) from **Maputo and in three provinces**.

The WASH in HCF Initiative **period under study was 2018 to the time of the study** while the **study itself ran from January 2024 until April 2025**, over three phases, i.e. inception phase when the study methodology was developed and study administrative and ethical clearance obtained (Jan-Sep-2024), data collection phase (Oct-2024 - Jan-2025), analysis and reporting phase (Feb-Apr-2025). The study was **conducted by a team of four in-country** health sector, WASH and research **experts**, led by a Team Leader and supported by Tropical Health headquarters' WASH advisors, quality assurance and management personnel.

Study methods

A mix of quantitative and qualitative methods used retrospective inquiry to assess and explore results and learning from the WASH in HCF Initiative. These included:

- **Document review** – Initial document review during the inception phase helped the study team to gain an understanding of the WASH in HCF Initiative and inform the sampling for data collection and the development of research tools. Subsequent document review provided contextual and qualitative evidence for research findings. Further document review allowed to place the primary data collected during the study within the context of global WASH standards and guidance, as well as outcomes of similar initiatives in other contexts. In total, **142 documents** were reviewed (see [Annex 3](#)), including 122 at global level and 20 at national and programmatic level.
- **Key informant interviews** - KIIs were conducted in person or virtually, depending on timing, availability of participants and access to gather perspectives on implementation experiences, perceptions of the value of different elements of the program and their perceived effectiveness, challenges, success factors and areas for improvement. Two semi-structured interview guides were developed, with the core topic areas to be covered in a standardized way, with specific questions and prompts dependent on the stakeholder type. One guide was for national and subnational stakeholders (MoH, provincial and district health and public works directorates, donors, contractors, implementers and UNICEF), and the second guide was for respondents at the HCF level. Each interview lasted approximately 60 minutes. Efforts were made to avoid disrupting the activities of the health facility, with group interviews done where appropriate. In total, **111 KIIs** were successfully concluded, 64 at national and subnational levels and 47 at HCF level. Of the stakeholders interviewed, 38% were women (see [Annex 4](#) for additional details on number of KIIs and participants per stakeholders' category).
- **Focus group discussions** – A limited number of FGDs were conducted in person by the research team to collect case study stories on end-user perspectives on WASH in HCF or to triangulate data on a particular issue to ensure sufficient understanding of the issues. Two group discussion guides were developed, one for water or co-management committees and one for end-user beneficiaries or care givers. FGDs lasted approximately 45 minutes. Participants in the FGDs from the communities were informed in advance and invited to a central location in the district and interviewed. In total, **nine FGDs** were concluded with a total of **65 participants** from health co-management or water committees and **eight end-users** beneficiaries. Of all the participants in the FGDs, 44% were women (see [Annex 4](#) for additional breakdown).
- **A rapid digital survey** was conducted as a means to reach a critical mass of HCF stakeholders involved in the program. It was tested in the last quarter of 2024 and ran for three weeks early 2025. It took approximately 20 minutes to fill per respondent and was administered in Portuguese using an online survey platform. The online survey tool used both closed and open-ended questions. A total of **49 participants** responded to the online survey, of which 43 responded to all questions and 6 only provided partial answers. Of all the respondents, 35% were women. Overall, the response rate was in line with the targeted 48 responses (see sampling below). See [Annex 4](#) for additional breakdown.
- **Quantitative and cost information** were collected as secondary data to inform our analysis of program results to date and cost per output and beneficiaries (See [Annex 5](#)).

Study sampling

The study covered three of the provinces where the WASH in HCF initiative has been implemented since 2018, namely **Nampula, Zambezia and Sofala provinces**. Tete, Niassa and Cabo Delgado were excluded as construction of WASH services was humanitarian in nature related to cyclone emergency response. Niassa was included as part of WinHCF initiative after 2024 and therefore falling outside the sampling period.

A **purposive sampling** approach was used to capture a representative range of experiences and feedback from different groups of study participants. Additional convenience sampling, including safety and operational criteria, was considered to select sites for fieldwork. Within the time and resources available for field work, it was anticipated that two teams of two researchers could visit 24 HCFs (12 HCFs per team) across eight districts and conduct two FGDs per province.

The 126 HCFs that had completed all program implementation stages (i.e. targeting, design and supervision procurement, design/costing, civil works procurement, construction, post-construction) were used as sampling frame to

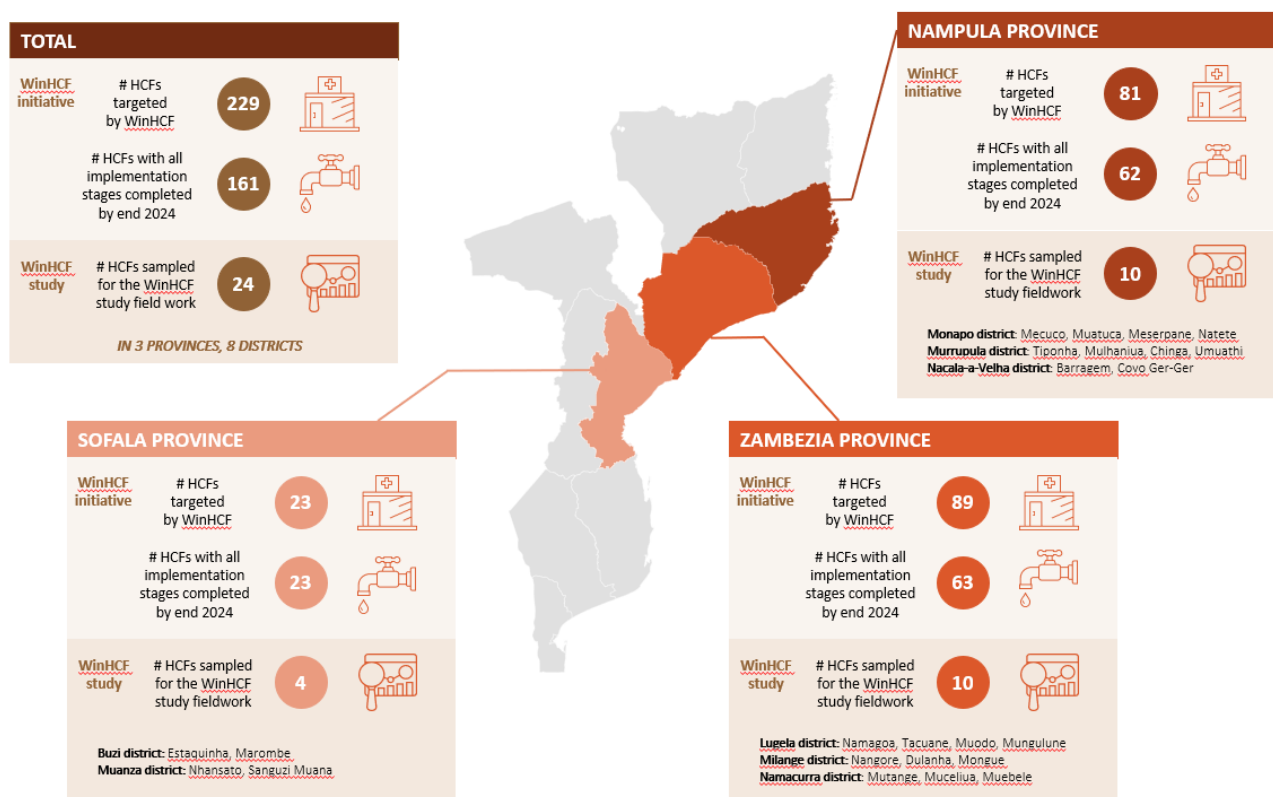
select the 24 HCFs. Selection criteria included different periods of post-construction i.e. one, two, three years, distance from the district center, different design and construction contractors and funders of the WASH in HCFs. In each selected HCF, the head, the person responsible for infection prevention and control (IPC) or O&M, and another health care provider such as maternal and child health nurse, were purposively targeted for KIIs. The two sites per province to conduct FGDs were selected from the eight districts selected for HCF visits, based on convenience considerations. FGDs participants were based on representation from different targeted groups (water management or co-management committees and end-user beneficiaries or caregivers) that lived close to the HCF and were available on the day of the interviews.

Other **key informants were purposively selected** and prioritized based on their involvement in the WASH in HCF initiative, their ability to provide information on the lines of enquiry and their availability for interview. In particular, the sampling aimed to achieve representation of the different participants groups, representation of different levels of implementation (national, province, district), ability to provide feedback and experience on different levels of program implementation stage and gender balance where possible. District representatives were selected from the eight districts where HCF KIIs took place.

The **online survey**, however, **targeted all 126 HCFs** of the first three phases of construction (2019 – 2024) that initiated or completed the infrastructure construction process as part of the WASH in HCF Initiative at the time of the study design, with each HCF requested to send a single response. A 30% response rate was targeted.

Figure 2 presents the number of HCFs targeted by the UNICEF WASH in HCFs initiative as well as study sampled districts and number of sampled HCFs in each of the eight sampled districts. It does not show the three provinces additionally supported by UNICEF but which are not part of the study sample, i.e. Tete, Cabo Delgado and Niassa. [Annex 4](#) provides further details on planned and achieved sample for the different study methods and participants groups.

Figure 2 - WASH in HCFs initiative and study sites map up until end of 2024



Data management

In the data collection process, there were two teams that covered different districts. Key notes were taken in all interviews and FGDs. In addition, recordings were made and used to check or clarify issues, if required. All recorded KIIs

were transcribed and anonymized with a brief description of the interviewee, gender and location, category of informant and location. Where the FGDs were conducted in local languages; notes were taken.

All documents and data were stored securely on computers, which were password protected. Data was anonymized before analysis and when reporting the results of this study. No identifying information is reported in the findings.

At the end of the study, records will be retrieved from all members of the study team and retained by Tropical Health (access is limited to a senior staff member, usually the Head of Program and Operations, and back-up access may be given to another member of the headquarter team) for four years.

Data analysis

The research matrix (see Annex 2) provided a framework for combining the data from our mixed methods and synthesizing the main results. Overall, our analyses consisted of the following:

- **Qualitative data:** The thematic analysis of all qualitative data from the transcripts and literature/documents reviewed broadly followed the "Framework" approach¹⁶: a pre-existing coding framework was developed based on the scope of investigation, to which codes were added as the data was reviewed. This supported an iterative approach to data collection and analysis, allowing to continually add new data and expand the thematic framework as the analysis progressed.
- **Quantitative descriptive and comparative analysis** was undertaken to inform the study sampling and identify trends in UNICEF program performance as well as facilitators and barriers to success and HCF WASH infrastructure compliance with JMP service ladders. As part of the study, available indicators were reviewed with UNICEF during the inception period. When possible, HCFs were compared across the years of construction, considering different HCF WASH infrastructure characteristics.
- **Cost data:** Descriptive and comparative cost analysis was undertaken to identify trends of costs per HCF and beneficiary, where feasible, with beneficiaries being the population served by the HCF and/or patient throughout, depending on data availability. Costs were limited to those incurred by UNICEF.
- **Synthesis:** The final phase of the analysis synthesized the results across different research questions and contexts to generate conclusions, lessons learned, and recommendations by topic. Data from all sources were triangulated to validate the results.

Quality assurance

Assessment methods and tools were clearly documented, and all relevant team members were trained in their use. In-country, the team leader supervised the work of the team members and ensured quality. Study tools were first tested and revised, as needed. During primary data collection, daily checks and data sharing were organized between the two teams to ensure that the agreed methods were followed and to review the quality of the data collected. The senior experts of the international Tropical Health team were responsible for quality assuring the method development, analysis, synthesis and all study outputs prior to their submission to UNICEF Mozambique. The UNICEF Mozambique team also reviewed all research outputs to confirm that the research results have met the research objectives and that the products are appropriate for the intended audiences. Key draft findings were shared with the Ministry of Health, Department of Environmental Health, WHO and other key stakeholders to validate the results.

Ethical considerations

Ethical clearance for the study was obtained from the UNICEF contracted Bioethics Committee. Strict ethical standards were maintained throughout the study, including but not limited to:

- The inception report, questionnaires and research protocols were all approved by the UNICEF contracted Bioethics Committee.
- All members of the study team completed the UNICEF Ethics in Evidence and Prevention of Sexual Exploitation and Abuse courses and signed safeguarding protocols.

¹⁶ Pope et al., 2000

- All staff working on this study had confidentiality requirements as part of their contractual obligations with Tropical Health and only relevant members of the study team had access to specific files, in accordance with their respective roles in the study.
- Risks were monitored throughout the field collection period by the in-country research team, and the Tropical Health headquarter team to ensure the safety, security and health of our research personnel and the general population.
- Informed consents were obtained from all participants in the KII, FGD and online survey, including specifically for participants' contributions to be audio recorded during KIIs and FGDs. All consent forms and signed records were stored in a secure location, e.g. in password-protected files, in accordance with GDPR requirements.
- Data were de-identified and labelled by informant categories for the analysis stage.

2.4 Study limitations

The study presents a few limitations as follows:

- *Delays in study implementation and report finalization* - While the original study terms of reference estimated that the study could be completed in six months, various delays were experienced due to factors external to the study team, such as the time taken to obtain administrative and ethical approval to proceed with the study, the unavailability of stakeholders during holidays and other periods when government offices were closed, and security concerns that prevented fieldwork from proceeding according to the original schedule. There were also delays in the finalization of the report due to incapacitation of two of the study team members. These delays reduce the timeliness of the study outputs, delaying the identification of lessons learnt and recommendations for program improvement. The program itself, however, is likely to have been similarly affected by some of these external circumstances and would therefore have had limited opportunity to act on the study findings had they been available earlier.
- *Limited in-person data collection due to security concerns* – Security related risks were heightened in the weeks before and after Mozambique's October 2024 general elections. As a result, due to time constraints, the study team was able to conduct face-to-face data collection in Nampula and Zambezia, but not in Sofala. The fieldwork, however, was able to be successfully concluded with limited disruptions to the program by the civil protests, with all 20 targeted HCF being visited in Zambezia and Nampula. The study adapted the data collection approach for Sofala province to telephone and virtual KII interviews, with eight of the nine targeted KIIs completed, while FGDs were not possible. This means that the study did not reach all the intended study participants, nor observe WASH services in those 4 targeted HCFs, and nuances to the current findings or other findings may have been missed.
- *Purposeful sampling* - The methodology used a purposeful sampling approach and therefore findings are not generalizable across the program. However, the study team drew on experiences from across three provinces, triangulated findings between KIIs, FGDs, online survey, and secondary data, where available.
- For the quantitative data analysis, limited data was available to analyze differences across time and location. Currently there are no WASH in HCFs indicators in the routine health information system (SIS-MA). Performance scorecards have not been rolled out across all districts nor all HCFs in those districts, and WASH-FIT data is incomplete. Estimates of some HCFs basic indicators were used for cost analysis and for triangulation with the qualitative data.
- In the qualitative research, potential recall bias exists, particularly in those health centers that completed infrastructure construction furthest from the data collection period.
- For the online survey there is a potential for acquiescence or agreement bias on the online survey due to multiple statement questions. That is, survey respondents could tend to agree with statements, without the action being a true reflection of their own position or the question itself. Results may have been geographically skewed as the respondent numbers were not uniformly distributed across the provinces.

3 Study findings

This section starts with an overview of overall progress to date. The research questions #1-5 (i.e. implementation status, influencing factors, aspects to be strengthened, aspects to be discontinued and gaps) are thereafter responded to in relation to the 8-step approach for WASH in HCFs (see below). It ends with findings on cost considerations in answer to research question #6 and with some discussions on sustainability.

3.1 Overall progress

Program key milestones achieved

As there are currently no defined targets or reliable data available to measure progress against expected results or impact, the study team developed a **visual timeline** (Figure 3) to summarize the **key milestones** achieved with UNICEF support under the WinHCFs initiative **over the past six years**. These achievements are explored in greater detail in the subsequent sections of the report.

A marked increase in technical assistance activities was observed in 2024–2025, including the development of a national roadmap and several actions to strengthen the rollout of WASH-FIT. While most of these activities were still ongoing at the time of the study and could not yet be assessed, their prioritization is encouraging, as they directly address key findings identified by this review and are critical to the program's long-term success.

Program progress against the WHO-UNICEF 8-step WinHCFs framework

Figure 4 presents the **study team's assessment of Mozambique's progress under the UNICEF initiative by the end of 2024 against the eight steps of the WHO–UNICEF WinHCFs framework**, along with a brief justification for each rating.

The following sub-sections present a detailed analysis of progress under each of the eight steps. Each begins with an extract from the overall 8-step progress visual to illustrate the study team's assessment and justification. The analysis for each step is structured under four subheadings: **findings**, **discussion**, **conclusions**, and, where applicable, **recommendations**. This approach allows for a systematic examination of achievements, challenges, and lessons learned, while situating Mozambique's progress within the broader WASH in HCFs evidence base and international experience.

Figure 3 - WASH in HCFs initiative key milestones achieved with UNICEF support, 2018-2025

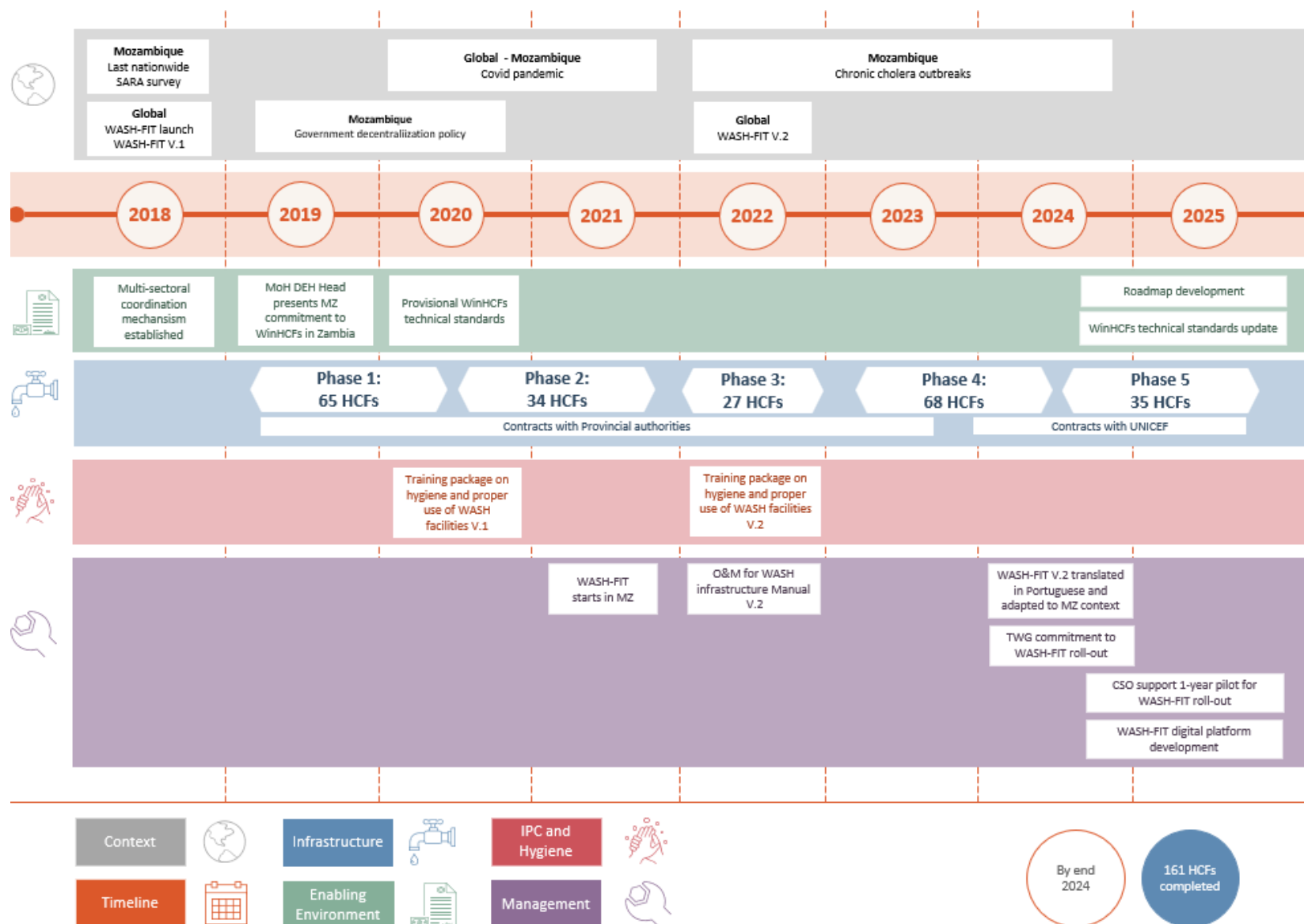
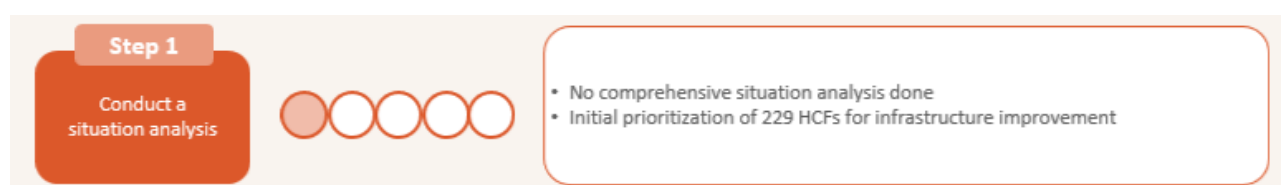


Figure 4 - Mozambique implementation level from the UNICEF WinHCFs initiative against the WHO-UNICEF 8-step WinHCFs framework by end 2024

Step	Implementation level	Justification
Step 1 Conduct a situation analysis		- No comprehensive situation analysis done - Initial prioritization of 229 HCFs for infrastructure improvement
Step 2 Set targets and define roadmap		- Consultant hired by UNICEF to support the development of the roadmap - Country targets not yet established
Step 3 Establish national standards and accountability mechanisms		- Provisional standards developed; currently being updated with TA support from UNICEF - Fragmented government leadership - Coordination mechanism set-up facilitated by UNICEF but not working optimally - Unclear accountability lines for O&M post hand-over
Step 4 Improve and maintain infrastructure		161 HCFs with improved infrastructure; on track to meet target 229 HCFs by 2026 - Demonstrated adaptability to address issues during construction - O&M not functioning due to lack of clear responsibilities, funding and capacity 1/3 of the 24 sampled HCFs had no functioning water at the time of this study
Step 5 Monitor and review data		- Absence of an integrated data repository for WinHCFs - WinHCFs Indicators to be included in national HMIS awaiting approval - Limited use of performance score cards - WASH-FIT data, where available, not used for decision making at various levels - CSO recently hired by UNICEF to support WASH-FIT roll-out - CSO recently hired by UNICEF to develop a digital WASH-FIT data platform
Step 6 Develop health workforce		- Training in O&M of district and HCF staff and community members, hygiene and correct use of WASH facilities and in WASH-FIT supported by UNICEF - Training to be updated, consolidated and integrated in broader health training packages - Sub-optimal supervision due to lack of capacity and funding
Step 7 Engage communities		- Communities largely involved in discussions prior to infrastructure work - Community members trained in hygiene and correct use of WASH infrastructure - Community involved in O&M but role not clearly defined - Raising community funds for O&M has had mixed results
Step 8 Conduct operational research and share learning		- This study is the first attempt to do implementation research and document lessons learned - No learning sharing mechanism in place

3.2 Situation analysis



Findings

A comprehensive situation analysis has not been conducted to inform the design of the WASH in HCFs initiative in Mozambique. UNICEF began implementation by investing in infrastructure at decentralized levels, creating a national multi-sectoral coordination group, and developing provisional standards.

In the absence of a specific baseline for WinHCFs, the **2018 Service Availability and Readiness Assessment (SARA) survey results** were used to analyze national WASH coverage. **Prioritization of the HCFs for infrastructure improvement used different approaches** depending on the funding source. In the case of USAID funding, a list of HCF were provided by the donor, while for the MoH World Bank program scorecard performance, water availability and number of births were used. In other cases, the Provincial Health Directorate (DPS) and District Health, Woman and Social Action Services (SDSMAS) in consultation with UNICEF, used a variety of selection criteria that included population size, care-seeking behavior, presence of maternity services, availability of a water source and sanitation facilities, and vulnerability to epidemics such as cholera. UNICEF also considered donor priorities, the presence of other UNICEF projects in the same geographic area, and available funding.

Provincial health services interviewed during this study positively acknowledged the **participatory nature** of this process, which involved both provincial and district authorities in decision-making.

Discussion

Globally, various events have catalyzed countries to initiate WASH in HCFs activities. Beyond the **Global Call for Action (2019)**¹⁷, triggers such as natural disasters (e.g., earthquakes in Nepal, floods and cyclones in Mozambique) and health emergencies (e.g., Ebola in Liberia and COVID-19) have prompted engagement on WinHCFs.

According to the **UNICEF/WHO Global Progress Report (2025)**¹⁸, 101 countries, including Mozambique, report on progress against the eight WHO–UNICEF practical steps, with differing levels of advancement. The greatest progress globally has been in **establishing baselines, conducting situation analyses, and developing standards**. From 2020 to 2025, the number of countries completing a situation analysis and implementing its recommendations increased from **13 to 30** facilitating progress on other steps such as standard setting and infrastructure improvements. Countries that conducted a situation analysis benefited from a **comprehensive understanding of their context, stakeholders, and system challenges**, enabling better strategic direction, prioritization, and focus.

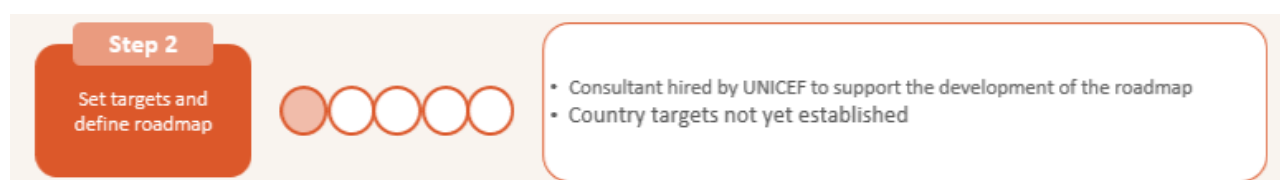
Step 1 – Situational analysis - Conclusion

The absence of a comprehensive situation and political economy analysis at the outset of WinHCFs in Mozambique likely constrained strategic planning, resource mobilization, and advocacy efforts, and may help explain the slower-than-expected progress in implementation.

¹⁷ B144_R5-en Resolucao WHO OMS WASH nas unidades sanitarias health care facilities 2019

¹⁸ As footnote 13

3.3 Set targets and define roadmap



Findings

At the time of this study, **work had begun on developing a national roadmap** that will provide an opportunity to establish **country targets** for the WinHCFs initiative.

An **external consultant** was engaged by UNICEF at the end of 2024 to support the TWG in the development of the roadmap which should be finalized by the last quarter of 2025. The roadmap is expected to align with the strategic direction of the WinHCFs initiative and provide a **costed plan of action** with clear targets to monitor progress. It should include a **situation analysis**, definition of targets and priorities based on risk factors (maternal and neonatal mortality, malnutrition, cholera-prone areas, etc.), delineation of roles and responsibilities, specification of required materials and equipment, and cost estimates.

The roadmap will be developed through **consultative meetings and technical** discussions is intended for use by all health sector stakeholders involved in HCF design, construction, rehabilitation, and management. The roadmap will promote and maintain WASH services across all HCF levels, aligned with national standards for water (quantity, quality, availability, access), sanitation, hygiene, environmental cleaning, health care waste management, and overall management systems (planning, budgeting, monitoring, and reporting).

The development and finalization of the roadmap will also provide the foundational requirements necessary to move forward with the **Investment Plan**, referenced in the programme ToC.

Discussion

A **WASH roadmap** is critical for guiding sustainable improvements in HCFs, providing a strategic and costed framework that links objectives, actions, financing, and monitoring. It helps countries move beyond ad hoc interventions and ensures alignment with national and global commitments on quality of care and infection prevention.

However, progress globally has been limited. The **2025 WHO/UNICEF Global Progress on the Fundamentals Report**¹⁹ notes that only **14% of 101 countries** reporting to the JMP had made substantial progress in developing or implementing costed roadmaps. Common constraints include challenges in cost estimation, limited technical support, weak cross-sectoral coordination, and difficulties in mobilizing resources.

Countries that have developed costed roadmaps—such as **Liberia**²⁰, **Ghana**²¹, **Papua New Guinea**²², **Malawi**²³, and **Ethiopia**²⁴—typically adopted a **participatory, multisectoral approach** facilitated by a consultant and technical working group. These processes involved assessing current WASH activities, identifying strengths and gaps, setting targets, and prioritizing actions along the WASH value chain. Success was linked to strong ministerial engagement and adaptive financing strategies recognizing contextual diversity rather than uniform models. For example, Ethiopia’s process took 12 months for development and an additional six for launch, with finance strategies customized by context²⁵.

Roadmaps are generally **medium- to long-term documents (5–15 years)** aligned with national development strategies. Even in their absence, a **costed implementation plan** can enable resource mobilization and action planning. The

¹⁹ WHO/UNICEF WinHCFs Progress on the Fundamentals 2025

²⁰ Republic of Liberia National Public Health Institute of Liberia and Ministry of Health

²¹ Ministry of Health, Ghana. 2020. National Strategy for Water, Sanitation and Hygiene-Infection, Prevention and Control in Healthcare Facilities.

²² Papua New Guinea National Department of Health, 2023, National Roadmap for Improving WASH in Health Care Facilities 2023-2030

²³ Government of Malawi, Ministry of Health, Water sanitation and hygiene in health care facilities roadmap. 2022

²⁴ WaterAid, 2023 Developing and costing national Hand Hygiene for All roadmap - Experiences and Learnings from Ethiopia.

²⁵ WHO and UNICEF Global Report on the Fundamentals 2025

development of the Mozambique roadmap will be an important step to translate policy intent into implementation and concrete results.

Step 2 – Set targets and define roadmap - Conclusion

According to the **2025 WHO/UNICEF WinHCFs Progress Report**, the development of national roadmaps remains the **least advanced area** globally under the WinHCFs framework. Mozambique’s recent progress in the development of a **costed national roadmap**, led by TWG and facilitated by a UNICEF consultant, represents a critical advance to provide strategic direction, establish realistic targets, and structure the country’s approach to WASH in HCFs.

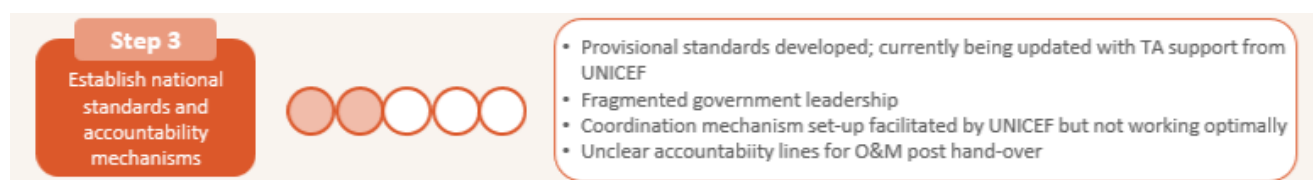
Step 2 – Set targets and define roadmap - Recommendations

R1

Finalize the development of the costed roadmap with measurable targets

Finalize UNICEF’s support to the Department of Environmental Health (DEH) in the Ministry of Health to ensure a fully consultative process that engages representatives of multi-sector stakeholders, including communities and gender, equality and social inclusion (GEDSI) and focused civil society organizations (CSOs).

3.4 Establish national standards and accountability mechanisms



3.4.1 National standards

This section reviews both the policy environment and technical standards for WinHCFs, as standards operationalize policy by translating strategic commitments into implementation guidance and practice.

Findings

Policy Environment - Mozambique does not yet have a specific WinHCFs strategy. However, the **new Environmental Health Strategy (2025–2032)** currently under development provides an opportunity to integrate WinHCFs, particularly through the roadmap, standards, and WASH-FIT implementation. The **National Health Strategic Plan (2020–2024 extension)**—now under revision—includes only limited WinHCF-related interventions: **improved hospital waste management** as a **Department of Environmental Health (DEH)** intervention, and **IPC and hospital-waste-management training for health-care providers and equipment** as a **Department of Nursing** intervention. Other WASH-related actions remain focused at the **community level**, including access to clean water, basic sanitation, health education and promotion, and climate resilience. WinHCFs currently has no dedicated interventions or budget lines.

Mozambique has existing guidance covering the five WASH in HCF strategic areas—**water, sanitation, hygiene, medical waste management, and environmental cleaning**—but most documents are outdated, awaiting approval, or not fully disseminated. Alignment across related health programs also needs strengthening. Examples include:

- **Water and sanitation:** Technical standards are being updated and will inform national targets.
- **Hygiene and environmental cleaning:** IPC guidelines are under revision; an operational plan has been developed but not yet approved.
- **Waste management:** The biomedical-waste-management regulation (2022) is updated and approved, with an accompanying operational plan.

- **Infrastructure:** Guidelines on climate-resilient health infrastructure, developed with UN-Habitat, await approval. The **O&M manual for WASH infrastructure** was last updated in 2022 with UNICEF support.
- **Emergency preparedness:** COVID-19 and cholera response plans have been approved; a strategic plan for cholera elimination is under development.
- **Gender:** A national MoH gender policy guides integration of gender issues across health programs.

Stakeholders emphasized the need to ensure alignment of WinHCFs with other national policies and programs, such as emergency preparedness, maternal and child health (MCH), nutrition, and health promotion, and to expedite approval and dissemination processes for relevant documents.

Standards - Before this UNICEF-supported initiative, **no national WinHCFs standards** existed in Mozambique, making performance monitoring difficult. In 2019, **provisional WASH in HCF standards** were developed with UNICEF support, based on global norms and provisionally approved during the COVID-19 pandemic. Box 1 lists the parameters for which minimum technical standards are defined in the document.

The **provisional standards require updating and alignment** with WinHCFs objectives and related programs (e.g., MCH, IPC, climate adaptation). A consultant was recruited in late 2024 to support the standards technical working sub-group, with completion expected by late 2025. **Stakeholders stated that the main constraint for any policy document is the length of time taken to complete the documents due to competing agendas of stakeholders, getting them approved and disseminated, which has hampered** the implementation and monitoring of progress of the program.

Updated standards will be essential for the roadmap, target-setting, and investment planning, as well as for developing **standard operating procedures (SoPs)**, job aids, and guarantee a wide dissemination either through the Telessaude platform or at the HCF level. During site visits, the absence of SoPs and guidelines at HCF level was noted as a key constraint to effective implementation and monitoring.

Box 1 – 2019 provisional technical standards covered

- Water quality, supply, source protection, and quantity per patient
- Number and location of water points
- Number of toilets per location
- Technical specifications for sanitation facilities
- Solid and liquid waste management of different products with minimum protection and relative distance within the HCF
- Laundry and kitchen water standards
- Environmental cleaning procedures
- Safe energy source parameters

Discussion

The COVID-19 pandemic underscored the importance of WASH services and the necessity of revising waste disposal and environmental cleaning standards. Mozambique leveraged the pandemic to develop and provisionally approve norms and standards based on WHO guidelines; however, their implementation and dissemination were limited.

Globally, **58 percent** of reporting countries (101) have reviewed and fully implemented health-care-waste standards and **42 percent** have done so for WASH standards²⁶ (WHO/UNICEF Global progress Report 2025). A substantial number of country standards documents and guidelines are available on the WHO/UNICEFWASH in HCFs website. Countries that have finalized and disseminated updated standards—such as **Nepal (2021), Uganda (2021), Bangladesh (2023), Palestine (2023), and Malawi (2024)**—have integrated **climate resilience, emergency preparedness, and gender and disability inclusion**. Others, including **Mali, Ukraine, and Tajikistan**, have focused primarily on waste-management or environmentally friendly approaches.

Motivation plays a significant role in the adoption of standards and best practices by HCF staff. To achieve and maintain WASH targets, other countries have introduced **incentive and accountability mechanisms**, including accreditation schemes linked to insurance reimbursement (Ghana²⁷), certification initiatives (Nepal²⁸ and Bhutan²⁹), and national

²⁶ WHO/UNICEF WinHCFs Global Progress Report 2025

²⁷ Escribano-Ferrer B, Cluzeau F, Cutler D, Akufo C, Chalkidou K. Quality of Health Care in Ghana: Mapping of Interventions and the Way Forward. *Ghana Med J.* 2016;50(4):238-247. doi:10.4314/gmj.v50i4.7

²⁸ WaterAid (2021) Nepal Case study Journey of WASH in HCF National Standard endorsement

²⁹ Water for Women Fund. 2021. Working collaboratively to improve WASH systems in Bhutan's health care facilities.

competitions or ranking systems (Madagascar³⁰). **Rwanda**³¹ applies a performance threshold model requiring staff to maintain scores above 70 percent. Engaging users and communities to review and provide feedback on WASH services also helps triangulate data. The ongoing **WASH-FIT rollout** in Mozambique provides an opportunity to introduce similar **non-financial incentive mechanisms** to recognize or certify facilities based on compliance with standards.

Mozambique’s ongoing standards revision offers an opportunity to **align existing guidance** across IPC, environmental cleaning, MCH, infrastructure, and emergencies; integrate cross-sector elements such as climate resilience, gender, and inclusion; and ensure **wide dissemination and accessibility**. National standards must be practical, enforceable, and available at all HCFs, as well as available through electronic platforms such as Telessaúde, to enable effective monitoring and accountability.

3.4.2 Accountability mechanisms

UNICEF defines the enabling environment in the context of WASH in HCFs as “one that creates the conditions for a country to have sustainable, at-scale WASH services in health facilities, and supports the achievement of the SDGs of universal WASH access (SDG 6) and healthy lives and wellbeing for all at all ages (SDG 3), especially for the most vulnerable populations, in emergency or humanitarian settings, urban or rural contexts, in times of both stability and crisis.” Furthermore, UNICEF works to create conditions for sustainable, gender-sensitive, at-scale WASH services by focusing on **policies and capacity building**, and by **advocating for increased prioritization and funding** of WinHCFs across all levels of the health system. In practice, an effective enabling environment relies on **robust accountability mechanisms** that ensure policy commitments are translated into coordinated action, adequate financing, and inclusive service delivery. This review therefore examines the key components that jointly underpin accountability for WinHCFs in Mozambique, i.e. **leadership and governance, coordination, budget and advocacy, and GEDSI mainstreaming**.

Findings

Leadership and Governance - Effective WinHCFs implementation requires strong leadership from the **MoH** and sound governance at all levels. The **DEH** is the designated lead for the WinHCFs program. The national WinHCFs program involves departments across **four MoH Directorates**, namely Public Health, Medical Assistance, Planning and Cooperation, and Management and Quality Assurance, and relies on collaboration with the **Ministry of Public Works, Housing and Water Resources (MOPHRH)** for infrastructure and the **Ministry of Finance** for budget allocations in line with the National Development Strategic Plan and the National Health Strategic Plan.

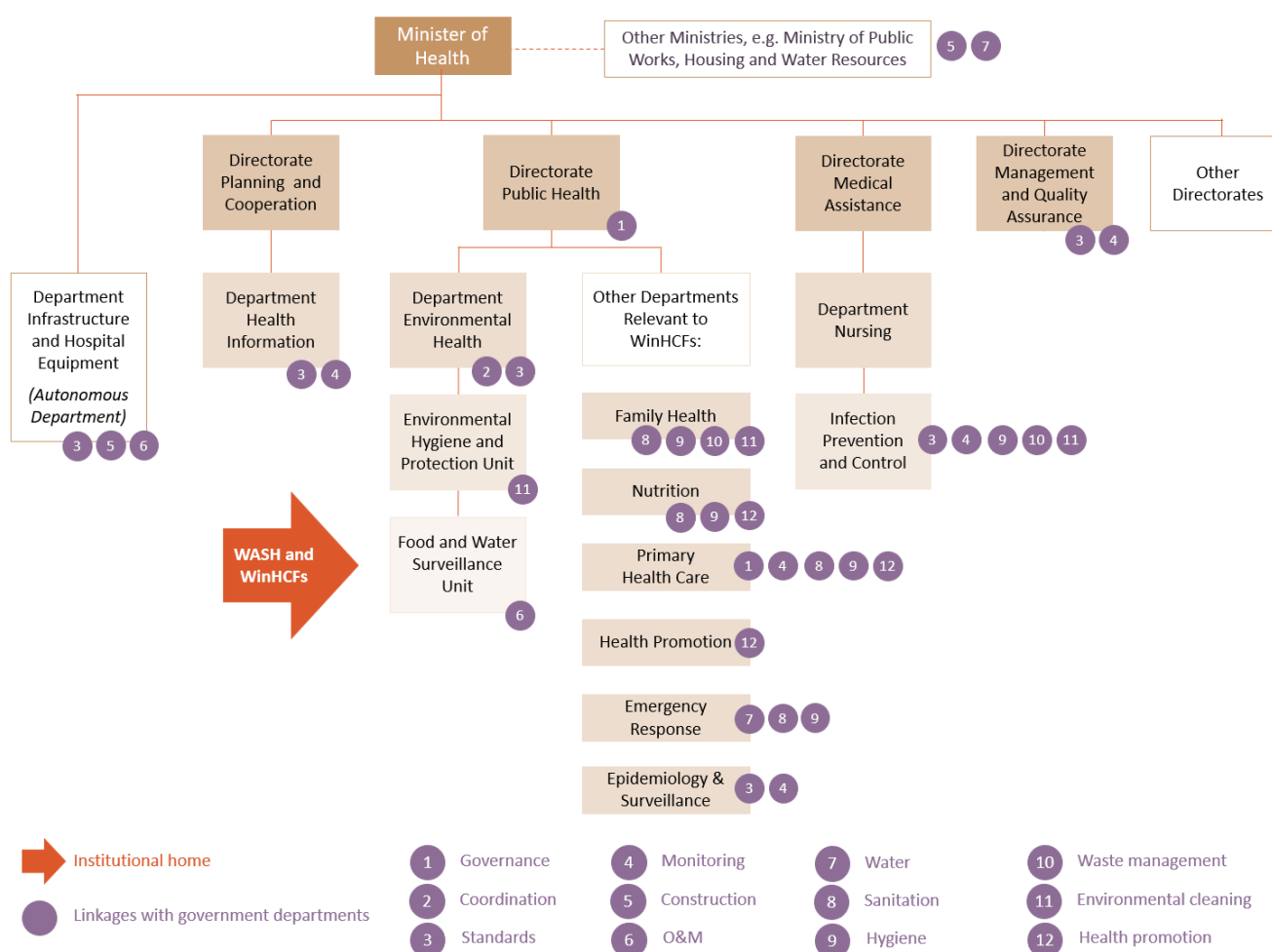
As shown in **Figure 5**, the WinHCFs program falls within the **Directorate of Public Health**, under the DEH, managed by the **Food and Water Surveillance Unit** and overseen by the **Environmental Hygiene and Protection Unit**. This placement reflects limited program visibility and prioritization within the broader MoH structure.

While there are communication and collaboration among departments, this occurs mainly during emergencies rather than as part of regular planning and implementation. At the national level, stakeholders noted that formal protocols and competing priorities further constrain coordination. The **absence of a dedicated budget line** and lack of WinHCF indicators in strategic documents reduce DEH’s influence. Several stakeholders described WinHCFs as **donor-driven**, with the coordination group perceived as **UNICEF-led** rather than MoH-led. Going forward, UNICEF may find it beneficial to more clearly distinguish the national, government-led and multi-donor nature of the WinHCFs initiative from the specific technical and financial support it provides, to reinforce government ownership and visibility.

Accountability mechanisms across the health system are weak. Supervision and audits are limited by funding shortages, and while performance-based incentives were piloted for specific programs (e.g., HIV/TB and “model maternity” certification), none have been institutionalized and for WASH. Both DEH and the IPC Department are currently considering a **certification scheme** for HCF performance.

30 WHO and UNICEF. 2019. Water, sanitation and hygiene in health care facilities: practical steps to achieve universal access

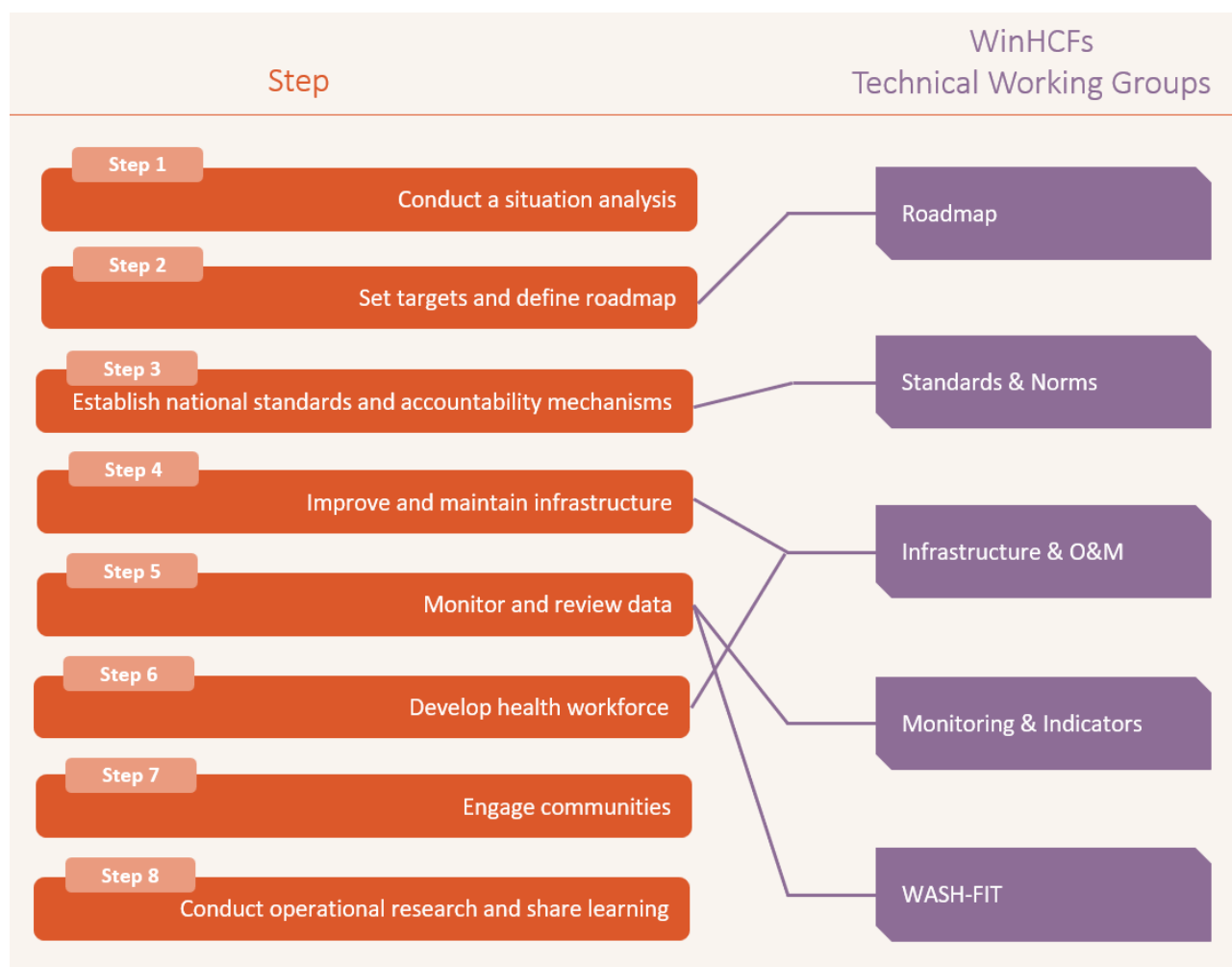
31 World Health Organization. Achieving quality health services for all, through better water, sanitation and hygiene. Lessons from three African countries. Geneva: World Health Organization; 2020.

Figure 5 - WinHCFs within the National MoH structure and linkages with relevant departments³²

Coordination - UNICEF supported the establishment of a **national multisectoral coordination group** for WinHCFs in 2018, led by the **Department of Environmental Health (DEH)** and comprising MoH directorates, the **Ministry of Public Works, Housing and Water Resources (MOPHRH)**, WHO, WASH partners, NGOs, and initially donors such as the **Swiss Development Cooperation (SDC)** and the **World Bank**. Five **technical working groups (TWGs)** were created to address key areas—**roadmap, standards and norms, monitoring/indicators, infrastructure & O&M, and WASH-FIT**—each co-led by MoH staff with support from partners (UNICEF, WHO, Helvetas, WaterAid). Figure XXX below maps the remit of each TWGs to the WHO-UNICEF 8-step framework, showing that each TWG covers one or more of the 8 steps. However, not all eight steps are covered by a TWG and the TWGs are activity-based rather than ongoing areas of work and responsibilities.

³² Boletim da República No. 82, 26 May 2017; DEH, pers. comm.

Figure 6 – WinHCFs TWGs’ remit mapped against the WHO-UNICEF 8-step framework



To help **advance specific TWG tasks** amid competing government priorities, **UNICEF engaged technical consultants**; this support focuses on content delivery and outputs, not on convening or facilitating the main coordination meetings.

Coordination **meetings for the main national group**, intended to occur quarterly, have been **inconsistent**—typically once or twice a year—due to leadership changes, elections, and other priorities. Participation fluctuates (≈20 active members from ~10 institutions), with irregular attendance, rotating representation, and limited engagement was reported. The coordination group would benefit from widening CSO stakeholder participation such as World Vision (child and nutrition projects), CSM and Mentor who are currently involved in the WASH-FIT roll-out and InterAide’s WASH program in Nampula. Mapping of WinHCFs stakeholders was attempted last year by the WinHCFs coordination group through a short online questionnaire but is not complete but would also be useful for the development of the roadmap. Stakeholders suggested occasionally holding meetings outside the MoH or providing connectivity support would improve participation. Meanwhile, **TWGs have continued to meet on an ad hoc basis**, depending on workload and planned activities.

“No, they don’t prioritise participation in this (multisectoral) group, you could say that the technician has other more important activities in the sector. So, the issue of the multisectoral group takes a back seat and so on. So this makes work difficult.” KII024

“Then there are mobility issues. Staff join the groups that are created, but then when it [the activity] gets to the end, when it’s almost completed, then one ends up leaving, ... both from the technical side and from the decision-makers within the institutions. It ends up being difficult, doesn’t it?” KII024

Several key informants noted that **outside emergencies**, the DEH tends to operate in isolation at national level and has **limited visibility of provincial and district activities**. At the **provincial level**, multi-sectoral water and sanitation groups led by the **Provincial Directorate of Public Works (DPOP)** meet mainly during emergencies. At the **district level**, there is no WinHCF-specific coordination structure; instead, WASH topics are integrated into broader monthly meetings. Some

stakeholders considered this integration appropriate given local staff's multiple roles and the impracticality of adding new coordination fora. There is a multisectoral sanitation and nutrition forum that brings together health, infrastructure, education, agriculture and media organizations' (radio) representatives that focuses on the community level, not health facility level.

Budget and Advocacy - Mozambique's health sector budget has declined from around **6.4% (2018–2020)** to **5% (2024)** of the national budget (well below the **Abuja target of 15%**)³³ severely limiting resources for **operations and maintenance (O&M)**, environmental cleaning, and PPE procurement. **Heavy donor dependence** persists across the health sector, including for supervision, compliance monitoring, and capacity building. Several key informants at central and provincial levels cited this reliance as a major factor behind weak performance and limited monitoring data.

Budget execution is also low: only **15% of external funds** were executed in 2021, and **less than 35% of COVID-19 relief funds** were utilized before expiry³⁴. The **costed roadmap** and a performance monitoring framework will help build an **investment case for WinHCFs** and strengthen advocacy for domestic allocations. Given the current low domestic budget allocation, **innovative financing mechanisms** such as performance-based funding, community or private-sector engagement, and district-level funds should also be explored that covers O&M and also broader WinHCFs costs.

UNICEF remains well positioned to support advocacy and policy dialogue, building on its past efforts to establish the coordination group, develop standards and norms, and promote high-level commitment. The **COVID-19 pandemic** temporarily raised the visibility of WASH and IPC within the health agenda; however, this heightened awareness has not yet translated into sustained structural investment.

GEDSI mainstreaming - Study participants highlighted that while awareness of gender and disability inclusion in WinHCFs has improved through policies and training, **translation into practice remains limited**. Respondents noted that while **basic infrastructure features** such as separate toilets, ramps, and grab rails have been incorporated into designs, **other critical needs**—including ensuring privacy, safe disposal of menstrual hygiene products, and soap availability in public sanitation blocks—are often overlooked.

Participants also reported **minimal engagement of gender and disability groups** in policy discussions, standards development, or facility design processes. They emphasized the need for **continuous GEDSI sensitization for all staff**, including supervisors and cleaners, to ensure awareness of diverse user needs and to embed inclusion within daily operations and maintenance of WASH services.

Discussion

A key factor limiting visibility and momentum for WinHCFs in Mozambique is that it has not been framed or institutionalized as part of the **national Quality Improvement (QI)** agenda. In several countries, such as Ethiopia, Rwanda, and Ghana, embedding WASH in HCFs within broader QI or IPC strategies has elevated its political profile, secured cross-departmental leadership³⁵, and linked performance to measurable health outcomes (see Box 2 for examples). In Mozambique, the absence of this framing has contributed to **fragmented leadership** and limited recognition of WinHCFs as integral to health system quality and resilience. Effective leadership and management are crucial for improving and sustaining WASH conditions. Strong leaders drive prioritization, resource allocation, and behavior change, leading to significant improvements, particularly in healthcare facilities (Transform International, 2019³⁶). A study in Uganda found that weak

Box 2. Examples of strong WinHCFs leadership and coordination from other countries

- **Ethiopia:** Integrated WASH in HCFs within its Clean and Safe Health Facilities (CASH) quality improvement program, led by the Ministry of Health. Strong multi-level leadership and regular performance monitoring contributed to national ownership and progress.
- **Rwanda:** Embedded WinHCFs indicators into national performance evaluations. Facility leaders are held accountable for achieving targets; public figures act as ambassadors, and community groups participate in oversight.
- **Ghana:** Adopted a three-pronged approach linking WinHCFs to community health improvement, combining performance scorecards, health committees, and awareness campaigns.
- **Liberia:** Integrated WinHCFs within its national quality assurance and health security plans, ensuring alignment between IPC, WASH, and outbreak prevention efforts.

³³ Think Well, Health financing landscape in Mozambique scoping report 2023

³⁴ World Bank's Mozambique Economic Update: Shifting Gears. October 2022.

³⁵ WHO/UNICEF Water, sanitation and hygiene in health care facilities: practical steps to achieve universal access. 2019

³⁶ Transform International. 2019. Water, sanitation, and hygiene in health care facilities: The global landscape of sustainability

management systems in areas like training, financing, and accountability threaten the sustainability of WASH programs (Isunju et al., 2022)³⁷.

While provisional standards and technical working groups (TWGs) exist, they have not yet been fully operationalized, and information flow between national and provincial levels remains weak. Fragmented leadership, inconsistent coordination, and limited financing continue to constrain progress. An **annual review of the roadmap**, once implemented, supported by sustained multisectoral engagement, would help maintain relevance amid changing priorities and emergencies.

Accountability should also extend to **incentive mechanisms**, including non-financial recognition or certification linked to **WASH-FIT**, and to improved **data transparency** across all levels. Establishing clear reporting systems and feedback loops—from health care facilities to provinces and the national level—will help institutionalize accountability, promote learning, and strengthen the enabling environment.

Step 3 – Establish national standards and accountability mechanisms - Conclusion

Mozambique’s **policy environment provides partial coverage** of WinHCFs areas and the new Environmental Health Strategy (2025–2032) currently under development provides an opportunity to integrate WinHCFs, particularly through the roadmap, standards, and WASH-FIT implementation. The absence of comprehensive, updated, and approved standards has hindered consistent implementation and monitoring. Completion of the revised WinHCFs standards, aligned with related programs and integrated into national strategies, will mark a major step forward, providing the foundation for the roadmap, investment plan, and sustainable service delivery. Mozambique’s **enabling environment** for WASH in health care facilities remains **fragmented**, with limited leadership visibility, weak coordination, and insufficient integration within broader quality and performance systems. The **absence of a QI framing** has constrained recognition of WinHCFs as a driver of health system quality and resilience.

The ongoing development of the **costed roadmap** and **updated standards** provides a critical opportunity to reposition WinHCFs as a **national quality-of-care and patient-safety initiative**. Strengthening coordination mechanisms, accountability, and inclusivity, particularly through gender and disability mainstreaming, will be essential to ensure that policy commitments translate into sustainable improvements in service delivery and health outcomes.

Step 3 – Establish national standards and accountability mechanisms - Recommendations

R2

Continue support to the DEH in completing and finalizing updated WinHCFs standards

Ensure their full alignment with related sector strategies and incorporation into the national roadmap, followed by broad dissemination and use across all HCFs.

R3

Use the roadmap process to reposition and elevate WinHCFs as a quality-of-care initiative

The roadmap development should serve as an opportunity to relaunch WinHCFs with a stronger focus on improving quality of care and the safety of all patients, ensuring the mainstreaming of gender and disability inclusion and climate resilience across standards, planning, and implementation. This includes ensuring the integration and alignment of WinHCFs with QI, MCH and IPC strategies, strengthening collaboration between the DEH and the Department of Quality Management and Assurance on regular performance monitoring and data analysis, and ensuring WinHCFs has greater institutional visibility within the MoH. Increasing visibility could involve identifying a champion either within the department or at a higher political level to ensure sustained commitment and political will.

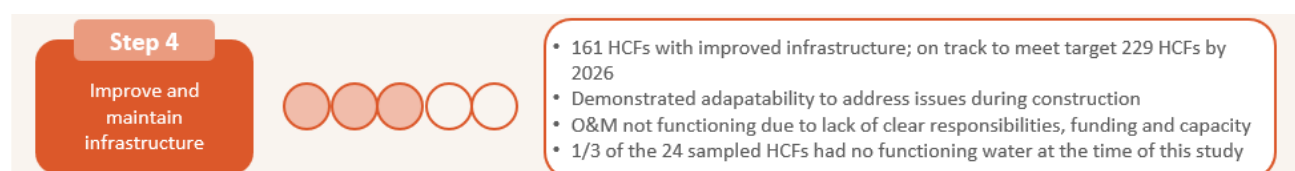
³⁷ Isunju JB, Ssekamatte T, Wanyenze R, Mselle JS, Wafula ST, et al. (2022) Analysis of management systems for sustainability of infection prevention and control, and water sanitation and hygiene in healthcare facilities in the Greater Kampala Area, Uganda. PLOS Water 1(5): e0000021. <https://doi.org/10.1371/journal.pwat.0000021>

R4

Revise the National WinHCFs Multi-sectoral Coordination Group ToRs to strengthen accountability and implementation

Revise the Group's ToRs, composition, and working modalities to ensure regular meetings, inclusive representation, and systematic follow-up on action points. The TWGs should be established as permanent sub-forums focused on tracking roadmap progress, addressing implementation bottlenecks, and ensuring consistent information flow between national, provincial, and district levels.

3.5 Improve and maintain infrastructure



Improving and maintaining WASH infrastructure represents the area where the most tangible progress has been achieved over the six years of program implementation. This section first presents the **status of WASH services** observed in the 24 sampled health care facilities (HCFs), providing a snapshot of current service levels across the five core WASH domains. It then examines the **processes of infrastructure design, tendering, and contracting**, followed by a review of **operations and maintenance (O&M)** systems, highlighting key achievements, constraints, and opportunities for sustainability.

3.5.1 Status of WASH services in sampled HCFs

This sub-section presents findings from direct observation and survey data on the condition and functionality of WASH services in 24 sampled health care facilities (HCFs) across Nampula, Sofala, and Zambezia provinces. The analysis follows the JMP WASH service ladder and assesses progress across five key service areas: water, sanitation, hygiene, waste management, and environmental cleaning.

Figure 6 illustrates the **proportion of facilities meeting each JMP service level** for the five pillars while **Table 3** summarizes the overall WASH service status in each sampled HCFs. It is based on direct observations by the study team in late 2024 except for Sofala where information is based on remote data collection. It is important to note that these are cross-sectional observations, and information on how often the WASH services has broken down or types of repairs required since it was constructed was not available.

Figure 7 - JMP Classification of the five different areas for 24 HCF sampled from Sofala, Nampula and Zambezia

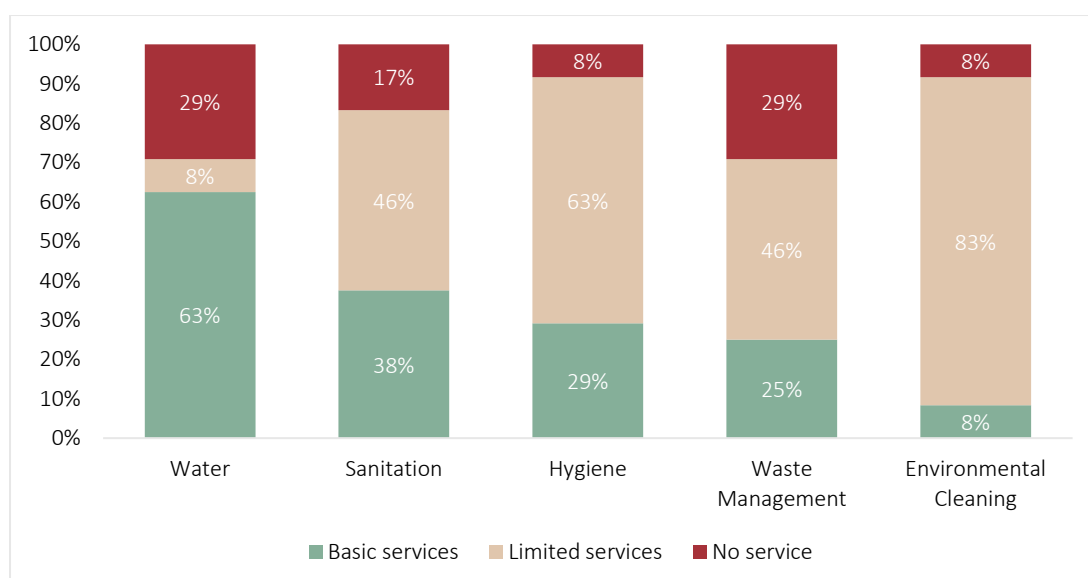


Table 3 - WASH services status in 24 sampled HCFs, December 2024

Province	District	HCF	Phase	Construction year	Water	Sanitation	Hygiene	Health Care Waste Management	Environmental Cleaning
Zambezia	Lugela	Namagoa	1	2019					
		Tacuane	2	2020					
		Muelide	3	2022					
		Mungulune	3	2022					
	Milange	Mongue	1	2019					
		Dulanha	1	2019					
		Nagor	3	2022					
	Namacurra	Muceliua	2	2020					
		Muebele	2	2020					
		Mutange	2	2020					
Nampula	Murrupula	Chinga	2	2020					
		Umuatho	3	2022					
		Mulhaniua	3	2022					
		Tiponha	3	2022					
	Nacala-A-Velha	Covo Ger-Ger	1	2019					
		Barragem	1	2019					
	Monapo	Mecuco	1	2019					
		Meserpane	1	2019					
		Muatuca	2	2020					
		Natete	2	2020					
Sofala	Buzi	Estaquina	1	2020					
		Marombe	1	2020					
	Muanza	Nhansato	1	2020					
		Sanguzimuana	1	2020					

Scale based on Joint Monitoring Programme ladder	Basic service	Water is available from an improved source on the premises.	Improved facilities are usable with at least 1 staff toilet, 1 sex-separate toilet with menstrual hygiene facilities, 1 toilet for people with limited mobility	Functional hand hygiene facilities (with water and soap and/or alcohol-based hand rub) are available at points of care, and within 5 meters of toilets.	Waste is safely segregated into at least 3 bins, and sharps and infectious waste are treated and disposed of safely.	Protocols for cleaning are available, and staff with cleaning responsibilities have all received training.
	Limited service	An improved water source is within 500 meters of the premises, but not all requirements for basic service are met.	At least 1 improved sanitation facility, but not all requirements for basic service are met.	Functional hand hygiene facilities are available at either points of care or toilets, but not both.	There is limited separation and/or treatment and disposal of sharps and infectious waste, but not all requirements for basic service are met.	There are cleaning protocols and/or at least some staff have received training on cleaning.
	No service	Water is taken from unprotected dug wells or springs, or surface water sources; or an improved source that is more than 500 meters from the facility; or the facility has no water source.	Toilet facilities are unimproved (pit latrines without a slab or platform, hanging latrines and bucket latrines), or there are no toilets or latrines at the facility.	No functional hand hygiene facilities are available at either points of care or toilets	There are no separate bins for sharps or infectious waste, and sharps and/or infectious waste are not treated/disposed of safely.	No cleaning protocols are available and no staff have received training on cleaning.

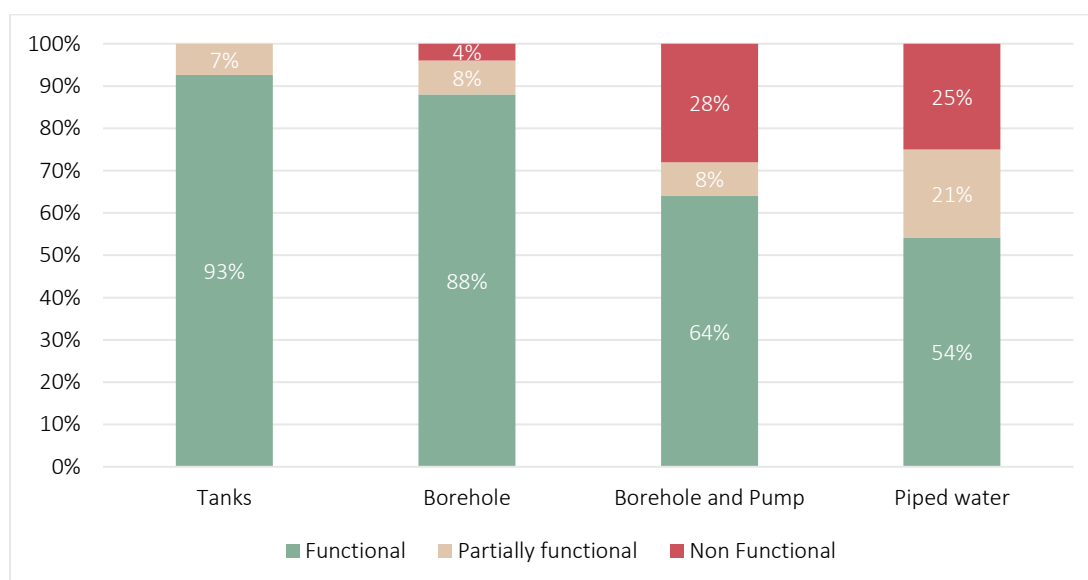
Findings

Water – The water systems observed in the 24 sampled healthcare facilities (HCFs) typically consist of a borehole equipped with a solar-powered pump, connected to one or more 5,000-litre storage tanks mounted on a metal tower. **Where possible, and if the borehole capacity was sufficient to meet the needs of both the HCF and the surrounding community (as verified through a flow test), existing boreholes were reused to serve both groups through a shared standpipe system.** This design aimed to maximize resource use and strengthen community-HCF relations. However, in several locations, this dual-use arrangement caused operational strain: facilities sometimes faced water shortages due to high community demand, leading staff to restrict access or turn off the tap once the tank reached a critical level. In one instance, water scarcity led to community vandalism and, in another, to encroachment on facility land for direct water access.

According to the JMP classification, a basic water service refers to the availability of water from an improved source located on the premises. Of the 24 HCFs assessed, **63% had a basic service, 8% a limited service, and 29% no service.** Seven facilities, four in Zambezia and three in Nampula, had no functioning water system at the time of assessment (see Table 3 above). A further two (8%) HCFs accessed water from nearby community pumps, classifying them as having limited service. Non-available water sources (29%) were collection from unprotected sources, or the source was at a distance greater than 500 meters. The time since the breakdown of the water supply system varied from 2 days to over a year.

Detailed analysis of system components showed that **most technical problems were linked either to the pump and solar panels (36%) or to the piped distribution system (46%),** pointing to weak maintenance system (see Figure 7). The diagnosed pump/solar panels faults were due to poor or burnt connections of solar panels to pump (2), pump motor failure due to faulty valve or burnt switch (2), and two cases where the problem had not been able to be diagnosed. The diagnosed piped water system problems included rusted, blocked and broken pipes or broken or faulty taps. Although these latter problems do not necessarily affect the availability of water at the health center, they will reduce direct access to water at points of care for health providers and users. Observation of the water towers showed that one tower structure was corroded and needed to be replaced, two others had corroded pipes from the tank and had been wrapped in plastic to stop the leaks, making them vulnerable to climatic shocks. Solar panels, used as a sustainable energy source for the pump, were mounted high on towers to prevent theft—an understandable precaution, but one that complicated maintenance.

Figure 8 - Water System Functionality across the 24 HCF sampled



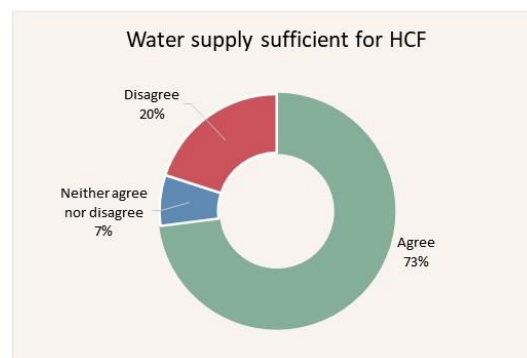
A comparison of system age and performance showed no clear link between construction year and current functionality. Among the seven non-functioning systems, some were as new as 2022, while others dated from 2019–2020, indicating that **maintenance and operational oversight**, rather than infrastructure age, were the primary determinants of reliability. However, this is a cross-sectional observation, and information on how often the water system has broken down or types of repairs required since it was constructed was not available.

From the **online survey**, 23% of respondents stated that the water system was not functioning at the time of the survey and approximately half (52%) stated that there had been at least one breakdown in the water system in the last year. Of the systems currently not working, half had been broken for more than 3 months and 25% for more than 6 months. Reasons given for the water systems not functioning were varied; Insufficient water (14%), broken taps and pipes (31%) and problems with the pump motor (41%). There was a poorly placed solar panel that affected pump action (5%), 14% did not specify the reason and 10% did not know the reason for the breakdown.

Water access and quality were also affected by external factors. In some coastal areas, respondents reported **salinity issues** and seasonal declines in groundwater levels, while others experienced **supply interruptions** when pipes were cut during road construction or by agricultural activity. Only two health centers had functional rainwater harvesting systems, and one had a smaller temporary system (16%) though none were in use during the assessment. Three (16%) HCFs had community hand pumps close to the HCF that could be used as an alternative water source if required.

There were two instances observed by the study team where HCF directors were instructed by district personnel not to turn off the pump (solar powered with no storage battery), and when the tank was full, water would spill out of the overflow pipe from which community members collected water.

From the **online survey**, one-fifth (20%) of respondents disagreed that the water supply was sufficient for their facility's needs; 15% from Nampula, 22% from Sofala and 40% from Zambezia disagreed but the sample size for Zambezia was small (five respondents).



HCF respondents reported limited or no **microbiological or chemical water quality testing** since construction. Routine testing is the responsibility of the Laboratory of Food and Water Quality within the Directorate of Public Health, which also operates three regional laboratories and uses portable test kits in provinces without fixed facilities. Residual chlorine testing kits had arrived in the provinces in early December 2024 but had not been distributed at the time of the study and it was stated that the quantity was insufficient for the needs. Most facilities relied on treating stored water with **hypochlorite solution** for drinking and general use in the HCF.

Overall, the study found that while WinHCFs infrastructure investments have substantially improved water access in many facilities, **system functionality and reliability remain fragile**, largely due to limited O&M budgets, inadequate spare parts, and weak maintenance mechanisms. The findings underline that sustainable water service in HCFs depends not only on initial infrastructure provision but also on clear accountability for upkeep, regular monitoring, and coordination between health, water, and public works departments.

Sanitation - Under the WinHCFs program, construction improvements to sanitation facilities included a toilet, shower, and handwashing station for healthcare providers; sex-separated toilets, showers and hand basins for out-patients with accessible facilities for people with limited mobility; and improved maternity bathrooms equipped with toilets, showers, and basins.

Based on the 24 sampled HCFs, **38% achieved a basic sanitation service, 46% had a limited service, and 17% had no service** (Figure 6). Many sanitation blocks were deemed unusable due to lack of water, access challenges, or privacy issues. Some toilets had been repurposed as storerooms, and in three facilities, the new sanitation installations remained unused because they had not yet been formally handed over to the MoH.

“So, as we didn't have an empty room to leave expired products, we thought that, as that bathroom there isn't used, we should keep the products here until the owners decide to come and take them away, but even so, someone went to spoil that lock to steal those products.”

KII 044

All visited HCFs had ramps with handrails and hand supports, but **minor damage and design flaws** were common—two facilities had broken handrails, and two others required a step up to access. There was a lack of pavement between consultation areas and sanitation blocks to improve wheelchair access. Privacy was also a concern, with approximately **17% of sanitation blocks lacking adequate door fittings or locks**. Menstrual hygiene management (MHM) needs were consistently overlooked. **No bins for menstrual product disposal** were available in female outpatient or staff toilets.

“The question of ramps, as we're in an area with a lot of sand, then for some disabled patients, those who use wheelchairs, it's very difficult for them to push that thing until they can get into the bathroom mainly, then there's no way, because the ramp is too short, they're just to get into the bathroom. [Also] .. there's no pavement to facilitate connections between service areas.”

KII 008

All installations included a septic tank, and while no blocked toilets were observed at the time of the visit, staff reported previous problems—especially with porcelain bowl models. To prevent misuse and blockages, newer installations have replaced porcelain bowls with simpler **pour-flush “Turkish-style” pans**, particularly in Nampula, which staff found more durable and easier to maintain.

Hygiene - Under the JMP classification for WASH services, hygiene focuses primarily on **hand hygiene at points of care and toilets**. Across the 24 sampled HCFs, hygiene service levels were generally inadequate: only **29% achieved a basic service**, while **62% had a limited service**. The most common constraint was the **lack of available water** at hand hygiene stations in toilets and consultation rooms. Where piped water was unavailable, staff relied on **buckets with taps**, prioritizing limited water supplies for consultation areas, maternity wards, and cleaning tasks.

Soap availability was inconsistent. The study team observed that **soap was often missing** at user sanitation blocks and in some consultation rooms, though usually available in at least one consultation room. Several staff explained that soap was removed from the client sanitation blocks at the end of the day or on weekends to prevent theft.

Feedback from health personnel and users indicated that the **kitchens and laundry facilities** constructed under WinHCFs were valued additions but often **non-functional due to design and maintenance issues**. **Of the 21 kitchens and laundries built, only five were fully functioning** (all in Zambezia) **and three partially**. Common design problems included cooking areas not lined with refractory bricks and placement without adequate cover, exposing cooks to sun and rain. In several HCFs, sink taps and waste pipes were broken, often due to poor-quality flexible piping. Similar defects were found in laundry areas, where blocked drains and leaking pipes rendered some facilities unusable; in one instance, laundry tanks filled with stagnant, foul-smelling water as staff awaited district funds to hire a plumber. In a few cases, old toilets were repurposed for laundry or sheets were washed in buckets due to inoperative plumbing.

These findings highlight that even when hygiene-related infrastructure exists, **design weaknesses, poor-quality materials, and slow repair processes** undermine functionality and the overall sustainability of hygiene services essential to infection prevention and control.

Waste management - Improper management of health care waste can cause infection and injury and have serious public health consequences, posing significant risks to staff, patients, and nearby communities. Safe health care waste management involves multiple steps from segregation to transport, treatment and final disposal. Under the WinHCFs program, waste management disposal installations typically included a **locally built Montfort incinerator**, an **ash pit**, a **placenta pit** divided into two compartments for anatomical waste, and a **general waste pit**, and **segregation bins** labelled or colour-coded for collection of anatomical, infectious, sharps, and general waste.

All waste management installations were located away from clinical areas and fenced, as required by design standards. However, several issues were observed during site visits. In four cases, **communities had encroached toward health facility boundaries**, building houses close to the waste management zones. Only two of the fenced areas were properly locked, and community members were occasionally seen entering unaccompanied and without protective equipment. At one facility, staff reported that cultural practices required families to bury the placenta themselves, and relatives were therefore allowed to deposit it directly into the pit, contrary to biosafety protocols. Only two facilities had **properly sealed and locked lids** on placenta pits, while others were either unlocked or in two cases, warped, allowing water entry and vermin access.

From a structural standpoint, the installations were generally sound but inconsistently executed. **Most incinerators were well constructed**, though one lacked overhead shelter for weather protection and three lacked internal bar supports. The **general waste pits** showed more frequent deficiencies; two had impermeable concrete floors that caused flooding during the rainy season, one was incomplete, and three were simply unlined earth pits. Such issues limited the effectiveness of waste disposal operations during heavy rains.

Overall, **waste management was one of the weakest-performing WASH components**, with only **25 percent of HCFs providing a basic service**. The use of improved facilities was often compromised by **limited staff knowledge and inadequate supervision**. Common errors included simultaneous use of both placenta pit chambers, confusion between ash and placenta pits, and misunderstanding of incinerator operation. In Murrupula District, new waste systems had not yet been officially handed over from DPOP to DPS, and waste continued to be dumped in open pits and burned. Service assistants were observed to struggle with correct procedures, which had not been reinforced by supervisors, pointing to a **lack of internal quality control and on-the-job coaching**.

Shortages of operational materials were a persistent problem. **Buckets with lids, plastic bags, and PPE (especially thick gloves) were frequently unavailable**, though sharps boxes were available and generally used correctly. The lack of supplies limited proper segregation and safe handling of waste, increasing occupational risk for cleaners and health staff.

Finally, although not part of the WASH infrastructure, **two facilities were using electric autoclaves heated over wood fires** due to insufficient electricity. This practice damaged the equipment and compromised sterilization, highlighting the importance of **selecting technologies suited to local energy availability** and ensuring that procurement and training reflect real operating conditions.

Environmental cleaning – Effective environmental cleaning is a cornerstone of IPC. The JMP framework assesses service level based on the **availability of cleaning procedures and plans**, and the presence of **trained staff** responsible for implementation.

Most health facilities reported having a cleaning plan covering clinical service areas and the HCF compound, though the study team was able to observe such plans in only **three** HCFs. These plans typically outlined daily, weekly, and monthly cleaning routines discussed at staff meetings and approved by the HCF Director. The **Service Assistant** is usually responsible for implementation, while supervision falls to the Director or Preventative and Sanitation Health Technician. Once a week, all staff join a general cleaning session, and the surrounding grounds are cleared at least monthly with support from the **co-management committee and community volunteers**.

Despite these arrangements, implementation quality varies widely. Overall cleanliness of consultation rooms and facility grounds was **reasonable**, but maintenance around **waste management and the compound** was often poor, with overgrown vegetation, rotting fruit from mango trees, and, in several cases, **animals roaming freely** on unfenced HCF grounds and excrement was found in and around the HCF users' bathrooms. In a few facilities, large waste bins had been placed at the entrance to encourage proper disposal, though these were exceptions.

Shortages of cleaning materials and water remain major bottlenecks. Availability depends on the district supply system, and respondents consistently reported that **requests were rarely fulfilled in full**. Items most frequently in short supply included mops, buckets, boots, gloves, and detergent ("Omo"). When stock-outs occurred, staff either substituted other products or **purchased small quantities out-of-pocket**. Two HCF Directors mentioned receiving cleaning materials and PPE through a UNICEF/World Bank project that had temporarily improved supply levels, but this support had since ended, forcing a return to inconsistent district-based supply.

Water scarcity further constrained cleaning efforts. Respondents explained that when alternative water sources are distant, only a few buckets can be carried per day, limiting the ability to clean effectively before service hours. Even when sources are nearby, staff often **lack priority access** and must wait their turn alongside community members. In some HCFs, women community volunteers bring extra water to assist cleaning, demonstrating strong local engagement but also highlighting the fragility of current arrangements.

Cleaning frequency depends heavily on water availability. Generally, facilities with sufficient water reported cleaning **twice daily**, first thing in the morning and at the end of the day, and in other areas, such as the maternity ward when required. Those with limited water supply cleaned only once and then prioritizing the maternity wards. In cases, accompanying family members were requested to bring five litres for the mother to bathe post-delivery. Only **three facilities** could present any cleaning standard operating procedures, mostly preparing hypochlorite solution. Although SoPs on cleaning and IPC exist, they were **not available at facility level**.

HCF Directors were cognizant that although there were designated people to do the cleaning, it is in fact the **responsibility of all the staff** to keep their area of the HCF clean and provide support where and when required. Several Directors of the HCFs referred to the need to constantly remind HCF staff to keep the health facility clean and some FGD respondents also complained about unmotivated service assistants and lack of cleanliness particularly in the maternity ward. Supervisory reminders are frequent, yet without consistent water, materials, and formal guidance, maintaining hygiene standards is difficult.

"At the end of the day you have to take out the rubbish that has ... been produced here. Tomorrow you won't be adding any more either. You have to empty it after tidying up again. On a weekly basis, it's already cleaning the walls, buckets, laundry, not washing. Although it's quite a challenge to manage everything yourself. For example, here when I'm away, nothing gets done. When I'm out, nothing gets done. I don't know how to write the command voice. I did a challenge to be pinned to the cleaning display."

KII 044

"You need hygiene, but we have a problem here. The problem is this: all around us, we have a service assistant. But that service assistant only comes when s/he wants to. S/He doesn't come to clean, I don't know if s/he doesn't know what his/her job is. Even to clean, if it wasn't for us (community members) cleaning here"

FGD 005

Finally, gaps in planning and budgeting compound these challenges. Most providers **could not estimate their annual needs** for cleaning materials, PPE, or waste management supplies, as procurement is handled by district services (SDSMAS). This lack of data limits both advocacy for resources and the ability to plan effectively at national and local levels.

Discussion

The assessment of 24 sampled health care facilities shows that while the WinHCFs initiative has substantially improved WASH infrastructure coverage, **service functionality and sustained use remain uneven**. As summarized in Table 4, the results broadly align with **JMP 2023³⁸ data estimates** for Sub-Saharan Africa (SSA) and Mozambique, confirming that Mozambique’s rural HCFs perform close to the regional average for water (63 percent with a basic service), hygiene (29 percent versus 34 percent in SSA), and waste management (25 percent, nearly identical to the 25 percent SSA average). Sanitation coverage (38 percent basic) is notably higher than both regional and fragile-state averages (11–19 percent), reflecting tangible construction gains, while environmental cleaning remains the weakest component (8 percent basic versus 34 percent for fragile states). No facility achieved a basic level across all five WASH domains, though five HCFs reached four out of five, missing only environmental cleaning.

Table 4 – Mozambique WASH services status benchmarked against average for Sub-Saharan Africa³⁹

Data source	Basic service percentage in rural areas				
	Water	Sanitation	Hygiene	Waste Management	Environmental Cleaning
JMP estimate 2023 - SSA	60	11	34	25	No data
JMP estimate 2023 - Fragile States	63	19	46	25	34
JMP estimate 2023 - Mozambique	52	2	No data	30	No data
Mozambique UNICEF WinHCFs implementation study 2024	63	38	29	25	8

These data place Mozambique’s UNICEF WinHCFs study results **within the mid-range of fragile-state performance**, indicating steady progress on infrastructure rollout but persistent constraints in system functionality, maintenance, and service management. As in comparable contexts, improvements in access have outpaced gains in reliability, staff capacity, and supply continuity—core dimensions of sustainable service quality.

Water-supply improvements have been among the most visible outcomes, but **reliability and maintenance** remain major challenges. Frequent pump and canalized system breakdowns—often linked to poor-quality materials, limited maintenance budgets, or misuse—reduce water availability at points of care. In several sites, shared boreholes have led to intermittent shortages, tensions, and even vandalism, illustrating how **design choices and community interfaces** affect sustainability. Inadequate water-quality monitoring also undermines safety assurance, as few facilities reported recent testing.

Sanitation facilities have been improved in line with WHO guidance, providing separate toilets for staff and patients and ramps for accessibility, yet **functional gaps persist**. Some toilets were locked or repurposed as storerooms, while others lacked functioning doors, or usable ramps. The absence of menstrual-hygiene disposal facilities and poor attention to accessibility features mirror findings from Ethiopia, India, and multi-country Catholic-supported HCF studies (Berihun et al.; Galhotra et al.; Vinciguerra et al.), where gender and disability inclusion were similarly weak. These parallels highlight the need for practical integration of GEDSI considerations beyond policy statements.

Hygiene and infection-prevention measures remain constrained by **inconsistent water and soap availability**, especially in sanitation blocks used by clients similar to what was found in Rwanda (Huttinger et al.)⁴⁰ and other SSA countries (Guo et al.)⁴¹. Survey respondents noted that soap was removed to prevent theft—a practice also observed in Rwanda (Huttinger

³⁸ WHO/UNICEF. WASH in health care facilities 2023 data update: special focus on primary health care. 2024

³⁹ WHO/UNICEF WASH in health care facilities 2023 data update: special focus on primary health care. Geneva: 2024

⁴⁰ Huttinger, A., Dreibelbis, R., Kayigamba, F. et al. Water, sanitation and hygiene infrastructure and quality in rural healthcare facilities in Rwanda. BMC Health Serv Res 17, 517 (2017).

⁴¹ Guo A, Bowling JM, Bartram J, Kayser G. Water, Sanitation, and Hygiene in Rural Health-Care Facilities: A Cross-Sectional Study in Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia. Am J Trop Med Hyg. 2017;97(4):1033-1042. doi:10.4269/ajtmh.17-0208

et al)⁴². There was a dearth of posters or job aids indicating or reminding staff and patients of the importance of hand washing and correct procedures (see section 3.7). Kitchens and laundries, though widely appreciated additions, were often non-functional due to design flaws—such lack of shelter for wood-fired cooking, inappropriate bricks for fireplace construction and poor-quality outlet tubes showing how **construction quality and contextual design** directly influence functionality.

Waste-management systems were another weak link. Although nearly all HCFs had all of the components of the waste management system; incinerators, placenta, ash and general waste pits, and fenced waste zones, **adherence to safe practices was inconsistent**. Staff frequently confused pit types, left pit lids unlocked, or allowed public access. In one district, facilities had not yet operationalized new systems due to pending handovers. Segregation of waste was hampered by the lack of labelled bins with lids and empty cardboard boxes were often used as recipients of general waste. In the study, all sharps were seen to be segregated into appropriate sharps boxes for disposal. The situation echoes findings from Tanzania and Ethiopia (Alyalew 2025⁴³; Potgieter 2024⁴⁴), where shortages of trained cleaners, poor waste segregation, and lack of maintenance limited effectiveness. Mozambique’s reliance on staff initiative—without clear supervision or refresher training—leads to similar outcomes.

Environmental cleaning was constrained by **insufficient supplies, irregular water access, and weak oversight**. Although most HCFs acknowledged having cleaning schedules, few had visible plans or SoPs. When cleaning products ran out, staff substituted inferior materials or purchased items themselves. Comparable trends were reported in Malawi (Elling et al., 2022)⁴⁵ and Uganda (Isunju et al., 2022)⁴⁶, where limited funding, unclear accountability, and weak distribution systems reduced cleaning performance and morale.

3.5.2 Infrastructure design, tenders and contracts

UNICEF partners with the DPOP for the development of engineering designs, approvals, and construction of water systems and other WASH infrastructure in health facilities. Engineering contractors prepare site-specific designs based on standard MoH models for Type II health centers with maternity wards and supervise construction, while separate firms are contracted for the civil works and inspection. All procurement follows a competitive tendering process managed by DPOP with UNICEF technical support. The full cycle, i.e. from design to completion and handover, typically takes about two years. Tendering and contracting can require up to six months, construction a further three to six months, followed by a one-year warranty period.

Findings

Implementation Progress and Influencing Factors - Improvement of WASH infrastructure has been the most consistently implemented component of WinHCFs, with construction or rehabilitation completed in 126 HCFs between 2019 and 2024. Despite this progress, implementation faced delays caused by cyclones, flooding, cholera outbreaks, and COVID-19 restrictions. The 2019–2020 decentralization reform also created temporary bottlenecks as roles were transferred from central to provincial and district authorities and new administrative structures established.

UNICEF leveraged its longstanding collaboration with DPOPs to ease transition challenges, providing on-the-job training and technical assistance to strengthen procurement, planning, and quality assurance. Provincial stakeholders confirmed that this support improved adherence to procedures and accelerated later construction phases.

⁴² Huttinger, A., Dreibelbis, R., Kayigamba, F. et al. Water, sanitation and hygiene infrastructure and quality in rural healthcare facilities in Rwanda. *BMC Health Serv Res* 17, 517 (2017).

⁴³ Ayalew, A.M. Beyond access: assessing WASH service delivery models in healthcare facilities of North Mecha, Dera, and Farta, Ethiopia. *BMC Health Serv Res* 25, 888 (2025).

⁴⁴ Potgieter, N., Banda, N.T., Becker, P.J. et al. WASH infrastructure and practices in primary health care clinics in the rural Vhembe District municipality in South Africa. *BMC Fam Pract* 22, 8 (2021).

⁴⁵ Elling, Hayley., Behnke, Nikki., Tseka, Jennifer., Kafanikhale, Holystone., Mofolo, Innocent., Hoffman, Irving., Reuland, Frances., McCord, Ryan. (2022). Role of cleaners in establishing and maintaining essential environmental conditions in healthcare facilities in Malawi. *Journal of Water, Sanitation and Hygiene for Development*. 12. 302-317. 10.2166/washdev.2022.206.

⁴⁶ Isunju JB, Ssekamatte T, Wanyenze R, Mselle JS, Wafula ST, et al. (2022) Analysis of management systems for sustainability of infection prevention and control, and water sanitation and hygiene in healthcare facilities in the Greater Kampala Area, Uganda. *PLOS Water* 1(5): e0000021. <https://doi.org/10.1371/journal.pwat.0000021>

Design and Standards - Seven engineering firms have been engaged between 2018 and 2024 to produce designs and supervise works. One contractor withdrew from the contract and had to be replaced. Design discussions take place jointly between DPOP, DPS, UNICEF, and the firm before final approval and the associated bill of quantities and cost estimates are prepared. Examples were given of minor design modifications, particularly around kitchen areas and the replacement of standard ceramic toilet bowls with stainless steel squatting toilets.

UNICEF model designs for all facility types, aligned with WHO standards and integrating climate resilience and inclusivity principles were used under this initiative. However, upgrading older structures to align with current standards remains challenging due to space constraints and limited budgets.

In the online survey, **76% of respondents were very pleased with the WASH services provided**, while 20% were satisfied and 4% dissatisfied.

Tendering, Contracting, and Supervision - Contracting remains centralized at provincial level, with UNICEF providing technical oversight. By 2024, seven firms had been contracted across four implementation phases; three contracts were terminated for poor performance or delays. Early phases faced delays as smaller firms struggled with capacity and logistics. Other stakeholders mentioned that some contractors had multiple contracts with different government departments, stretching their capacity and prioritizing work based on pressure and financial gain. To improve performance, UNICEF recently began splitting tenders for water (drilling and construction) systems and civil works, increasing the number of contractors but making site supervision more complex. Building inspectors (one per lot) are responsible for site supervision. However, the dispersion of sites and multiple concurrent works made close monitoring difficult. Key informants stated that when contractors requested advance payments to mobilize resources, delays often occurred.

Material Procurement and Quality - Material supply remains a challenge, particularly in remote localities where there are insufficient available materials of quality and quantity for the WASH infrastructure construction. Contractors reported difficulties in sourcing sand and gravel in a few districts. One contractor mentioned difficulties in obtaining certain specialized materials (such as elbow taps,) as they were either not available in sufficient quantities on the market (Mozambique) due to an increased demand or only available in one outlet at an exorbitant price. The cost of transporting all these materials was also stated as expensive and there were access difficulties during the rainy season.

Despite these constraints, material quality was generally rated positively. According to the online survey, **74% of respondents rated construction materials as good or excellent**, 20% as satisfactory, and only 6% as poor. Respondents cited defects in hinges, locks, and taps—issues attributed both to lower-quality replacements and to misuse by users.

“... because in order for the contract to be approved by the Administrative Court there's a lot of documentation, and UNICEF also supports the DPOP in the contracting process. So there's all this documentation, justification and tender documents that have to be put together so that the Administrative Court doesn't reject the process. So you have to follow the entire procurement process to the letter.”
KII 046



“Materials were really difficult for us to acquire and, above all locks and clinical taps, because the project said that we had to apply clinical taps, those that the doctor or nurse simply use their elbow to open and close. So, at the time we made our proposal, there was this material in stock on the market. But because of the demand from the building work that was going on at the time.... [the taps] became scarce on the market. When I say on the market, throughout the country, I say that because I had to suffer a lot to buy it. I even had to go to South Africa to get the clinical taps.”
KII 015

“The work was good and the quality of the service; we have a defect of construction materials, for example, the window or rather the hinges. It seems that it was the material that was not very resistant.”
KII 038



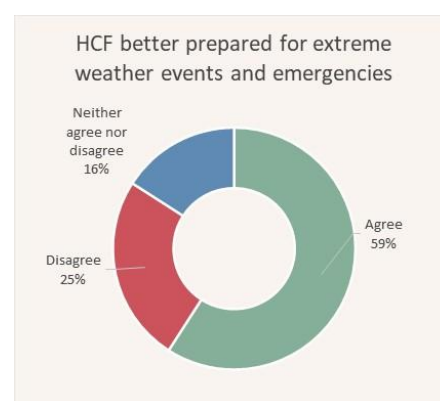
Climate Resilience and Adaptation - The WASH infrastructure models incorporate resilience principles such as elevated placement of waste facilities, use of ventilated blockwork instead of glass, and solar-powered water systems. MoH, with UN-Habitat support, has drafted technical guidelines for *climate-resilient health sector infrastructure*, pending approval. Evidence from cyclone- and flood-affected HCFs confirmed that most new WASH systems remained functional even when other buildings sustained damage. The WASH service construction consisted of new infrastructure for staff and out-patient sanitation blocks, waste management services and the water system, while adaptations were made to consultation rooms and the maternity unit. It was noted that the older HCFs buildings were in many cases no longer fit for purpose suffering structural cracks, water infiltration and windows broken and their design was no longer appropriate for the number and type of consultations taking place.

"I'd say it's of good quality because it withstood the cyclone. Not many infrastructures withstood it at that time. But at least the infrastructure was assembled. Not a single sheet of metal has come off, and those railings are there too. So far there are no problems."

KII 009

In the online survey, **59% of respondents agreed that their HCF was better prepared for extreme weather events**, while 16% were neutral and 25% disagreed. There were differences between provinces, with Nampula less confident on HCF preparedness (31%) than Sofala (24%) and Zambezia (20%).

Ownership, Handover, and Coordination - While construction management processes are well defined, engagement of the health sector during implementation has been limited. Provincial and district health teams (DPS, SDSMAS) often reported being informed only once construction began, reducing ownership and familiarity with the new systems. Conversely, contractors perceived district-level staff as lacking capacity or access to project documents held by DPOP.



Supervision visits were dominated by DPOP engineers, with limited health-sector participation due to budget constraints. As a result, post-handover maintenance responsibilities often fall to district infrastructure services, with little sense of ownership among health staff. SDPIs key informants on the other hand, stated that although they often met with the inspectors, they did not have a copy of the contract or the project design, which was held at DPOP, and therefore could not necessarily respond to contract-specific questions, often related to product substitution. Capacity building on management topics including monitoring/WASH-FIT through the design and construction process would increase engagement and motivate health sector partners at Provincial and District level and the SDPI.

Memoranda of Understanding (MoUs) between DPOP and DPS are signed one-year post-construction (post-warranty), but dissemination is weak affecting the engagement and sense of accountability from district authorities. The MoU outlines in very broad terms the roles and responsibilities of each organization post construction, focusing on O&M, O&M capacity building and supervision but lack clarity on funding sources and the community role in O&M.

Efficiency, Capacity, and Monitoring - Provincial informants suggested that certain procurement responsibilities could be decentralized further, provided quality-assurance mechanisms are maintained. Also, it was suggested by provincial informants that, to improve the execution of the construction phase, the size of the lots should be reduced, and/or construction should focus on either one or neighboring districts.

There is potential for a digital monitoring tool to track the full construction lifecycle—from design to post-handover—integrating physical, financial, and compliance data. Such a tool could facilitate real-time coordination among DPOP, DPS, and UNICEF, improve accountability, and reduce administrative burden.

Discussion

The design and construction phases of WinHCFs were implemented largely as intended, with adaptive measures such as contract splitting and direct contracting introduced to maintain progress despite multiple emergency situations. These same shocks reinforced awareness of the critical role of resilient WASH systems in sustaining health services and infection prevention.

High-quality design and construction are integral to infection prevention and the delivery of safe, dignified care. The UNICEF model designs for Type II health centers are consistent with WHO standards and increasingly incorporate

gender-sensitive, disability-accessible, and climate-resilient features. Consultation and joint approval processes between provincial and national levels ensured that most facilities were fit for purpose, with few complaints about functionality—contrasting with experiences in countries such as Ethiopia⁴⁷ and the Philippines⁴⁸, where poor design standards and weak oversight have compromised results.

Mozambique’s emphasis on climate resilience reflects international best practice, comparable to approaches in settings that tailor infrastructure standards to diverse risks—from permafrost adaptation in northern Canada⁴⁹ to cyclone-resistant structures in the Pacific Islands⁵⁰. The new national guidelines for *climate-resilient health infrastructure* will benefit from continual refinement as geospatial data, surveillance, and early-warning systems evolve.

Globally, the COVID-19 pandemic has accelerated interest in digital solutions for planning and monitoring. Tools such as Building Information Modelling (BIM)⁵¹ offer potential to enhance remote supervision, evidence documentation, and accountability—particularly valuable for Mozambique’s dispersed, hard-to-reach districts. Adoption of such innovations could strengthen oversight while maintaining cost-efficiency.

3.5.3 Operations and maintenance of the WASH service infrastructures

Findings

The sustained delivery of quality healthcare depends on reliable WASH services, which in turn require systematic and well-resourced O&M. While initial investments have improved WASH infrastructure across many HCFs, the study found that the absence of clear O&M systems threatens long-term functionality.

Approximately **52% of online survey respondents reported at least one disruption in water availability** during the past year, mostly due to preventable breakdowns that could have been avoided through routine maintenance.

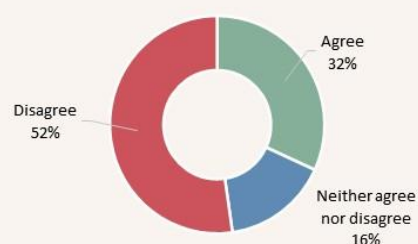
Repair work was usually reactive, focusing on minor repairs such as replacing broken taps and pipes, and frequently delayed due to a lack of funds or unclear responsibilities.

Roles and Responsibilities - At the HCF level, responsibility for O&M formally lies with the preventive health and sanitation technician, where available. In practice, roles are poorly defined. Most HCF respondents were uncertain who was responsible for different maintenance tasks or how often they should occur. HCF KII interviewees indicated that they were able to perform basic maintenance and minor repairs, but few were able to diagnose significant problems, and maintenance was more reactive and ad hoc than on a regular basis. No records were kept of maintenance, what was done, and by whom. In most cases, any problem with pump operation was referred back to the district level, usually to the SDPI rather than the SDSMAS.

In some cases, HCF Directors sought support from local Community Water Committees, particularly where members had received training under previous community WASH initiatives. However, this informal involvement created overlapping roles and diluted accountability.

“In the first training session, we were instructed to do at least this maintenance to give the system a longer lifespan. If we want it to last longer, we have to be the manager. Even for the water committee, it also has this information, and the president doesn't go a day without coming to monitor the system. He doesn't go a day without coming round to check the taps...”
KII 008

HCF staff aware of roles and responsibilities in relation to WASH services



Survey data reflected these inconsistencies: in response to the statement “*Not all health facility staff members are aware of their roles and responsibilities in relation to WASH services,*” disagreement rates varied widely—64% in Sofala, 29% in

⁴⁷ Derso A, Addis T, Mengistie B, Keleb A, Ademas A. Healthcare Facility Water, Sanitation and Hygiene Service Status and Barriers in Ethiopia: It's Implication for COVID-19 pandemic and Healthcare Acquired Infection Prevention. medRxiv; 2022.

⁴⁸ Magtibay, B. Plumbing Aspects of Health Care Facilities in the Philippines. Presentation. World Plumbing Council Meeting, October 2023

⁴⁹ CSA Group. Workshop report: northern, small, and remote Health Care Facilities (HCFs) design. February 2024

⁵⁰ UNICEF Pacific. Terms of Reference - Improved water and sanitation infrastructure approaches for health care facilities in the Pacific Islands, 2021

⁵¹ Ajayi, O. M. The Adoption of Building Information Modelling (BIM) in the Facilities Management Industry (Case Study of FM Industry in Nigeria) Master Thesis 2022

Nampula, and 20% in Zambézia, suggesting that stronger training in Sofala (linked to WASH-FIT activities) had improved role clarity.

Overall, multiple actors contribute to O&M at HCFs, but without clearly defined responsibilities or accountability mechanisms. Sustaining functionality requires consensus among government, community, and private stakeholders on who should lead preventive maintenance and how this should be financed.

Financing O&M - Once construction is completed, new or rehabilitated WASH systems are handed over from DPOP to the Provincial Health Directorate (DPS) after a one-year warranty period. At that point, donor and UNICEF support ends, and financing should shift to government systems. A standard memorandum of understanding (MoU) outlines these post-handover responsibilities between DPOP and DPS. Although the MoU assigns O&M responsibility to the HCF Director, no mechanism exists for allocating or accessing funds to fulfill this role.

Respondents across all levels consistently identified **insufficient and unpredictable funding** as the most critical barrier to O&M and environmental cleaning supplies. HCFs do not have dedicated operating budgets and rely on the District Health, Women and Social Action Services (SDSMAS) to supply these materials in sufficient quantities in a timely manner. SDSMAS allocations, in turn, come from a small, non-earmarked maintenance fund from the province distributed equally across districts rather than based on need. There is currently no budget line for WASH O&M in the National Health Strategic Plan.

According to the online survey, **71% of overall respondents disagreed that their facility had sufficient funds** to support O&M; 79% of respondents in Sofala, 69% in Nampula, and 40% in Zambézia disagreed. The large difference between Zambezia and the other Provinces could be due to the small (five) sample size or a misinterpretation of the survey question as responses from KII for that province unanimously stated the contrary.

The use of community funds for O&M has had mixed success and for some HCFs is yet to be established (see Section 3.8). HCF level stakeholders stated that they had either used funds raised through consultation fees or their own personal money, particularly to replenish cleaning materials when there was a stock-out. During emergencies, ongoing and recurrent costs such as O&M and personal protective equipment (PPE) and environment cleaning materials are provided by donors.

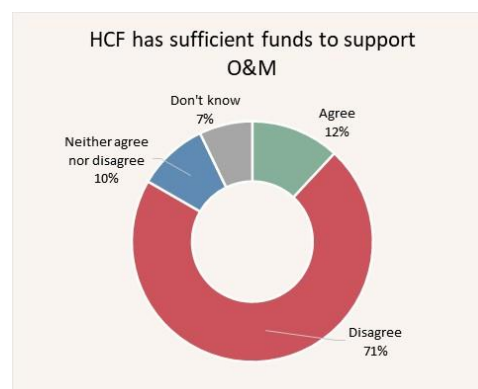
Limited financing contributes directly to long repair delays, equipment obsolescence, and reduced service availability. It also constrains supervision and preventive maintenance, perpetuating a cycle of reactive repairs and premature infrastructure failure.

Discussion

Sustaining functional WASH infrastructure depends as much on recurrent O&M financing and local accountability as on initial construction quality. Mozambique's experience mirrors global trends: only **11 percent** of countries report having adequate resources to achieve national WASH in HCF targets, and just a quarter include WASH line items in health budgets (GLAAS 2019)⁵². Studies from Uganda⁵³ and Ghana⁵⁴ show that even when maintenance funds exist, they are often insufficient or poorly managed, leading to persistent breakdowns.

A robust O&M strategy requires a comprehensive approach that integrates financing, clear roles, training, and monitoring. Key priorities include:

- **Dedicated budget lines** for O&M and IPC materials within health sector plans;
- **Strengthened training and supervision** on O&M including responsibilities at all levels, building on WASH-FIT experience;



⁵² WHO and UN-Water. Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report. 2019

⁵³ Isunju JB, Ssekamatte T, Wanyenze R, Mselle JS, Wafula ST, et al. (2022) Analysis of management systems for sustainability of infection prevention and control, and water sanitation and hygiene in healthcare facilities in the Greater Kampala Area, Uganda. PLOS Water 1(5): e0000021.

⁵⁴ Vinciguerra, T., Denny, L., Hilton, SP., Kängela, F. 2025. Water, sanitation, and hygiene conditions in 186 healthcare facilities of the Catholic Church. Journal of Water, Sanitation and Hygiene for Development 2025; washdev2025163.

- **Lifecycle costing** to estimate real O&M needs and inform resource allocation.

WaterAid’s ongoing lifecycle costing work in Mozambique will help quantify maintenance needs. Lessons from other countries illustrate potential pathways: In **Nepal**⁵⁵, evidence from costed roadmaps led to municipal recovery funds for O&M, sustaining improvements beyond donor support. In **Ghana**⁵⁶, local WASH management teams were trained in financial planning and maintenance best practices, supported by municipal health directorates. **Uganda** adopted regional “umbrella authorities” to manage water supply and O&M, improving service reliability through pooled technical expertise⁵⁷.

Financing mechanisms can also draw from private-sector and community models. The **IRENA–SELCO (2025)**⁵⁸ study identified four potential frameworks, ranging from public-sector O&M to full “WASH-as-a-service” models. Mozambique’s current hybrid approach, community co-financing for minor repairs and government support for major ones, builds on lessons from PROSONAR. Its sustainability, however, depends on early community engagement and functional co-management committees. Further research is required to determine the best financing approach for Mozambique.

Ultimately, the lack of lifecycle budgeting, combined with fragmented accountability, remains the key constraint. Developing costed, evidence-based O&M plans, linked to provincial and district budgets, will be essential to institutionalize routine maintenance and protect WASH investments.

Step 4 – Improve and maintain infrastructure - Conclusion

Infrastructure investments under the WinHCFs program have **substantially improved access to safe water, sanitation, and waste management** services across HCFs in Mozambique, especially among Type II centres with maternity wards. Construction has generally adhered to standardized, climate-resilient, and inclusive designs, and the visible improvements have enhanced service delivery and community trust, with **perceived benefits for maternal and child health** and reduction in diarrhoeal diseases in surrounding communities.

UNICEF’s leadership and collaboration with provincial authorities have been **instrumental in scaling delivery**, achieving significant progress toward the 2026 target of 229 facilities and demonstrated adaptability in a challenging context. However, **sustainability remains fragile**. Assessments of 24 sampled HCFs revealed that while most meet basic standards for at least one WASH domain, none achieved a basic level across all five pillars. Functionality is uneven due to recurrent system breakdowns, delayed repairs, limited spare parts, and unclear maintenance responsibilities.

The **construction process** itself has **matured**, showing stronger provincial contracting capacity and adherence to technical norms, but district involvement and post-construction ownership remain weak. **O&M** continue to be the **critical bottleneck**: absence of dedicated budgets, unclear accountability, and reactive rather than preventive maintenance threatens the longevity of investments.

Going forward, **WinHCFs must consolidate its infrastructure achievements by embedding robust O&M systems and governance mechanisms within the health sector**. This includes clarifying roles across administrative levels, establishing costed maintenance plans, improving monitoring (potentially through digital platforms), and strengthening the managerial and engineering skills of local health and public works teams. Only by reinforcing these “software” systems will Mozambique safeguard its infrastructure gains and ensure that WASH services remain functional, equitable, and resilient over time.

⁵⁵ Chettry LK, Bohara P, Bohara RC, et al. Budgeting and Advocacy to Improve Water, Sanitation, and Hygiene in Health Care Facilities: A Case Study in Nepal. *Glob Health Sci Pract*. 2024;12(3):e2300491.

⁵⁶ WaterAID (2020) HSBC Water Programme WASH in healthcare facilities: Lessons learned from Bangladesh and Ghana

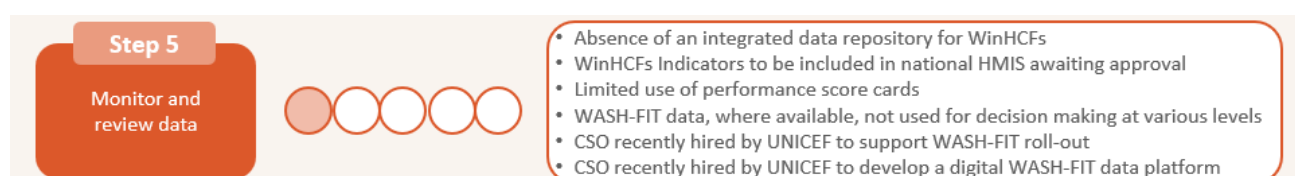
⁵⁷ Isunju JB, Ssekamatte T, Wanyenze R, Mselle JS, Wafula ST, et al. (2022) Analysis of management systems for sustainability of infection prevention and control, and water sanitation and hygiene in healthcare facilities in the Greater Kampala Area, Uganda. *PLOS Water* 1(5): e0000021.

⁵⁸ IRENA and SELCO Foundation (2025), Electrification with renewables: Enhancing healthcare delivery in Mozambique, International Renewable Energy Agency, Abu Dhabi.

Step 4 – Improve and maintain infrastructure - Recommendations

R5	Strengthen local coordination and capacity before the handover Facilitate structured engagement between provincial public works, district health services, HCFs and their communities before and throughout the two-year construction and warranty cycle through periodic coordination meetings and feedback sessions. This will enhance understanding of technical standards, encourage joint ownership and problem-solving, and build long-term capacity for managing WASH infrastructure beyond donor support.
R6	Foster greater engagement and ownership through an updated MoU Revise the MoU template in consultation with all parties detailing roles and responsibilities and funding mechanisms for O&M post-construction. Consider adding community leaders and HCF representatives as signatories, in addition to Provincial government officials, to increase ownership at the lowest levels. Consider signing the MoU earlier in the project cycle to cover both the construction and post-construction phases. Encourage the MoH and other partners to use the revised MoU template in non-UNICEF supported areas.
R7	Establish a digital construction monitoring and repairs tracking system Develop an integrated database to track construction progress, handover dates, and subsequent maintenance at district and provincial levels. This should include a simple digital tracker linking HCFs to SDSMAS and DPOP/DPS for reporting breakdowns, monitoring response times, and recording completed repairs, strengthening transparency and enabling data-driven planning.
R8	Pilot and institutionalize an O&M financing mechanism Based on lifecycle costing results, and through stakeholder engagement, identify and pilot sustainable funding options, such as district-level maintenance funds, community co-financing, or performance-based allocations, to ensure regular maintenance of WASH infrastructure. UNICEF and partners should continue to advocate for a dedicated O&M budget line within health sector plans and the forthcoming WinHCFs costed roadmap.

3.6 Monitor and review data



Findings

Data availability – The MoH and other organizational stakeholders highlighted that the lack of reliable, quality disaggregated routine data on WASH in HCFs indicators created a challenge in tracking progress, planning and responding to needs. Data, which isn't aligned with the current norms, is currently scattered across multiple repositories and incomplete. Mozambique relies on data from national surveys such as Service Availability and Readiness Assessment (SARA) surveys that was last carried out in 2018, limited research data, monitoring data from the field during emergencies or WASH-FIT data. Specific data sources include:

- **HerAMS:** the WHO platform for monitoring the availability of health resources and services, used primarily in emergency or crisis situations⁵⁹.
- **WASH-FIT:** WASH-FIT is a key instrument for both data generation and quality improvement within the WinHCFs initiative. Introduced nationally in 2021, it provides a structured, risk-based approach for facility assessment and has been progressively rolled out across provinces with partner support. Beyond its monitoring value, WASH-FIT

⁵⁹ <https://www.who.int/initiatives/herams>

functions as a practical management and training tool that helps HCF teams identify gaps, set improvement targets, and track progress over time. Its implementation and capacity-building aspects are discussed in greater detail under Step 6 (Health Workforce), which highlights how WASH-FIT has supported staff ownership and continuous learning at facility level. It has been introduced in a phased manner but currently covering fewer than 40% of all districts nationally⁶⁰. Many districts have received training but have yet to conduct regular assessments, and there is no centralized national database. Roll-out has been mainly donor-funded through this initiative or CSOs.

- **Performance Scorecards:** developed by the MoH Quality Assurance Department with UNICEF support in 2018 using global standards. Still applied in roughly one-quarter of HCFs, though indicators have been reduced and it now serves mainly for central or provincial compliance audits. The platform is currently managed by the World Bank.

Data from these systems are seldom integrated. Results tend to focus narrowly on service availability, with little insight into quality, reliability, or functionality.

WinHCF indicators and institutional coordination - Specific WinHCF indicators have been developed but remain pending endorsement by the MoH Public Health Directorate Council before integration into SIS-MA. Delays in finalizing the list stem from competing agendas among MoH and TWG members. Officials also questioned the feasibility of monthly reporting, given slow change in WASH conditions and the administrative burden on facilities, preference was for a quarterly reporting cycle. A small study tracking indicators through the system from the primary source would provide evidence on how best to integrate the indicators into the routine HMIS.

Meanwhile, other MoH departments, notably Nursing and MCH, are developing indicators on IPC and neonatal infection rates, both directly linked to WASH performance. Without deliberate coordination between these units, DEH, and the Health Information Department, duplication and parallel reporting are likely. Stronger collaboration through existing standards and M&E TWGs will be essential to harmonize efforts and ensure that WASH data inform broader health-outcome monitoring.

“So if we don't have evidence, we don't have indicators to measure. It's also a bit difficult to evaluate in terms of impact. We need indicators to be measured by the health sector itself.”
KII 046

WASH-FIT implementation and digital innovations - WASH-FIT remains the most practical tool for structured monitoring and continuous improvement, but implementation has been uneven across the three WinHCF provinces. In Sofala and parts of Zambézia, district WASH-FIT teams conducted follow-up visits that enabled progress tracking between rounds. In Nampula, however, many facilities had not received post-training visits, leading to incomplete data and limited institutional ownership. Where multiple visits were made to an HCF, progress was measured on internal improvement activities, compliance, and availability of WASH services. The information currently available reflects only service levels and not all indicators and quantitative and qualitative data that should normally be collected during assessments.

Nationally, use of WASH-FIT data remains minimal and mostly aggregated for donor reporting. To address these constraints, UNICEF has contracted two CSOs to strengthen the roll-out (See Section 3.7 for more details) and one has also been tasked to develop a digital, open-source WASH-FIT platform with automated dashboards and real-time data collection. Expected to be operational by late 2025, this system aims to improve feedback loops between facilities, districts, and provinces.

Financial and operational data - Another persistent weakness is the lack of data on recurrent and operational costs for WASH in HCFs. None of the facility or district respondents could estimate total installation or annual maintenance costs; most cited only small, ad-hoc purchases made from personal funds, i.e. evidence of a reactive rather than planned approach to O&M. Developing a costed roadmap and conducting a life-cycle costing (LCC) analysis are priorities to strengthen financial planning and advocacy. UNICEF's support to these initiatives is pivotal, but additional analytical work, such as prospective costing studies across a representative sample of HCFs, will be required to close current knowledge gaps.

Data sharing and accountability - Across provinces, data sharing is inconsistent, and there are no structured annual review meetings dedicated to WinHCF progress. This limits reflection on performance and corrective action. Inadequate supervision and tight operational budgets have weakened accountability mechanisms, while the absence of standard

⁶⁰ DEH personal communication

internal quality-control tools means minor infrastructure failures often go unreported until they escalate into major disruptions.

Discussion

The **fragmented nature of WASH data severely constrains Mozambique’s ability to monitor progress**, plan strategically, and hold stakeholders accountable. The coexistence of multiple data sources, each with different indicators, formats, and ownership, creates duplication and leaves major evidence gaps. The delayed endorsement of the WinHCF indicators further compounds the problem, limiting integration into SIS-MA and institutional uptake. However, the approval of the the WinHCF indicators alone will not be sufficient to guarantee reliable and accurate data entering SIS-MA. It will be necessary to ensure that all health staff are trained on data collection, regular data quality monitoring is carried out, district and HCF staff are held accountable for data collection and quality, and the data used to drive improvements.

However, **promising developments exist**. The digitization of WASH-FIT and needed discussions between DEH, Nursing, and MCH departments provide an opportunity to consolidate WASH monitoring within broader quality-of-care and IPC frameworks. Coordinated action could ensure that WASH data contribute not only to infrastructure tracking but also to clinical outcome monitoring.

Similar issues are faced in other countries. Ethiopia and Uganda⁶¹ have introduced WASH-FIT nationwide but still depend on partner-driven data collection, while Malawi’s pilot remains externally managed. By contrast, Rwanda⁶² has integrated WASH indicators within its quality-of-care audits, and Nepal uses cost and functionality data in municipal health planning⁶³. These examples underline the importance of national leadership, standardized indicators, and sustained investment in data systems, key factors Mozambique should adopt.

Mozambique’s monitoring framework **should evolve from simple access indicators to a multidimensional view that captures functionality, reliability, and service quality**. A blended monitoring approach (combining self-supervision with digital verification (e.g., photo evidence, dashboards, or remote audits)) would provide a cost-effective solution during scale-up. Annual provincial and national review meetings would institutionalize reflection and promote a culture of data use, while digital maintenance reporting tools would enable faster responses to infrastructure failures.

In short, the country’s monitoring challenge is not just about collecting more data but about collecting the right data, using it effectively, and embedding accountability mechanisms that translate evidence into action.

Step 5 – Monitor and review data - Conclusion

Monitoring of WASH in HCFs remains **fragmented and under-resourced**. While tools such as WASH-FIT, HeRAMS, and scorecards exist, they are not integrated into a unified framework, and the pending endorsement of WinHCF indicators into SIS-MA has delayed institutionalization. **Coordination with other MoH departments, improved data quality assurance, and the digitization of WASH-FIT** offer clear **opportunities for progress**. Strengthening data use for decision-making and ensuring regular feedback between facility, district, and provincial levels will be essential to transform data into action.

⁶¹ WHO and UNICEF. 2025. Implementation of the water and sanitation for health facility improvement tool (WASH FIT): global report.

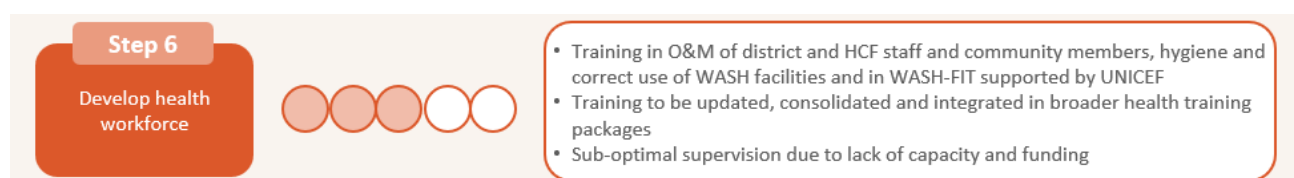
⁶² Huttinger, A., Dreibelbis, R., Kayigamba, F. et al. Water, sanitation and hygiene infrastructure and quality in rural healthcare facilities in Rwanda. BMC Health Serv Res 17, 517 (2017).

⁶³ WHO/UNICEF Global Progress Report on WASH in Health Care Facilities (2023); WHO/UNICEF GLAAS Country Profiles (2022–2023); Isunju et al., BMC Health Services Research (2022); Elling et al., BMC Health Services Research (2022); WaterAid (2023); UNICEF (2022).

Step 5 – Monitor and review data - Recommendations

R9	Endorse and institutionalize WinHCF indicators Support the final approval and integration of WASH indicators into SIS-MA, harmonizing with the WinHCFs norms and standards document, IPC and MCH indicators to ensure consistency across departments. Ensure accurate indicator reference sheets are available for each indicator, including the analysis plan. Ensure quality data by training health facility and district staff and conducting regular data quality audits. Ensure ongoing data analysis, use, and triangulation with WASH-FIT data.
R10	Strengthen and digitize WASH-FIT Accelerate completion of the digital platform and train district teams for regular use. Establish a national database with automated dashboards and analytics.
R11	Promote data use and accountability Encourage that WinHCFs is part of the agenda at regular district level progress meetings. Organize annual review meetings at national and provincial levels to share results, discuss gaps, update work plans, share lessons learned, and exchange best practices. Disseminate concise dashboards to decision-makers. Use the forum to identify revisions needed to the roadmap, including milestones and targets. Facilitate the development of a joint learning agenda to address knowledge gaps and identify funding sources among different partners to fulfill these learning priorities.
R12	Develop financial monitoring capacity Track the budget and expenses incurred by WinHCFs from all partners supporting the initiative. Identify gaps and advocate for resource mobilization and supporting costing analyses. Expand ongoing life-cycle costing work to include recurrent costs and embed cost tracking in regular monitoring and advocacy.

3.7 Develop health workforce



A resilient health system depends on a sufficient, skilled, and motivated workforce. In Mozambique, as in many sub-Saharan African countries, limited staffing levels and uneven distribution continue to affect service delivery, particularly in rural areas. Strengthening the competencies of health personnel is central to sustaining safe WASH and IPC practices and ensuring quality of care. Under the WinHCFs initiative, UNICEF has supported the MoH to build staff capacity in operations and maintenance, waste management, hygiene promotion, and the application of the WASH-FIT tool within the decentralized health system.

Findings

District and Provincial Focal Points - At the provincial level, two environmental health focal points (FPs)—one in DPS and one in SPS—cover all environmental health activities, including WinHCFs, in addition to emergency response, product and drug safety, and occupational health. At district level, a single FP is responsible for the entire portfolio. Respondents across districts described limited time and management capacity to plan repairs or supervise O&M. Supervision is constrained by funding and tends to focus on vertical clinical programs such as IPC without a WASH representative, though in some cases WASH services were reviewed opportunistically during other program visits. This workload imbalance limits the consistency and quality of WASH supervision.

Health Facility Staffing and Service Assistants - Table 5 provides details on the number of Service Assistants (SA) and health service level per day per HCF. Across the 24 sampled HCFs, an average of 9.3 staff members worked per facility

(range 3–28: 11.1 in Nampula, 8.8 in Zambézia, and 6.25 in Sofala). Of these, an average of 1.6 were service assistants (SAs), responsible for environmental cleaning, waste management disposal, and in some cases O&M, under high workloads—an average of 110 consultations and 4.3 deliveries per day per facility. Each HCF had at least a clinician, an MCH nurse, and an SA.

Table.5 - Average number of Service Assistants, consultations and assisted births per sampled HCF

Province	Average number of Service Assistant per HCF	Average number of consultations per day per HCF	Average number of assisted births per day per HCF
Nampula	2.1	99	3.7
Zambezia	1.4	125	4.1
Sofala	1.0	105	6.0
Total	1.6	110	4.3

WinHCFs investments increased the SAs' workload, prompting additional recruitment in several areas, particularly in Nampula and Namacurra district (Zambézia), where all sampled HCFs employed two SAs and the majority of SAs had less than two years of service. Larger Type II facilities with admission capacity had three to four SAs working in shifts. Sofala, however, had fewer SAs despite higher numbers of births, suggesting a mismatch between workload and staffing.

Induction and in-service training - Most SAs reported some form of district-level induction before deployment, lasting from a few days to three months, though without a standardized curriculum. Learning therefore depends on on-the-job instruction by HCF staff, district supervisors, or through WASH-FIT visits. Under WinHCFs, SAs generally received a single-day combined training on O&M and WASH-FIT, including environmental cleaning and waste management aspects. Most also attended brief district sessions on waste segregation/environmental cleaning led by district nursing supervisor. The training materials includes environmental cleaning operating procedures and monitoring tools (e.g. environmental cleaning routine plans, cleaning protocols). These trainings were mostly theory-based although some included demonstrations on incinerator use. No interviewee could provide any training materials or posters on cleaning or waste segregation and disposal practices, and only a few instances could provide some typed document on IPC standards.

"I think these training programs should be a bit more integrated and not superficial, like, for example, a training program in which we first provide information on the type of pump we use ... and it works like this. How do you identify the problem linked to the current? Just go to this site and do this test. If it works like this, it means that the current reaches you. How can you tell if the problem is exactly with the pump itself? You can identify the problem using this test.That's right. If the information was along these lines, I think that in terms of the domain, even we, as SDPI, wouldn't be in great demand, the owners themselves could overcome some basic things."

KII 029

Training on hygiene and correct use of WASH services - A training package on hygiene promotion and proper use of facilities was developed with UNICEF support in 2019, updated in 2022, and approved at provincial level in serial-album format. Training usually coincides with completion of construction and is combined with O&M, waste management, and environmental cleaning. Participants include HCF staff, district officials (SDSMAS and SDPI), and community representatives. The field team observed a lack of community-oriented materials, no demonstration tools on correct use of the WASH facilities, and limited availability of serial albums, which were often shared between community health promotion volunteers.

"We always give talks. We can't afford to print that ... manual in color, because color is better, but it's all black and white and sometimes it gets complicated. Now, when it's colored, ...Yes. Yes, I'm in favor of that too."

KII 085

Standard operating procedures and internal quality control – No HCFs maintained a file with complete SOP and IQC tools. In most, procedures were represented by individual pages taped to walls. Manuals distributed during training were often treated as personal items rather than HCF property and were sometimes lost during climatic shocks.

O&M training coverage and content - In 2019–2020 an initial three- to five-day course combined theory with practical sessions a training package on the management and O&M of the new WASH services was developed by an engineering design consultant for two HCF staff and one community member, conducted by DPOP and DPS with UNICEF support. By 2022–2023 the approach was revised to a one-day orientation, often linked with waste management and cleaning, followed by on-the-job coaching. Many participants could describe the course content but not the recommended

maintenance frequency. Toolkits and manuals were not consistently delivered or tracked. Across the 24 sampled HCFs, **60 people** had received O&M training (average 2.5 per HCF, range 0–5).

Online survey responses indicated a slightly lower average of **1.5 per HCF**, with Sofala highest at 1.9, likely reflecting the province’s stronger WASH-FIT activity. Fifteen percent of respondents reported no O&M training (two in Sofala, one in Nampula). **Only 46% of only survey respondents felt that local technical capacity was sufficient to carry out repairs**, but perceptions were mixed between provinces: 60% of respondents in Zambézia, 46% in Sofala, and 46% in Nampula agreed that local mechanics could carry out necessary repairs.

Emerging technical support options - To compensate for limited in-house technical capacity for O&M, UNICEF is contemplating the piloting of a Government led approach including the placement of **regional O&M technicians** who would each support three to four districts in infrastructure maintenance and WASH-FIT coaching. Salaries would be covered for two years with the expectation of MoH absorption thereafter.

WASH-FIT implementation and use – The WASH-FIT process launched nationally in 2021 and is overseen by a national sub-TWG. Training-of-trainers sessions have been conducted in all 11 provinces with WHO support. To accelerate WASH-FIT implementation, in 2024, UNICEF contracted two CSOs for a year: one working in Sofala and Zambézia (active) and one for Nampula (scheduled for late 2025). In these provinces 37 professionals in Sofala and 72 in Zambézia were trained as provincial and district focal points, and facility teams in 23 HCFs (Sofala) and 37 HCFs (Zambézia) completed training. Facilities received between one and three follow-up visits, online “masterclasses,” and district-level mentoring. Only half of the 24 sampled HCFs had at least one person trained on WASH-FIT.

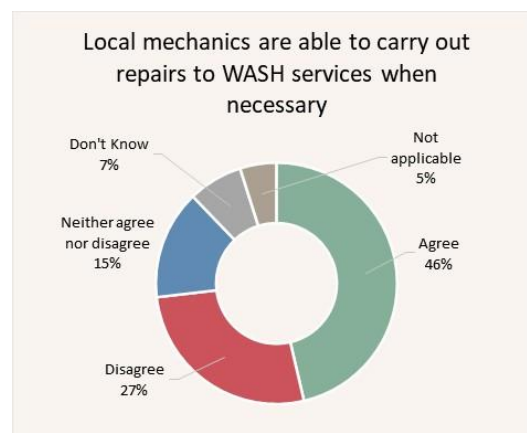
Online responses showed 1.8 people trained per facility on average (Sofala 2.3). **Agreement that WASH-FIT provides an adequate assessment of facility WASH services was 88% overall; 80% in Zambézia, 96% in Sofala, and 77% in Nampula reflecting the degree of WASH-FIT implementation in each Province.**

The 2022 manual has been translated into Portuguese and approved by DEH, with the intention of hosting the modules on Telessaúde to increase access. Some respondents noted that the English acronym was difficult to pronounce, suggesting a Portuguese equivalent. Expansion and sustainability are still constrained by the need for continued funding and reliance on external funds for training, supervision, and follow-up.

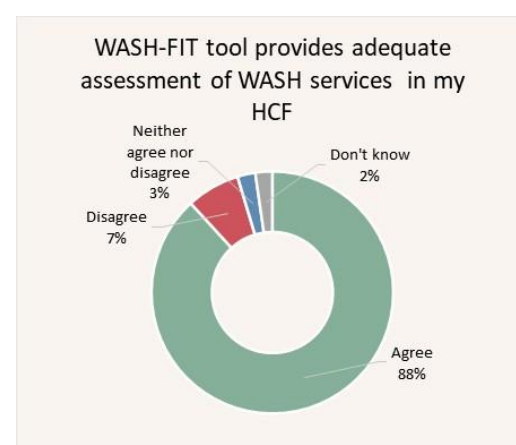
Discussion

A capable, motivated health workforce is essential for safe, functional, and resilient health services. In Mozambique, limited numbers of trained personnel, especially SAs, undermine the continuity of hygiene, waste management, and IPC practices, echoing trends across sub-Saharan Africa where human resource shortages remain a key systems bottleneck.

Manpower and capacity - SAs in Mozambique shoulder a wide range of tasks with minimal support and recognition. Although some districts have recruited additional SAs, the ratio between staff and workload remains inadequate, particularly in high-volume maternity facilities. Similar constraints have been documented in Malawi (Elling et al., 2022), where short training cycles and lack of follow-up reduced cleaning standards. Without continuous mentoring and supervision, knowledge gained during brief training is difficult to sustain.



“We’re talking about more or less five stages of effective implementation (in the improvement cycle) ... So it’s not an immediate process. It’s a process that takes time to assimilate, for that is also the guarantee of the very sustainability of WASH-FIT.”
KII 045



Training quality and approaches - Current O&M and environmental cleaning trainings are appreciated but overly condensed and heavily theoretical. Materials are seldom adapted to literacy levels and practical learning needs. Evidence from other low-resource contexts (Patrick et al., 2024)⁶⁴ suggests that experiential learning, using pictorial manuals, peer demonstrations, and repetition, can significantly improve retention. Mozambique could leverage electronic platforms such as Telessaúde for modular training and certification, ensuring standardization and alignment with national curricula.

Consolidate training and supervision at HCF level - Staff training on IPC, including a basic course for SA, is mandated by the MoH but is currently inconsistent at the district level. To standardize induction and on-the-job training, the MoH should implement a designed induction package and job-aids for all new staff, especially Service Assistants, focusing on essential IPC steps (environmental cleaning, waste management, and hygiene). A short annual refresher course, linked to certification, is also recommended.

Furthermore, the lack of a functional central database (like the unavailable Health Professional Continuous Training database (SIFO) to track who has received training and who are certified trainers is hindering the planning of future training and refresher courses.

Motivation and supervision - SAs lack structured incentives and professional development opportunities. And supervision (internal and external) remains fragmented. The absence of standardized checklists, job aids, and monitoring forms erodes accountability. Integrating IPC and WASH oversight at the HCF level, with joint mentoring and periodic audits, would help institutionalize standards and reinforce teamwork (Patrick et al⁶⁵).

WASH-FIT as a management and learning tool - Mozambique’s WASH-FIT roll-out has shown positive effects where consistent coaching occurs—especially in Sofala—but national expansion depends on sustained funding. Globally, WASH-FIT has been embedded in training curricula (e.g., Indonesia, Georgia) and used for local planning (e.g., Nepal, Mali)⁶⁶. Mozambique’s digital platform, once operational, could enable similar data use for performance review and resource allocation.

Training modalities and behavioral change - Sustainable improvement requires combining technical skills with supportive supervision and adequate resources. Practical simulations, mentoring, and peer exchanges should complement formal instruction. However, behaviour change cannot be maintained without reliable water, cleaning supplies, and functioning infrastructure—highlighting that workforce training and systems strengthening must proceed in tandem.

Overall, Mozambique’s experience demonstrates the importance of institutionalizing workforce capacity within the health system rather than relying on project-based interventions. Building a recognized professional cleaning cadre, harmonizing training across MoH departments, and linking WASH-FIT to continuing education would strengthen accountability, motivation, and ultimately the quality of care.

Emerging technical support options - Piloting of regional O&M technicians could be a promising approach to bridging capacity gaps between health facilities and district authorities. By providing specialized technical assistance across several districts, these technicians could strengthen diagnostics, reduce delays in maintenance, and enhance follow-up on WASH-FIT implementation. Similar regional maintenance models in Ethiopia and Uganda have shown positive results, improving system functionality and local ownership through faster response times and clearer accountability lines (FMoH Ethiopia, 2019;⁶⁷ Isunju et al., 2022⁶⁸). The long-term success of this model in Mozambique, however, will depend on its institutionalization within MoH structures and the availability of sustained domestic financing once external support phases out.

The current capacity-building outline above only focuses on technical skills and not the critical operational capacities (vehicles, computers, asset management etc.) and financial (business planning etc.) required at the different levels of the health services so that health authorities at all levels can sustainably execute their mandates. This component should be included to not only increase skills but also engagement and accountability.

⁶⁴ Patrick, M., Kilpatrick, C., Storr, J. et al. Environmental cleaning barriers and mitigation measures identified through two initiatives in four countries, 2018–2023: a commentary. *Antimicrob Resist Infect Control* 13, 134 (2024).

⁶⁵ Patrick, M., Kilpatrick, C., Storr, J. et al. Environmental cleaning barriers and mitigation measures identified through two initiatives in four countries, 2018–2023: a commentary. *Antimicrob Resist Infect Control* 13, 134 (2024). <https://doi.org/10.1186/s13756-024-01491-5>

⁶⁶ WHO and UNICEF. 2025. Implementation of the water and sanitation for health facility improvement tool (WASH FIT): global report.

⁶⁷ The Federal Ministry of Health’s National WASH Implementation Framework (2019)

⁶⁸ Isunju JB, Ssekamatte T, Wanyenze R, Mselle JS, Wafula ST, et al. (2022) Analysis of management systems for sustainability of infection prevention and control, and water sanitation and hygiene in healthcare facilities in the Greater Kampala Area, Uganda. *PLOS Water* 1(5): e0000021. <https://doi.org/10.1371/journal.pwat.0000021>

Step 6 – Develop health workforce - Conclusion

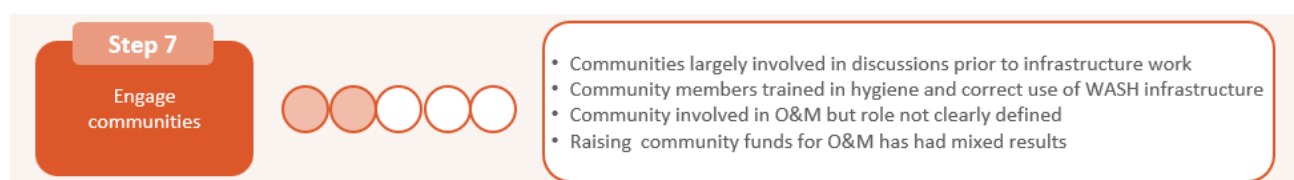
A well-trained, well-supported, and motivated workforce is a cornerstone of resilient health systems. The WinHCFs initiative has **significantly contributed to strengthening staff competencies** in O&M, hygiene, and waste management, though **capacity remains uneven** and overly **dependent on external support**. High workloads, staff turnover, fragmented supervision, and the absence of standardized procedures continue to limit sustainability.

Long-term improvement will require updating WASH and IPC curricula and training materials within pre-service and in-service training, integrating WASH-FIT into national quality systems, and ensuring structured supervision and incentives. **Sustained government investment in human resources and operational capacity at all levels** is essential to translate these gains into lasting improvements in service quality and patient safety.

Step 6 – Develop health workforce - Recommendations

R13	Scale up WASH-FIT and strengthen practical learning approaches Expand training to a broader range of health professionals and community members using blended and practical methods, including on-the-job coaching and digital modules. Districts and provinces should maintain updated databases of all trained personnel to support planning and supervision.
R14	Institutionalize WASH and IPC in pre-service curricula Support DEH, together with the IPC and Health Professionals Training department, to integrate WASH, IPC, and basic O&M competencies, including WASH-FIT, into curricula at health science institutes and other health education institutions to ensure long-term workforce capacity.
R15	Standardize induction and refresher training for new and existing staff Develop and roll out an induction package on IPC and WASH for all new health facility staff, emphasizing environmental cleaning, waste management, and hygiene. Establish short annual refresher courses to reinforce competencies and accountability.
R16	Update and disseminate standard tools and job aids Finalize and distribute harmonized promotional materials, SOPs, and job aids across all provinces to support consistent implementation, supervision, and continuous quality improvement.
R17	Strengthen institutional and operational capacity at all levels Collaborate with MoH departments to reinforce management, operational, and financial capacities—such as supervision logistics, equipment, and budget planning, so health authorities can sustainably fulfill their mandates.

3.8 Engage communities



Community members and organizations are key partners in sustaining WASH and IPC services in healthcare facilities. Their participation helps ensure that services meet local needs, remain functional through shared management of infrastructure, and reinforce hygiene and health promotion within both the facility and surrounding community.

Findings

Community members and organizations play an important role in ensuring that HCFs deliver quality care, maintain WASH infrastructure, and promote good hygiene practices. In Mozambique, engagement has largely occurred through pre-existing community structures: **Water Committees** under the Ministry of Public Works' PROSANAR program, **Health Committees** promoting healthy behaviors and campaign mobilization, and **Co-management Committees** linking HCFs with surrounding communities. In many sites, the same individuals held leadership roles across several of these committees.

Where cooperation between HCFs and communities was strong, respondents reported better protection of facilities, faster response to minor repairs, and fewer incidents of vandalism. In contrast, communities that had not been involved in early discussions about WASH improvements were more likely to view the infrastructure as external and government owned. Several cases of vandalism of boreholes were reported when community systems failed while the HCF supply continued functioning.

Most HCF and community respondents recalled being consulted during the planning or construction phases, usually through local administrative structures or provincial workshops organized by DPOP or DPS/SPS. However, a few facilities reported that contractors arrived without prior community notice.

In the online survey, **78% of all respondents confirmed that such consultations took place during the design and construction phases**; 100% of respondents in Zambézia, 75% in Sofala, and 64% in Nampula —showing variable participation across provinces.

Committee members were also engaged in O&M of water systems. Typically, one committee member with pump experience assisted HCF directors in diagnosing and resolving breakdowns. Co-management Committees often coordinated these repairs, especially where boreholes were shared between the community and HCF.

Communities have also been encouraged to **raise small funds for minor repairs** to WASH infrastructure. About **25% of surveyed HCFs** reported such arrangements, though collection success varied. Contributions ranged from **10 to 50 meticaïs per household per month**, typically accumulating **3,000–4,000 meticaïs** monthly—enough for limited replacements like taps. However, in some cases funds were mismanaged or declined over time due to weak accountability and declining motivation. A few communities expressed reluctance to contribute, viewing the HCF as a government responsibility.

Health staff or community volunteers provided daily short **hygiene talks** for patients and caregivers, often repeating key messages from O&M training on correct use of toilets and handwashing stations and importance of hygiene practices. Yet, it was observed by the field team and respondents commented on a lack of visual materials, serial albums, or posters. A few facilities used practical demonstrations—for example, showing proper handwashing at fountains or introducing maternity patients to the WASH facilities.

Community committee members also gave talks on household hygiene and sanitation using serial albums supplied by NGOs. Both health workers and community leaders emphasized that their credibility and influence were critical for reinforcing behavioral change.

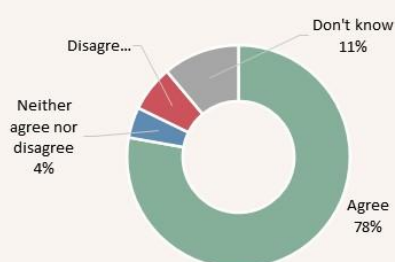
“When it comes to maintaining the system, everyone already comes together, because the water committee already has it, it already gives feedback to the others who are on the co-management committee. So the system then works together, because that one could get sick? Yes. Can the Co-Management Committee do that activity? Yes. Usually only the water committee works together, it has an extra skill, it knows. Have you previously known how to handle the system, the wells and so on, how to close them, how to open them? Yes. So we use his skills more to be able to teach the committee as well and work together.”

KII 011

“But suddenly, the community [water] stopped. No more water is coming out. We're just using the water, here at the health center. All the people used to come here. Where did we create rivalry? Because we had already tried to implement a small contribution, which was so that if there was a fault or the tap broke, we could have a fund to buy a tap and put it back on. But the population didn't buy it. We're [the community] not going to do it. You've come to ruin our pumps. That's a lot of stuff.”

KII 025

There was a consultation phase during design and construction phases



In the online survey, **24% of respondents agreed that communities had not been adequately informed** about proper use of HCF WASH facilities, 58% disagreed, and 16% were neutral, indicating that communication quality remains uneven.

“When we have meetings, we talk a lot about how to take care of our health center. But we also have to sensitize the communities so that when they come to the health center, they fetch water and use the taps properly, because other people send children to get water from our taps and sometimes when they get there, the children use the taps in any way they can. So we have to mobilize people to teach them how to use the taps properly so as not to damage them.”

FGD 001

Nevertheless, most key informants perceived visible progress in hygiene behaviors, including proper toilet use, handwashing before consultations, and cleaner compounds, though they acknowledged that behavioral change was gradual.

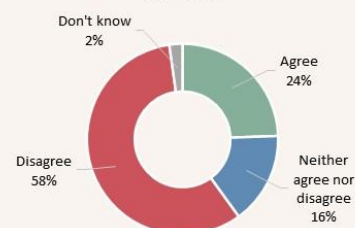
“We bear in mind that changing behavior is a process, it's a process. More and more we're going to give talks, we're going to do health education. The community will become aware, it will change, it will change its behavior.”

KII 037

“Hum. I can say that there will be a lot of improvement, because even after we had the water supply in the toilets, there are some people who still didn't know how to use what we've just said. Sometimes it's not sabotage and because we didn't know when we had it, we went through a lot of complicated situations, for example, mainly with misuse agents. So how long have we been explaining that it works like this? In this case, you have to do this, you have to do that. So since then there's been a lot of improvement in terms of use of their own water in neighborhood homes.”

KII 009

The community was not adequately informed on how to use the WASH services



Discussion

Effective community engagement is fundamental to the sustainability of WASH and IPC services in healthcare facilities. Mozambique's experience demonstrates both the opportunities and the limitations of current participatory mechanisms. While the presence of Water, Health, and Co-management Committees provides a foundation for collaboration, their functionality varies widely. Many operate without clear terms of reference, adequate training, or reliable resources, which limits their ability to influence maintenance decisions or sustain hygiene behavior change.

“The members of the water committee have their roles to play in things that are more their domain. The president of the water committee can come to control, for example, misuse, if children are playing with the tap and he can't locate the child, from which house, and then he goes to talk to the parents about using the tap.”

KII 008

Early and inclusive participation during the planning and construction phases was linked to stronger ownership and protection of WASH infrastructure. Facilities where communities were meaningfully consulted reported fewer incidents of vandalism and greater willingness to contribute financially to repairs. Conversely, limited communication or exclusion from decision-making fostered perceptions that HCF infrastructure was government property alone, reducing community accountability. This mirrors findings from other contexts (see below) in which trust, transparency, and shared responsibility were key determinants of community participation in WASH management.

Lessons from comparable regional experiences highlight practical strategies to strengthen community roles. In **Malawi**, the introduction of *Bwalo* community forums, a citizen-led platform for dialogue and accountability, enabled communities to hold local duty-bearers accountable for WASH and maternal health service delivery, improving facility hygiene and responsiveness (Butler et al., 2020)⁶⁹. In **Bangladesh** and **Ghana**, participatory accountability mechanisms established under the HSBC–WaterAid program demonstrated that joint monitoring by community members and trained health workers led to measurable improvements in facility cleanliness, functionality, and patient satisfaction (WaterAid, 2020)⁷⁰. Similarly, in **Tanzania**, the institutionalization of participatory health-facility governance committees under the Primary Health Care Strengthening Program promoted structured dialogue between staff and users, resulting in cleaner

⁶⁹ Butler N, Johnson G, Chiweza A, et al. A strategic approach to social accountability: Bwalo forums within the reproductive maternal and child health accountability ecosystem in Malawi. BMC Health Serv Res. 2020;20(1):568. Published 2020 Jun 22. doi:10.1186/s12913-020-05394-0

⁷⁰ WaterAid. HSBC Water Programme. WASH in Health Care Facilities. Lessons Learnt from Bangladesh and Ghana. 2020. Learning Note

environments and more transparent budget allocations for sanitation (WHO & MoHCDGEC, 2021)⁷¹. These cases confirm that when communities have defined roles, access to information, and feedback mechanisms, they become powerful partners in maintaining service quality and accountability.

Mozambique's Co-management Committees could play a comparable role if their mandates were clarified and their capacity strengthened. Providing regular training in operations and maintenance, transparent fund management, and participatory monitoring—through tools such as community scorecards or inclusion in WASH-FIT reviews—would institutionalize community oversight. Importantly, collaboration between the Departments of Environmental Health, IPC, and Health Promotion would help harmonize engagement approaches, ensuring that hygiene promotion in facilities and surrounding communities uses consistent messages and materials.

Ultimately, community engagement must move beyond ad hoc participation toward an integrated, policy-driven approach. Institutionalizing participatory mechanisms within the WinHCFs framework—supported by supervision, feedback, and incentives—would reinforce accountability and ensure that improvements in WASH services are both maintained and valued by those they are intended to serve.

Step 7 – Engage communities - Conclusion

Community engagement remains a cornerstone of sustainable WASH and IPC improvement in Mozambique's HCFs. While **existing community structures** such as Co-management, Health, and Water Committees provide an important interface between the health system and service users, their **functionality is uneven and largely dependent on the quality of relationships with facility staff**. Where engagement has been genuine, particularly during planning and construction, communities have shown stronger ownership, supported maintenance, and reduced vandalism. However, overlapping roles, limited communication, and lack of clear guidance constrain their effectiveness.

Regional experience from Malawi, Bangladesh, Ghana, and Tanzania shows that when communities have clearly defined roles, access to information, and structured feedback mechanisms, they can drive accountability and sustainability in health service delivery. For Mozambique, the **opportunity now lies in formalizing community participation** within the WinHCFs framework, transforming committees from ad hoc actors into active partners in monitoring, maintenance, and behavior change.

Step 7 – Engage communities - Recommendations

R18

Formalize and strengthen community engagement mechanisms.

Working with district and provincial health authorities, update and standardize the ToRs defining community roles in WinHCF, particularly for Co-management and Water Committees. The revised ToRs should clarify responsibilities for O&M and financial oversight; institutionalize community participation in monitoring and feedback through WASH-FIT and community scorecards; and ensure alignment with national IPC and health promotion strategies to promote shared accountability between health facilities and communities. This could be done through developing and implementing targeted behavior change strategies to promote community participation at the district and local level thereby encouraging ownership.

3.9 Conduct operational research and share learning

Step 8
Conduct
operational
research and share
learning



- This study is the first attempt to do implementation research and document lessons learned
- No learning sharing mechanism in place

⁷¹ World Health Organization (WHO) & Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) of Tanzania. (2021). Participatory facility governance and accountability in Tanzania: Lessons from the Primary Health Care Strengthening Programme. Geneva: WHO.

A strong evidence base for WASH in health care facilities is crucial for sustaining action and securing investment. By distilling and sharing learning from every level, facility, sub-national, national, regional, and global, continuous improvement can be catalyzed and innovation spurred.

Findings

Limited operational research and data sharing have constrained Mozambique’s ability to measure and communicate progress in WASH in HCFs. This study is the first attempt to do implementation research and document lessons learned from the WinHCFs Initiative in Mozambique.

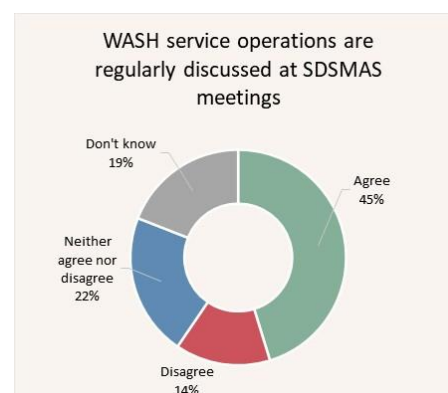
While multisectoral coordination mechanisms exist at national and provincial levels, no dedicated platform currently brings stakeholders together to reflect on WinHCF evidence or to translate learning into policy or practice.

At the national level, the TWG has not yet established a regular platform for reflecting on lessons from the implementation of WinHCFs and WASH-FIT. As a result, progress and learning are not systematically captured or shared across provinces. At provincial and district levels, discussions of WASH services generally take place within broader monthly progress meetings or emergency-response coordination, rather than as a dedicated topic. One key informant noted that in some districts, WASH issues are discussed within the *ForSAN* multisectoral coordination group, but this remains the exception rather than the norm.

To the online survey question on whether **“WASH services are discussed regularly at district meetings,”** 14% of respondents stated that there were no such discussions, 22% were indifferent, 19% didn’t know and **45% confirmed that discussions take place.** There was little variation among provinces. The finding that less than half of respondents reported regular discussion underscores the limited prioritization of WASH in district-level health planning.

Earlier steps in this assessment highlighted the absence of operational research on key topics such as O&M financing mechanisms, life-cycle costing, and the effectiveness of training on behaviour change, areas that key informants agreed remain under-funded and insufficiently documented.

To promote data use and collaboration, multi-sectoral data review meetings could be held quarterly at the district level, integrated into existing progress meetings to review challenges affecting WASH service delivery and identify corrective actions. At the national level, an annual reflection workshop involving all provinces and partners is recommended to disseminate results, review the progress against the roadmap, and identify priorities for advocacy and investment.



Discussion

Evidence and learning are essential to sustain progress in WASH in HCFs. In Mozambique, despite growing implementation experience, operational research remains ad hoc and largely partner-driven, limiting the country’s capacity to track results, test innovations, and inform decision-making. Establishing a national learning agenda, co-led by the MoH, the National Institute of Health, and development partners, would help structure and prioritize future studies, ensuring alignment with policy and investment needs.

Other countries’ experience demonstrates that such mechanisms can drive improvement and accountability. In Nepal, provincial health authorities use findings from WASH-FIT assessments to inform annual planning and budget allocations for infection-prevention activities (MoHP Nepal, 2023)⁷². In Ethiopia, peer-learning exchanges between districts have supported adaptive management and the scaling up of locally tested O&M solutions (FMoH Ethiopia, 2022)⁷³. In Uganda, the national WASH in HCF task force reviews annual partner reports to identify gaps and guide technical-assistance priorities (MoH Uganda, 2023)⁷⁴. These examples show that regular learning cycles, combining reflection, applied research, and dissemination, help institutionalize WASH within broader health-system performance reviews.

For Mozambique, structured forums for data sharing at district, provincial, and national levels could strengthen feedback loops and promote continuous improvement. Integrating WASH-FIT data into these reviews would allow facilities to

⁷² Ministry of Health and Population (MoHP), Nepal. Provincial WASH in Health Facilities Review Report. Kathmandu: Government of Nepal, 2023.

⁷³ Federal Ministry of Health (FMoH), Ethiopia. National WASH-FIT Implementation Summary. Addis Ababa: FMoH, 2022.

⁷⁴ Ministry of Health (MoH), Uganda. WASH in Health Care Facilities Annual Report. Kampala: MoH, 2023.

compare progress, identify common barriers, and share solutions. Generating and documenting operational evidence on cost-effective maintenance models, supervision strategies, and training outcomes would also improve program efficiency and attract domestic and external financing.

Step 8 – Conduct operational research and share learning - Conclusion

The lack of operational research, systematic data sharing, and structured reflection processes has hampered Mozambique's ability to measure progress, learn from implementation, and adjust strategies under WinHCFs. Creating a coherent national learning and knowledge-management framework, anchored in the MoH and linked to provincial systems, is essential for transforming implementation experience into evidence-based policy and sustained improvements in WASH in HCFs.

Recommendation #11 above covers proposed improvements related to this step.

3.10 Cost considerations

Cost considerations are central to ensuring that WASH investments in health care facilities are both efficient and sustainable. Understanding the scale and distribution of costs supports evidence-based planning, resource mobilization, and long-term financial management of WASH services.

Findings

Data availability and scope - Due to limitations in data availability, a basic cost analysis was conducted for only nine of the 24 HCFs sampled for this study. As such, findings should be interpreted with caution and are not representative of all WinHCF sites. The analysis is based on data extracted manually from UNICEF's contract database and associated documentation, covering projects in Nampula (seven), Sofala (one), and Zambézia (one). The data set reflects contracts implemented between 2019 and 2021.

For each category analyzed, averages were calculated based on the number of available data points, and a standard deviation ratio was used to indicate the spread or variability of costs between HCFs. A low deviation indicates greater consistency, while a high deviation suggests wide variability. Comparisons between provinces or contractors were not feasible due to the small sample size, the limited number of contractors (two), and variation in contract years.

All costs were standardized in United States dollars (US\$) using a conversion rate of 63.2 Mozambican meticals (MZN) per US\$. Given the limited sample, inflation adjustments were not applied.

Structure of cost data - UNICEF maintains a large cost-tracking database covering roughly 400 contract entries across its WASH programs since 2018. Each contract typically bundles several sites, meaning that extracting data per HCF requires detailed review of the individual bills of quantities. Cost categories in these documents vary by contractor and year, generally grouped under water supply, rehabilitation, and construction, with subcategories such as "water supply network," "metal tower and tank," "sanitary block," and "solid waste management."

This categorization complicates interpretation. For example, it is not always clear whether an intervention recorded under "water supply" constitutes a repair, rehabilitation, or new construction. In some cases, similar facilities show large cost variations: in Nampula's Murrupula District, the cost of a water supply network at Tiponha HCF was US\$1,800, while at Umuatho HCF it reached US\$9,110, a fivefold difference despite comparable facility types. Such variation however likely reflects differences in technical needs, e.g. borehole depth, distance of piping, or contract year, but this could not be confirmed from available data.

Average cost per facility - Among the nine HCFs with usable data, total budgets ranged from US\$35,298 (Barragem HCF, 2019) to US\$75,412 (Tacuane HCF, 2021, excluding preliminary works). The average cost per HCF was US\$59,207, with a 24% deviation rate (see Table 6). This average suggests that UNICEF's US\$100,000 per HCF budget ceiling is adequate, considering that this threshold amount also includes supervision costs that are not captured in this analysis (representing generally 5-10% of the construction costs) and technical assessments.

Table 5 – Total and average costs per HCF and standard deviance

Province	District	HCF name	Year	Contractor	Total US\$
Nampula	Monapo	Mecuco	2019	SAI Drilling	\$ 47,948
		Meserpane	2019	SAI Drilling	\$ 67,790
	Murrupula	Chinga	2021	SC Nasser	\$ 72,864
		Mulhaniua	2022	SC Nasser	\$ 43,856
		Tiponha	2022	SC Nasser	\$ 69,733
		Umuatho	2022	SC Nasser	\$ 67,145
	Nacala-Velha	Barragem	2019	SAI Drilling	\$ 35,298
Sofala	Buzi	Estaquina	2022	SC Nasser	\$ 52,816
Zambézia	Lugela	Tacuane	2021	SAI Drilling	\$ 75,412
Average US\$					\$ 59,207
Deviance US\$					\$ 14,455
Deviance %					24%

Cost by WASH service - When reclassified by WASH service type, i.e. water supply, sanitation, hygiene, waste management, and environmental cleaning, it was noted that environmental cleaning was not costed separately in any of the available infrastructure contracts. This is understandable, given that environmental cleaning does not involve infrastructure investment. The main building costs were categorized under sanitation, though these may also include toilet or hygiene components. Across the nine HCFs reviewed, the average distribution of total expenditure showed that **sanitation accounted for the largest share of costs (46 percent)**, followed by water supply (30 percent), with hygiene and waste management each representing around 8 percent. Preliminary works represented approximately 2 percent of total expenditure, while VAT was consistently set at about 6 percent across all contracts (See Figure 8 and Table 7).

Figure 9 – Proportion of costs per WASH system per HCF and on average across the 9 HCFs

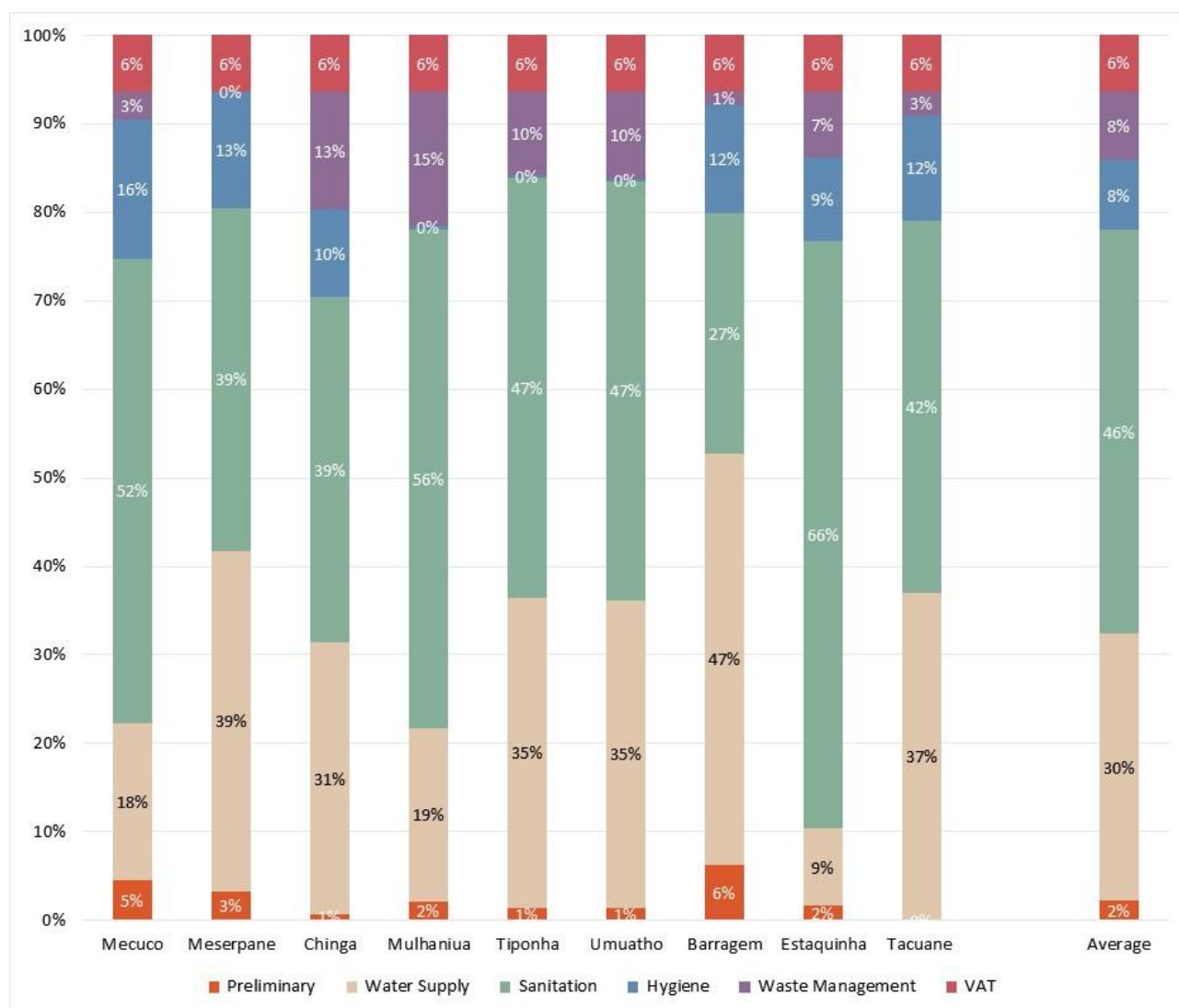


Table 6 – Costs per WASH system per HCF and average per HCF

	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia		Standard deviation	
	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela		US\$	%
	Mecuco	Meserpane	Chinga	Mulhanuia	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane	Average		
Preliminary	\$ 2,193	\$ 2,193	\$ 475	\$ 949	\$ 949	\$ 949	\$ 2,193	\$ 870	\$ -	\$ 1,346	\$ 808	60%
Water Supply	\$ 8,513	\$ 26,114	\$ 22,411	\$ 8,543	\$ 24,502	\$ 23,358	\$ 16,441	\$ 4,593	\$ 27,937	\$ 18,046	\$ 8,779	49%
Sanitation	\$ 25,120	\$ 26,238	\$ 28,430	\$ 24,756	\$ 33,027	\$ 31,748	\$ 9,568	\$ 35,114	\$ 31,693	\$ 27,299	\$ 7,591	28%
Hygiene	\$ 7,570	\$ 8,929	\$ 7,190	\$ 187	\$ 187	\$ 187	\$ 4,370	\$ 4,951	\$ 8,911	\$ 4,720	\$ 3,730	79%
Waste Management	\$ 1,500	\$ -	\$ 9,719	\$ 6,628	\$ 6,628	\$ 6,628	\$ 479	\$ 3,925	\$ 2,070	\$ 4,697	\$ 3,382	72%
VAT	\$ 3,053	\$ 4,316	\$ 4,639	\$ 2,792	\$ 4,440	\$ 4,275	\$ 2,247	\$ 3,363	\$ 4,802	\$ 3,770	\$ 920	24%
Total US\$	\$ 47,948	\$ 67,790	\$ 72,864	\$ 43,856	\$ 69,733	\$ 67,145	\$ 35,298	\$ 52,816	\$ 75,412	\$ 59,207	\$ 14,455	24%

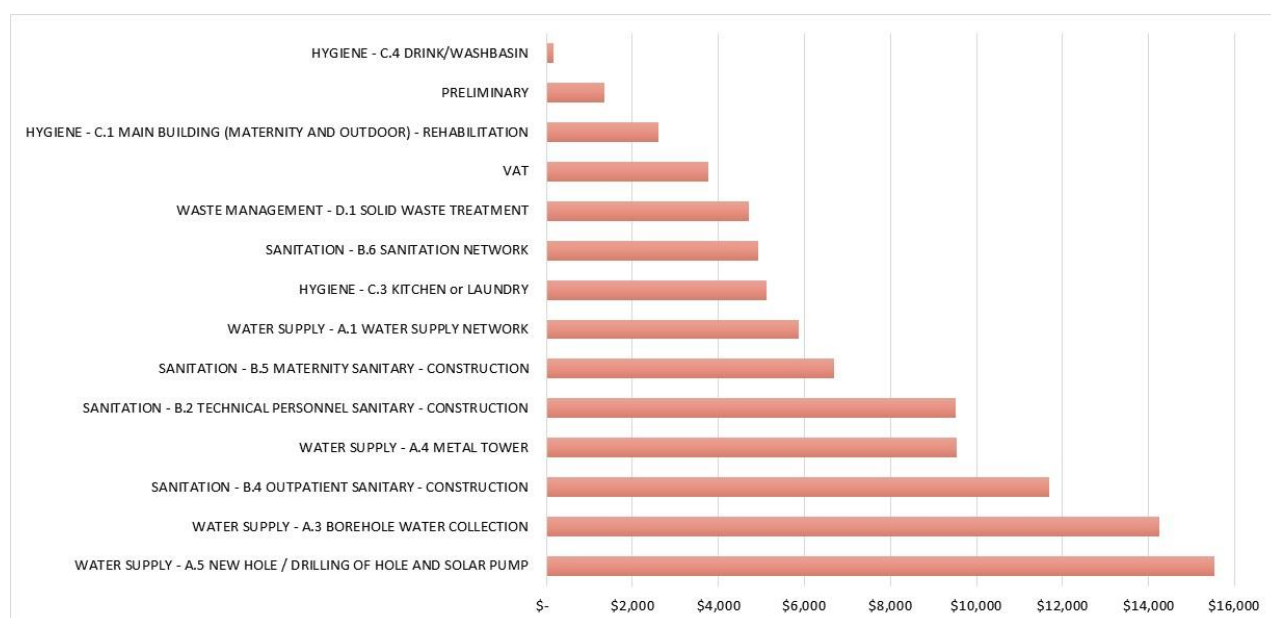
Cost drivers - Disaggregating costs by line item revealed key cost drivers across service areas. Table 8 provides an overview of costs per item, classified from highest to lowest average cost within each WASH service category (only for cost items with data points), while Figure 9 provides an overview of all cost items across WASH service categories, ordered from most to least costly.

Within water supply, the highest expenditures were linked to borehole drilling, solar panel installation, and pumping systems. For sanitation, the construction of outpatient sanitary facilities and staff toilets accounted for the largest shares. Under hygiene, kitchen and laundry works were the costliest components. Overall, three of the four most expensive cost items belonged to the water supply category, while waste management and minor rehabilitation works were among the least costly.

Table 7 – Cost driver per cost item (average cost) for each WASH service

	Average	Standard deviation	
		US\$	%
PRELIMINARY	\$ 1,346	\$ 808	60%
A. WATER SUPPLY			
A.5 NEW HOLE / DRILLING OF HOLE AND SOLAR PUMP	\$ 15,534	\$ 9,345	60%
A.3 BOREHOLE WATER COLLECTION	\$ 14,248	\$ 6,283	44%
A.4 METAL TOWER	\$ 9,538	\$ 4,241	44%
A.1 WATER SUPPLY NETWORK	\$ 5,856	\$ 2,908	50%
B. SANITATION			
B.4 OUTPATIENT SANITARY - CONSTRUCTION	\$ 11,689	\$ 2,954	25%
B.2 TECHNICAL PERSONNEL SANITARY - CONSTRUCTION	\$ 9,516	\$ 3,836	40%
B.5 MATERNITY SANITARY - CONSTRUCTION	\$ 6,692	\$ 4,328	65%
B.6 SANITATION NETWORK	\$ 4,922	\$ 2,026	41%
C. HYGIENE			
C.3 KITCHEN or LAUNDRY	\$ 5,115	\$ 2,825	55%
C.1 MAIN BUILDING (MATERNITY AND OUTDOOR) - REHABILITATION	\$ 2,593	\$ 1,828	71%
C.4 DRINK/WASHBASIN	\$ 168	\$ 100	59%
D. WASTE MANAGEMENT			
D.1 SOLID WASTE TREATMENT	\$ 4,697	\$ 3,382	72%
TOTAL WORK	\$ 55,437	\$ 13,534	24%
VAT	\$ 3,770	\$ 920	24%
TOTAL WORK w/ IVA USD	\$ 59,207	\$ 14,455	24%

Figure 10 – Cost driver per cost item (average cost) across WASH services



Cost by level of intervention - Based on technical classifications, UNICEF's WASH support typically falls under three levels of intervention: repairs, rehabilitation, and construction. However, the reviewed budgets do not consistently align with these categories. For the purpose of this analysis, it was assumed that most water supply works represented construction. Under this assumption, the **majority of UNICEF's investment** across the sample (approximately **89%**) was allocated to **construction**, 4% to rehabilitation, and the remaining 8% to preliminary works and VAT (See Table 9). Rehabilitation costs displayed the highest variability between contracts, which is logical, assuming that each rehabilitation scope differs based on needs.

Table 8 – Costs per level of intervention per HCF and average per HCF

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia			
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela			
HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane	Average	US\$	%
Preliminary	\$ 2,193	\$ 2,193	\$ 475	\$ 949	\$ 949	\$ 949	\$ 2,193	\$ 870	\$ -	\$ 1,346	\$ 808	60%
Construction	\$ 40,315	\$ 57,372	\$ 66,911	\$ 40,114	\$ 64,344	\$ 61,921	\$ 29,964	\$ 43,632	\$ 68,033	\$ 52,512	\$ 14,098	27%
Rehabilitation	\$ 2,388	\$ 3,909	\$ 839	\$ -	\$ -	\$ -	\$ 894	\$ 4,951	\$ 2,578	\$ 2,593	\$ 1,828	71%
VAT	\$ 3,053	\$ 4,316	\$ 4,639	\$ 2,792	\$ 4,440	\$ 4,275	\$ 2,247	\$ 3,363	\$ 4,802	\$ 3,770	\$ 920	24%
Total US\$	\$ 47,948	\$ 67,790	\$ 72,864	\$ 43,856	\$ 69,733	\$ 67,145	\$ 35,298	\$ 52,816	\$ 75,412	\$ 59,207	\$ 14,455	24%

Cost per beneficiary – To derive a cost per beneficiary, catchment and service data were gathered at HCF level during fieldwork (conducted remotely for Sofala province) and used as denominators for these calculations (see first half of Table 10 below). Outpatient visits were extrapolated to annual figures using an estimated **251 working days per year**, while deliveries were multiplied by **365 days**, assuming year-round availability of maternity services.

The second half of Table 10 shows the average costs per different groups or sets of beneficiaries: in blue the total cost of work divided by different groups of beneficiaries, and in light amber some more detailed and specific costs (such as staff sanitation work for instance), divided by a specific set of beneficiary group data (such as the number of staff for instance).

Based on available data, the investment in WASH infrastructure translates into an average of:

- **US\$2.7 per person** in the HCF catchment population,
- **US\$2.5 per annual outpatient visit**,
- **US\$48.6 per annual delivery**, and
- **US\$5,850 per staff member**.

These figures should be interpreted cautiously given the small sample and wide standard deviations (up to 79% for catchment population).

Table 9 - Average cost in US\$ per different groups or sets of beneficiaries

Indicator	Nber of data	Average	Standard Deviation	
Av. Population of Health Area	7	21,848.86	8,057.55	37%
Av. Number of staff	9	10.11	2.98	29%
Av. Number of Consultations per year (=daily*251)	9	23,733.44	9,966.87	42%
Av. Births per year (=daily*365)	9	1,216.67	258.09	21%
Av. Number of maternity beds	8	4.13	1.96	48%
Av. Total cost per catchment population (7 HCF)	7	\$ 2.72	\$ 2.16	79%
Av. Total cost per outpatients per year	9	\$ 2.49	\$ 1.09	44%
Av. Total cost per staff	9	\$ 5,850.99	\$ 2,582.82	44%
Av. Total cost per annual deliveries	9	\$ 48.62	\$ 14.65	30%
Av. Cost of technical personnel sanitary per staff	8	\$ 941.10	\$ 225.40	24%
AV. Cost of maternity sanitary per annual delivery	2	\$ 8.09	\$ 0.87	11%
Av. Cost of maternity sanitary per bed	2	\$ 2,385.37	\$ 391.32	16%

Discussion

The cost findings reveal significant variation across facilities and highlight persistent data and classification gaps that limit the ability to perform robust financial analysis. Inconsistent terminology across contracts and incomplete documentation make it difficult to determine true cost drivers. Addressing these weaknesses will require standardized costing frameworks, clearer bill-of-quantity templates, and systematic recording of expenditures by WASH service component and intervention type.

Despite these limitations, the analysis provides useful insights into where efficiency gains could be achieved. The predominance of sanitation and water supply in total expenditures suggests that small improvements in design efficiency or procurement practices could generate meaningful cost savings. Reviewing major cost drivers such as borehole drilling, solar installations, and sanitary block construction could help identify opportunities for rationalizing expenses and developing cost benchmarks for future planning.

Long-term cost efficiency also depends on the functionality and preventive maintenance of infrastructure. Evidence from key informants suggests that many expensive breakdowns result from delayed minor repairs or lack of spare parts. Strengthening local ownership, establishing regional maintenance technicians, and ensuring timely access to repair materials would extend the lifespan of WASH assets and reduce the need for costly rehabilitation.

Procurement practices further influence costs. High prices for construction materials, particularly those sourced from outside the province, were cited as recurring challenges. UNICEF and provincial authorities could work together to identify and certify local suppliers, harmonize technical specifications, and negotiate bulk procurement across provinces. Such approaches would improve cost efficiency while supporting local supply chains and enhancing sustainability.

There is limited empirical cost data from other countries on comprehensive WASH-in-HCF interventions against which to benchmark Mozambique's experience. Most available studies, such as global modelling by Chaitkin et al. (2022)⁷⁵ or regional synthesis reports from WASHinHCF.org (2024)⁷⁶, provide aggregate investment estimates rather than disaggregated, facility-level costing. This underscores Mozambique's contribution in documenting real expenditure patterns and cost drivers at facility level.

Overall, the analysis highlights both the progress made and the opportunities ahead. Mozambique's experience demonstrates the value of systematic financial tracking in promoting transparency and informed decision-making. Establishing a standardized cost-monitoring framework, integrated with WinHCFs reporting and aligned with government financial systems, would enable more precise budgeting, better allocation of resources, and stronger advocacy for sustainable WASH financing.

Cost considerations - Conclusion

This initial cost analysis, though based on limited data, provides an important starting point for understanding the financial dimensions of WASH in HCFs in Mozambique. It reveals **wide variation in costs across sites** and highlights **major data gaps** that prevent a comprehensive assessment of efficiency and value for money. The findings suggest that UNICEF's current **per-facility cost ceiling of US\$100,000 remains adequate** for planning purposes, but greater precision could be achieved through standardized costing templates and systematic tracking of expenditures by WASH service component and intervention type.

Improving cost data collection and management is not only a technical necessity but also a strategic one. **Transparent and consistent financial data** will enable the MoH and its partners to **plan and budget more accurately, support advocacy** for increased investment in WASH, and **identify opportunities for cost optimization**, particularly in high-cost areas such as sanitation and water supply.

Cost considerations - Recommendations

R19

Establish a standardized national system for cost tracking and financial reporting

Support the MoH and UNICEF to develop and adopt harmonized cost-coding templates and reporting tools within the WinHCF framework. This should enable consistent classification of expenditures by WASH service (water, sanitation, hygiene, waste management, environmental cleaning) and intervention type (repair, rehabilitation, construction), improving accuracy and comparability across provinces.

⁷⁵ Chaitkin, M., Udeh, C., Smits, S., et al. (2022). Estimating the cost of achieving universal access to basic water, sanitation, hygiene and waste services in public health-care facilities in the 46 UN-designated least-developed countries: a modelling study. *The Lancet Global Health*, 10(7), e1021–e1029. [https://doi.org/10.1016/S2214-109X\(22\)00112-1](https://doi.org/10.1016/S2214-109X(22)00112-1)

⁷⁶ WASH in Health Care Facilities Global Initiative / UNICEF & WHO. (2024). Consensus Statement on WASH, Waste and Electricity in Health Care Facilities – Eastern and Southern Africa Region. <https://www.washinhcf.org>

R20	Build capacity and institutionalize cost monitoring for planning and budgeting Strengthen provincial and district capacity to collect, validate, and analyze financial data and integrate these data into WinHCF monitoring systems. Regular provincial and national financial reviews should be used to inform resource allocation, identify efficiency gains, and guide future investment planning.
R21	Improve procurement efficiency and promote value for money Facilitate joint procurement and local sourcing of construction and O&M materials to reduce costs, support local markets, and improve supply chain sustainability. Over time, a comprehensive value-for-money review should be undertaken to establish cost benchmarks and identify opportunities for cost savings and design optimization.

3.11 Sustainability

Through the WinHCFs initiative, UNICEF aims to ensure that WASH services in health care facilities are sustained over time, financially, socially, and environmentally, encompassing the entire service lifecycle. This ambition requires not only reliable infrastructure but also institutional ownership, budgetary commitment, and systematic capacity building at all levels of the health system.

Mozambique has introduced several promising sustainability measures. Model designs and standards for climate-resilient infrastructure have been developed, and UNICEF has adopted a strategy of splitting contracts between hydraulic and civil construction companies to widen the pool of qualified contractors and reduce implementation delays. The national adoption of WASH-FIT as a tool for facility-led improvement, complemented by national training-of-trainers and technical rollouts, represents a key step toward institutionalization. Hybrid training approaches, blending short formal sessions with practical, on-the-job coaching linked to WASH-FIT, have been introduced to improve efficiency and reduce costs.

Other measures include UNICEF's potential placement of regional O&M technicians to support several districts. In parallel, small repair funds have been established and strengthened engagement through co-management and water committees, reflecting locally driven approaches that complement the WinHCFs objectives. Together, these interventions aim to enhance local capacity and ownership of WASH infrastructure.

Despite these efforts, **several systemic gaps persist.** The absence of a comprehensive costing roadmap limits the government's ability to monitor progress, plan investments, or advocate for sustained domestic financing. Institutional accountability for O&M remains unclear, and WinHCFs' current position within the DEH offers limited visibility or leverage to influence broader MoH planning. Coordination between departments working on related areas, such as IPC, Quality Assurance, and Health Promotion, remains fragmented, and WASH supervision is often deprioritized in favor of clinical programs.

UNICEF's typical two-year support window at provincial and district levels provides only a **limited period for embedding new practices.** While infrastructure is handed over to the government at project completion, post-handover ownership and capacity remain weak. Field feedback indicates that without continuous supervision or budgetary provision, even well-trained staff struggle to maintain new systems once partner funding ceases.

There has been limited evidence of government-led scale-up beyond the 229 WinHCF-supported facilities, except for WASH-FIT training in selected provinces. However, some other partners have begun adopting similar approaches, aligning with the eight WinHCF steps in their own programs, showing potential for harmonization and broader adoption if stronger national coordination is established.

Three main pathways emerge as critical to sustaining progress:

- **Prioritizing full WASH-FIT rollout** as a framework for continuous assessment, supervision, and accountability. Other countries (e.g., Ethiopia and Nepal) have shown that when WASH-FIT is embedded within national quality-of-care systems, it drives regular data use and targeted investment⁷⁷.

⁷⁷ Ministry of Health, Ethiopia & WHO. National WASH-FIT Implementation Review Report. Addis Ababa, 2023; Ministry of Health and Population, Nepal & UNICEF. Integrating WASH in Quality of Care for Maternal and Newborn Health. Kathmandu, 2022

- **Rebranding WinHCFs as a quality-of-care initiative** rather than an infrastructure project, integrating it into existing maternal, child health, and IPC strategies to ensure visibility and policy alignment. Similar repositioning in Uganda has helped WASH become part of hospital accreditation and performance reviews⁷⁸.
- **Building a stronger evidence case for investment** by tracking costs and outcomes systematically, using WASH-FIT data and operational research to demonstrate the return on investment for safe WASH services.

Finally, UNICEF’s provincial engagement model could be strengthened by dedicating separate roles for “software” (capacity building, monitoring, and community engagement) and “hardware” (engineering and construction). Alternatively, partnerships with civil society organizations for ongoing mentoring and supervision — as tested in the WASH-FIT pilot — could offer a sustainable way to maintain capacity once donor support ends.

4 Conclusions

Over the **six years of implementation**, the WinHCFs initiative in Mozambique has made **tangible progress in improving access to safe water, sanitation, and hygiene services** in HCFs, while **laying the groundwork for more systemic integration** within the health sector. The program’s initial focus on infrastructure development has resulted in visible improvements in service availability across more than 160 HCFs by the end of 2024, often in challenging operational contexts affected by climatic shocks, insecurity, and epidemics. These achievements were complemented by efforts to strengthen institutional capacity through training, development of technical standards, and the introduction of WASH-FIT as a tool for continuous quality improvement.

Despite these accomplishments, the program’s **enabling environment remains only partially developed**. Critical gaps persist in institutional ownership, financing, and monitoring systems. The absence of an approved national roadmap and investment plan has constrained long-term planning and budget advocacy. While multisectoral coordination structures and technical working groups exist, participation has been inconsistent, and WinHCFs continues to be perceived as a UNICEF-driven initiative rather than a fully government-led program. Capacity limitations at district and provincial levels, particularly in supervision, contract management, and operations and maintenance, continue to affect service reliability and sustainability.

Data and monitoring remain a significant bottleneck. Fragmented information systems, irregular WASH-FIT use, and pending endorsement of WinHCF indicators in the national HMIS have limited evidence generation and accountability. The planned digital WASH-FIT platform, combined with quarterly multisectoral data reviews, could substantially improve data use for decision-making and performance tracking. Similarly, the forthcoming costed roadmap and updated national standards represent important opportunities to consolidate progress toward a coherent national framework.

Financial sustainability remains a major challenge. Government budget allocations for health, and by extension WASH in HCFs, are limited and declining in real terms, with low execution rates and continued dependence on donor funding. The limited cost analysis conducted for this study found average investments of roughly US\$59,000 per facility—below UNICEF’s US\$100,000 planning ceiling—and unit costs of around US\$2.5 per annual outpatient visit and US\$2.7 per person in the catchment population. However, wide cost variability and lack of life-cycle costing data hinder evidence-based budgeting and efficiency gains. Improved local O&M management and procurement coordination could help reduce long-term costs.

Sustainability will depend on embedding WinHCFs within national systems and moving beyond an infrastructure-centric approach. The program’s greatest opportunities now lie in institutionalization: using WASH-FIT to drive continuous improvement, integrating WASH and IPC competencies into pre-service curricula, and positioning WinHCFs as a quality-of-care initiative rather than a stand-alone WASH program. Building the evidence base through operational research, including life-cycle costing and behavioral impact studies, will further strengthen advocacy and investment cases for government and partners.

Overall, WinHCFs in Mozambique has established a strong technical foundation and clear momentum toward achieving universal access to safe WASH services in health facilities. Consolidating these gains will require a deliberate shift from project implementation to system strengthening—anchoring accountability, data use, and financing within the health

⁷⁸ WaterAid Uganda. Embedding WASH within Quality Improvement in Health Facilities: Lessons from Uganda. Kampala, 2021

sector’s institutional framework to ensure that improvements are sustained and scaled beyond UNICEF-supported provinces.

Annex 8 presents in addition the study team’s conclusions against each research question.

5 Recommendations

The following recommendations (R) bring together all **priority actions** identified throughout the study findings. They are directed primarily to the **national WASH in Health Care Facilities (WinHCFs) program** and are intended to guide collective efforts by the Ministry of Health, UNICEF, and partners over the next two years. Organized in the report around the eight practical steps of the WHO–UNICEF WinHCFs framework, they highlight the critical measures required to address persistent gaps and strengthen systems for sustainable service delivery.

This consolidated list is designed to inform the forthcoming **WinHCFs costed roadmap and action plan**, providing a clear reference for government and development partners to align technical and financial support. Implementation will require coordinated engagement and financing from multiple sources, including the Government of Mozambique, UNICEF, and other bilateral and multilateral partners active in the sector.

Table 10 - Recommendations for each of the eight steps of the UNICEF-WHO WinHCF framework

Step	Recommendation (see associated details in findings section and in Annex 6)
Step 1 – Situation analysis	None
Step 2 – Set targets and define roadmap	1. Finalize the development of the costed roadmap with measurable targets
Step 3 – Establish national standards and accountability mechanisms	2. Continue support to the DEH in completing and finalizing updated WinHCFs standards 3. Use the roadmap process to reposition and elevate WinHCFs as a quality-of-care initiative 4. Revise the National WinHCFs Multi-sectoral Coordination Group ToRs to strengthen accountability and implementation
Step 4 – Improve and maintain infrastructure	5. Strengthen local coordination and capacity before the handover 6. Foster greater engagement and ownership through an updated MoU 7. Establish a digital construction monitoring and repairs tracking system 8. Pilot and institutionalize an O&M financing mechanism
Step 5 – Monitor and review data	9. Endorse and institutionalize WinHCF indicators 10. Strengthen and digitize WASH-FIT 11. Promote data use and accountability 12. Develop financial monitoring capacity
Step 6 – Develop health workforce	13. Scale up WASH-FIT and strengthen practical learning approaches 14. Institutionalize WASH and IPC in pre-service curricula 15. Standardize induction and refresher training for new and existing staff 16. Update and disseminate standard tools and job aids 17. Strengthen institutional and operational capacity at all levels
Step 7 – Engage communities	18. Formalize and strengthen community engagement mechanisms
Step 8 – Conduct operational research and share learning	See recommendation 11
Cost considerations	19. Establish a standardized national system for cost tracking and financial reporting 20. Build capacity and institutionalize cost monitoring for planning and budgeting 21. Improve procurement efficiency and promote value for money

Recommendations for refining the program’s **theory of change for national scale-up** and for broader program improvement are presented in Annexes 7 and 8, respectively.

Annex 1 - Study protocols

Submitted as a separate document

Annex 2 – Research matrix

Evaluation Questions	Sub-Questions	Indicators/Qualitative Measures	Primary Data Sources	Secondary Data Sources	Participant Category for Primary Data Collection
1. What specific component(s) of the programme have been, or have not been implemented as intended? If not, why? Specific components include: design, contractual, situation analysis, set targets and define roadmap, establish national standards and accountability mechanisms, improve and maintain infrastructure (construction), monitor and review data, develop health workforce, engage communities, conduct operational research and learning.	1.1. What specific component(s) have been implemented ?	To what degree has each specific component been implemented and maintained for each level of the health system. How commonly are WASH services (availability of guidelines, sufficient water supply, regular environmental cleaning) available in the healthcare facility.	KIIs Online Survey In person observations	Document review - reports	National/Regional/District (Public Works and Health) HCF
	1.2. What specific component(s) have not been implemented and why?	To what degree has each specific component NOT been implemented and/or maintained for each level of the health system (why is covered in Q2).	KIIs Online Survey In person observations	Document review - reports	National/Regional/District (Public Works and Health) HCF
2. What are the internal (UNICEF) and external (local contexts, government counterparts, contractors etc.) factors that influenced the implementation success or failure of key interventions during the different stages of the project cycle? Stages of project cycle are: targeting,	2.1. What are the internal factors that influenced the implementation success or failure of key interventions during the different stages of the project cycle (targeting, design and supervision procurement, design/costing, civil works procurement, construction, post-construction)?	Perceptions from UNICEF, MOH and donors of internal bottlenecks for improved efficiencies. Most commonly cited internal factors influencing implementation success.	KIIs	Document review -reports	UNICEF MoH (Env Dept) Donors

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Evaluation Questions	Sub-Questions	Indicators/Qualitative Measures	Primary Data Sources	Secondary Data Sources	Participant Category for Primary Data Collection
design and supervision procurement, design/costing, civil works procurement, construction, post-construction.	2.2. What are the external factors that influenced the implementation success or failure of key interventions during the different stages of the project cycle (targeting, design and supervision procurement, design/costing, civil works procurement, construction, post-construction)?	Perceptions from key stakeholders of external bottlenecks for improved efficiencies. Most commonly cited external factors influencing implementation success.	KIIs Online Survey	Document review -reports	National/Regional/District (PW and Health) HCF UNICEF
	2.3. What aspects of WASH in HCF have provided the most benefit ?	Perceived success factors (exploratory & explanatory) Perceived value of different components Exploration of success factors; what are the most commonly cited factors	KIIs FGDs Online Survey	Document review	National/Regional/District (PW and Health) HCF workers Community
	2.4. What factors have limited the magnitude of success ?	Perceived limiting factors (exploratory & explanatory) Perceived value of different components. What is the breadth of reasons for lack of implementation to date? What are the commonalities across reasons for lack of implementation?	KIIs FGDs Online Survey	Document Review	National/Provincial/District (PW and Health) HCF workers Community
	2.5. What have been the facilitating factors for changing health worker and population behavior, and for healthcare facility performance. Are the needs of health workers, healthcare facilities, and the population being addressed?	Perceived value of the facilitating factors from the perspective of people served by HCFs involved in the program. Survey: experience with each aspect; Likert or prioritization/ranking of elements	KIIs FGDs Online Survey	Document review	National/Regional/District (PW and Health) HCF workers Community

Evaluation Questions	Sub-Questions	Indicators/Qualitative Measures	Primary Data Sources	Secondary Data Sources	Participant Category for Primary Data Collection
	2.6. What have been barriers to changing health worker and population behavior and healthcare facility performance?	Perceived value of the different approaches that have limited success from the perspective of people served by HCFs involved in the program. Survey: experience with each aspect; Likert or prioritization/ranking of elements	KIIs FGDs Online Survey	Document Review	National/Provincial/District (PW and Health) HCF workers Community
3. Based on identified bottlenecks, how can the interventions be modified to strengthen and increase the chances of programme success? What are the main bottlenecks during implementation and their maintenance afterwards (for example in operations & maintenance (O&M))?	3.1 Describe and analyze the differences in design and implementation approaches from other countries to overcome challenges and bottlenecks.	Analysis of differences in global and other countries experiences in implementation and design approaches in comparison to Mozambique's experiences on WASH in HCF.	KII global (depending on feasibility)	Desk Review	Global
	3.2 What are the main bottlenecks during implementation and maintenance afterwards	Perceptions of stakeholders on main bottlenecks to implementation and maintenance	KII FGDs	Document review	National level Sub-national level HCFs
	3.3. How can interventions be modified or strengthened to increase chances of programme success	Perceptions of stakeholders on areas for improvement. To what extent have factors linked to failure been addressed and overcome since the initial failure?	KII FGDs	Document review	National level Sub-national level HCFs
4. Are there activities or practices that are no longer effective or were never effective in the first place that should be removed from the programme?	4.1. Does the WASH in HCF approach respond to the programme needs ?	Stakeholder perceptions of the relevance of the approach to address programme needs.	KII		National level Sub-national level (Provincial and District PW and Health)
	4.2. Are the any activities or practices that were never effective in the first place that should be removed from the programme?	Perceived non- effectiveness of activities by stakeholders	KII Online Survey		National level Sub-national level

Evaluation Questions	Sub-Questions	Indicators/Qualitative Measures	Primary Data Sources	Secondary Data Sources	Participant Category for Primary Data Collection
	4.3. Are there any activities or practices that are no longer effective that should be removed from the programme?	Perceived non-effectiveness of activities by stakeholders	KII Online Survey		National level Sub-national level
5. What are the main gaps affecting the implementation of WASH in HCFs programmes in Mozambique in terms of: 1) policies and strategies, 2) regulations, standards and guidelines, 3) capacity, 4) coordination, 5) funding?	5.1. Describe and critique differences in creating an enabling environment for WASH in HCFs (policies & strategies, standards, capacity building, coordination, funding) with other countries that have implemented the approach	Analysis of differences in global and other countries' experiences in creating an enabling environment on WASH in HCF in comparison to Mozambique's experiences.	KII global (depending on feasibility)	Document review	Global
	5.2. What are the gaps in policies and strategies ?	Perceptions of stakeholders on the policies and strategies gap in creating an enabling environment for implementation What range of solutions do stakeholders propose? What are the preconditions required to overcome these gaps?	KII	Document review	National level Sub-national level
	5.3 To what extent has the use of WASH-FIT supported the availability and use of data for action (in those HCFs and districts where it has been implemented)	User perceptions of the WASH-FIT tool for monitoring User perceptions of utility of information gathered Proportion of visits where feedback is reported to have been given to facility and the number of recommendations/action plans developed and followed up before the next visit	KII In person observations	WASH FIT	National Sub-National HCFs

Evaluation Questions	Sub-Questions	Indicators/Qualitative Measures	Primary Data Sources	Secondary Data Sources	Participant Category for Primary Data Collection
	5.4. What are the gaps in regulations, standards and guidelines ?	Perceptions of stakeholders on the regulations, standards and guidelines gap in creating an enabling environment for implementation. Identification of the tools & guidelines/standards offering the most perceived benefit and those that are less and least useful What range of solutions do stakeholders propose? What are the preconditions required to overcome these gaps?	KII	Document review - reports	National level Sub-national level
	5.5. What are the gaps in capacity ?	Perceptions of stakeholders on the capacity gap in creating an enabling environment for implementation. What range of solutions do stakeholders propose? What are the preconditions required to overcome these gaps?	KII	Document review - reports	National level Sub-national level
	5.6. What are the gaps in coordination ?	Perceptions of stakeholders on the coordination gap in creating an enabling environment for implementation. What range of solutions do stakeholders propose? What are the preconditions required to overcome these gaps?	KII	Document review - reports	National level Sub-national level

Evaluation Questions	Sub-Questions	Indicators/Qualitative Measures	Primary Data Sources	Secondary Data Sources	Participant Category for Primary Data Collection
	5.7. What are the gaps in funding ?	Perceptions of stakeholders on the funding gap in creating an enabling environment for implementation. What range of solutions do stakeholders propose? What are the preconditions required to overcome these gaps?	KII	Document review - reports	National level Sub-national level
	5.8. What evidence is there of sustainability and/or institutionalization of the WASH in HCF approach?	Evidence or stakeholder perceptions that institutionalization has taken place or sustainability measures are in place Evidence of MoH leadership Evidence of scale-up of activities outside of the 214 HCFs Evidence of integration of components of the approach into other MoH department strategies/activities Evidence of O&M integrated into district and Provincial plans Evidence of sufficient funding for O&M	KII	Desk review	National Sub-National HCFs
6. What is the cost per output and beneficiary (focusing on expenditures related to programme delivery mainly)? Are there areas for cost-saving and how can they be delivered in a more efficient way?	6.1. What is the cost of the programme per output and per beneficiary ? What are the trends in these costs? Can cost outliers be explained and, if so, by what factors?	Cost analysis based on UNICEF WASH in HCF programme expenditure and HCF catchment population and/or patient throughput, depending on data availability.	KII	Budgets and Costing analysis Internal and external benchmarking	National level Sub-national level (Provincial and District PW and Health)
	6.2. What improvements or streamlining to processes are required (if any) to make the programme more cost efficient?	Perceptions from stakeholders on cost efficiency of programme	KII	Budgets and Costing analysis	National and Provincial level stakeholders

Annex 3 - List of documents and data reviewed

Ref	Document Name
Mozambique documents (Government, Unicef, Partners, WinHCF)	
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2	African Population and Health Research Centre. Policy, Legal and Institutional Analysis for WASH sector in Mozambique Report
3	Itoculo Health Centre, Nampula Descriptive and Justification for Changes to WASH services
4	Mozambique, Ministerio da Saude, Normas de água e saneamento em Centros de Saúde (draft)
5	Centro de Integridade Publica - Engajamento do cidadão na melhoria dos servicos de Saude da Mulher e da crianca, 2016
6	Hydraulic Calculations Itoculo Health Centre, Nampula 2018
7	Consultec Health Facility Survey Form - Nampula Itoculo Health Centre, 2018
8	UNICEF/ WHO, Core questions and indicators for monitoring WASH in health care facilities in the SDGs 2018
9	B144_R5-en Resolucao WHO OMS WASH nas unidades sanitarias health care facilities 2019
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12	Consultec Training Materails on Hygiene and WASH operations and maintenance 2022
13	WHO Herams Nampula update report 2022 operational status
14	UNICEF Mozambique Wash in Health facilities & Increasing Access to WASH for Cyclone Impacted populations in Mozambique, 4th Annual Report to USAID, September 2022
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16	UNICEF Mozambique WASH in HCF presentation 2023
17	UNICEF Mozambique WASH-FIT Mozambique presentation 2023
18	UNICEF, 2023. Countdown to 2030. Mozambique Country Profile/ https://data.unicef.org/countdown-2030/country/Mozambique/2/
19	Think Well, Health financing landscape in Mozambique scoping report ahead of the 2023 national health financing dialogue and integrated report of the African Union alm domestic financing tracker April 2023
20	UNICEF List of HCFs Spreadsheet 2024
Global guidance and reports	
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23	WHO. Water, sanitation and hygiene in health care facilities: status in low- and middle-income countries and way forward. 2015.
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28	World Health Organization; 2022. Water and sanitation for health facility improvement tool (WASH FIT): a practical guide for improving quality of care through water, sanitation and hygiene in health care facilities, 2nd ed. Geneva: (https://apps.who.int/iris/handle/10665/353411).
29	UNICEF/WHO Manual WASHFIT ToT 2022
30	World Health Organization and the United Nations Children’s Fund (UNICEF), 2023. Water, sanitation, hygiene, waste and electricity services in health care facilities: progress on the fundamentals. 2023 global report. Geneva: Licence: CC BY-NC-SA 3.0 IGO.
31	World Health Organization and UNICEF, Joint Monitoring Programme 2023
32	JMP 2023 Guidance Note to Facilitate country consultation on JMP estimates of WASH in health care facilities
33	Implementation of the water and sanitation for health facility improvement tool (WASH FIT): global report. Geneva: World Health Organization and the United Nations Children’s Fund (UNICEF), 2025. Licence: CC BY-NC-SA 3.0 IGO.
34	Soriano A, Gaikwad S, Stratton-Short S, Morgan G, 2024. Guidelines for developing inclusive water, sanitation and hygiene (WASH) infrastructure. UNOPS, Copenhagen, Denmark.
Other countries’ strategies and guidance	
35	Bangladesh Ministry of Health and Family Welfare, National Strategy for WASH in Health Care Facilities. A Framework for Action 2019-2023
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43	Ministry of Health and Medical Education. Costed Road Map of Water, Sanitation and Hygiene (WASH) in healthcare facilities (HCFs) of I.R. Iran. Final Report. April 2023. https://www.washinhcf.org/wp-content/uploads/2024/06/Costed-roadmap-of-Iran_2023.pdf
Other grey and published literature	
44	Catholic Relief Services, Ghana WASH Program, WASH-IPC in healthcare facilities model and strategy integrated community water, sanitation, and hygiene improvement project (ICOWASH)
45	USAID MCSP Supporting Quality of Care Improvements through Water, Sanitation, and Hygiene, MSCP implementation experiences in four countries
46	Laura Kmentt a,*, Ryan Cronkb, James Benjamin Tidwell c and Elliott Rogersa; Water, sanitation, and hygiene (WASH) in healthcare facilities of 14 low and middle-income countries: to what extent is WASH implemented and what are the ‘drivers’ of improvement in their service levels? H2Open Journal Vol 4 No 1, 129 doi: 10.2166/h2oj.2021.095
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Annex 4 – Study sample

The table below presents planned and achieved study sample.

Districts and HCFs

Sample size assumptions: From the first three phases of construction, the 24 HCFs selected for visits, this represented 19% of the 126 HCFs that have completed construction from 8 districts across the 3 provinces.

#	Province	District	HCF
1	Nampula	Monapo	Mecuco
2	Nampula	Monapo	Muatuca
3	Nampula	Monapo	Meserpane
4	Nampula	Monapo	Natete
5	Nampula	Murupula	Tiponha
6	Nampula	Murupula	Mulhaniua
7	Nampula	Murupula	Chinga
8	Nampula	Murupula	Umuatho
9	Nampula	Nacala-a-Velha	Barragem
10	Nampula	Nacala-a-Velha	Covo Ger-Ger
11	Sofala	Buzi	Estaquina
12	Sofala	Buzi	Marombe
13	Sofala	Muanza	Nhansato
14	Sofala	Muanza	Sanguzi Muana
15	Zambézia	Lugela	Namagoa
16	Zambézia	Lugela	Tacuane
17	Zambézia	Lugela	Muodo
18	Zambézia	Lugela	Mungulune
19	Zambézia	Milange	Nangore
20	Zambézia	Milange	Dulanha
21	Zambézia	Milange	Mongue
22	Zambézia	Namacurra	Mutange
23	Zambézia	Namacurra	Muceliua
24	Zambézia	Namacurra	Muebele

Study participants summary

Data collection method	Sample size assumptions	Sample size targeted	Sample size achieved			
			Nampula	Sofala	Zambezia	Total
Key informants' interviews						
National	2 MoH and 2 MOPHRH, 3 donors, UNICEF, 3 NGOs,	11				20
Provinces x3	In each province - 2 DPS and 1 DPOPI, 1 rep. WASH ,coordination group (GAS), 3 contractors	21	12	7	8	27
Districts x8	In each district - 2 SDSMAS and 1 SDPI	24	8	3	6	17

Data collection method	Sample size assumptions	Sample size targeted	Sample size achieved			
			Nampula	Sofala	Zambezia	Total
HCF x24	In each HCF - 3 respondents (i.e. head, person responsible for IPC and another health care provider such as medical director or maternal and child health nurse)	72	23	4	20	47
Focus group discussions						
FGDs participants	6 FGDs, 2 per province: 1 with water management committee and 1 for end-user beneficiaries/caregivers with consideration for gender and disabilities 8 participants per FGD	6 FGDs 48 participants	20	0	53	73 (9 FGDs)
Online survey						
Online survey	126 HCFs 2- 3 targeted respondents per HCF (head, responsible for IPC and another health care provider such as medical director or maternal and child health nurse) but one response per HCF requested 30% response rate expected	126 targeted respondents 42 expected responses in total	16	27	6	49

Study participants details

	Sample size achieved				
	Maputo	Nampula	Zambezia	Sofala	Total
Key Informant Interviews					
System level					
Central	20				20
Province		12	8	7	27
District		8	6	3	17
Health Facility		23	20	4	47
Stakeholders					
Contractor	1	1	1		3
Government - MoH	8	32	28	11	79
Government - PW	3	6	4	3	16
NGO Implementing partner	6	0	0	1	7
UNICEF	2	2	1	1	6
Gender					
Male	11	29	17	12	69
Female	9	14	17	2	42

Focus Group Discussions

System level					
Community		20	53		73
Stakeholders					
Management Committees		20	44		64
Beneficiaries			9		9
Gender					
Male		9	32		41
Female		11	21		32

Online Survey Responses					
Total no. of respondents		16	6	27	49
No. of districts responded		9	4	11	24
Completion Rate					
Completed		13	5	25	43
Partially completed		3	1	2	6
Gender					
Male		12	4	16	32
Female		4	2	11	17

Annex 5 – Costing analysis per HCF

Cost per WASH service per HCF (USD)

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela
HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
HCF type	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity
Contractor	SAI Drilling	SAI Drilling	SC Nasser	SC Nasser	SC Nasser	SC Nasser	SAI Drilling	SC Nasser	SAI Drilling
Year of contract	2019	2019	2021	2022	2022	2022	2019	2022	2021
PRELIMINARY	\$ 2,193	\$ 2,193	\$ 475	\$ 949	\$ 949	\$ 949	\$ 2,193	\$ 870	\$ -
A. WATER SUPPLY									
A.1 WATER SUPPLY NETWORK	\$ 8,513	\$ 8,687	\$ 3,085	\$ 8,543	\$ 1,800	\$ 9,110	\$ 5,509	\$ 4,593	\$ 2,864
A.2 COMMUNITY WATER SUPPLY NETWORK	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A.3 BOREHOLE WATER COLLECTION	\$ -	\$ -	\$ -	\$ -	\$ 14,248	\$ 14,248	\$ -	\$ -	\$ -
A.4 METAL TOWER	\$ -	\$ -	\$ 10,623	\$ -	\$ 8,453	\$ -	\$ -	\$ -	\$ -
A.5 NEW HOLE / DRILLING OF HOLE AND SOLAR PUMP	\$ -	\$ 17,427	\$ 8,703	\$ -	\$ -	\$ -	\$ 10,932	\$ -	\$ 25,072
B. SANITATION									
B.1 TECHNICAL PERSONNEL SANITARY - REHABILITATION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
B.2 TECHNICAL PERSONNEL SANITARY - CONSTRUCTION	\$ 6,761	\$ 6,949	\$ 10,938	\$ 10,499	\$ 8,686	\$ 8,686	\$ -	\$ 13,832	\$ 9,773
B.3 OUTPATIENT SANITARY - REHABILITATION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
B.4 OUTPATIENT SANITARY - CONSTRUCTION	\$ 11,739	\$ 11,644	\$ 13,059	\$ 11,139	\$ 11,139	\$ 11,139	\$ 5,160	\$ 15,882	\$ 14,297
B.5 MATERNITY SANITARY - CONSTRUCTION	\$ -	\$ -	\$ -	\$ 396	\$ 10,479	\$ 9,200	\$ -	\$ -	\$ -
B.6 SANITATION NETWORK	\$ 6,620	\$ 7,645	\$ 4,433	\$ 2,723	\$ 2,723	\$ 2,723	\$ 4,408	\$ 5,400	\$ 7,623
C. HYGIENE									
C.1 MAIN BUILDING (MATERNITY AND OUTDOOR) - REHABILITATION	\$ 2,388	\$ 3,909	\$ 839	\$ -	\$ -	\$ -	\$ 894	\$ 4,951	\$ 2,578
C.2 MAIN BUILDING (MATERNITY AND OUTDOOR) - CONSTRUCTION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
C.3 KITCHEN or LAUNDRY	\$ 4,820	\$ 4,899	\$ 6,255	\$ -	\$ -	\$ -	\$ 3,376	\$ -	\$ 6,226
C.4 DRINK/WASHBASIN	\$ 363	\$ 121	\$ 96	\$ 187	\$ 187	\$ 187	\$ 100	\$ -	\$ 107
D. WASTE MANAGEMENT									
D.1 SOLID WASTE TREATMENT	\$ 1,500	\$ -	\$ 9,719	\$ 6,628	\$ 6,628	\$ 6,628	\$ 479	\$ 3,925	\$ 2,070
TOTAL WORK	44,895	63,474	68,225	41,063	65,293	62,870	33,051	49,453	70,611
VAT	3,053	4,316	4,639	2,792	4,440	4,275	2,247	3,363	4,802
TOTAL WORK w/ IVA USD	\$ 47,948	\$ 67,790	\$ 72,864	\$ 43,856	\$ 69,733	\$ 67,145	\$ 35,298	\$ 52,816	\$ 75,412

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela
HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
Preliminary	\$ 2,193	\$ 2,193	\$ 475	\$ 949	\$ 949	\$ 949	\$ 2,193	\$ 870	\$ -
Water Supply	\$ 8,513	\$ 26,114	\$ 22,411	\$ 8,543	\$ 24,502	\$ 23,358	\$ 16,441	\$ 4,593	\$ 27,937
Sanitation	\$ 25,120	\$ 26,238	\$ 28,430	\$ 24,756	\$ 33,027	\$ 31,748	\$ 9,568	\$ 35,114	\$ 31,693
Hygiene	\$ 7,570	\$ 8,929	\$ 7,190	\$ 187	\$ 187	\$ 187	\$ 4,370	\$ 4,951	\$ 8,911
Waste Management	\$ 1,500	\$ -	\$ 9,719	\$ 6,628	\$ 6,628	\$ 6,628	\$ 479	\$ 3,925	\$ 2,070
VAT	\$ 3,053	\$ 4,316	\$ 4,639	\$ 2,792	\$ 4,440	\$ 4,275	\$ 2,247	\$ 3,363	\$ 4,802
Total US\$	\$ 47,948	\$ 67,790	\$ 72,864	\$ 43,856	\$ 69,733	\$ 67,145	\$ 35,298	\$ 52,816	\$ 75,412

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela
HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
Preliminary	5%	3%	1%	2%	1%	1%	6%	2%	0%
Water Supply	18%	39%	31%	19%	35%	35%	47%	9%	37%
Sanitation	52%	39%	39%	56%	47%	47%	27%	66%	42%
Hygiene	16%	13%	10%	0%	0%	0%	12%	9%	12%
Waste Management	3%	0%	13%	15%	10%	10%	1%	7%	3%
VAT	6%	6%	6%	6%	6%	6%	6%	6%	6%
Total US\$	100%	100%	100%	100%	100%	100%	100%	100%	100%

Cost per level of intervention per HCF (USD)

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela
HCF name	Mecuco	Meserpane	Chinga	Mulhanuia	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
HCF type	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity
Contractor	SAI Drilling	SAI Drilling	SC Nasser	SC Nasser	SC Nasser	SC Nasser	SAI Drilling	SC Nasser	SAI Drilling
Year of contract	2019	2019	2021	2022	2022	2022	2019	2022	2021
Preliminary	2,193	2,193	475	949	949	949	2,193	870	-
1. WATER SUPPLY									
1.1 WATER SUPPLY NETWORK	8,513	8,687	3,085	8,543	1,800	9,110	5,509	4,593	2,864
1.2 COMMUNITY WATER SUPPLY NETWORK	-	-	-	-	-	-	-	-	-
1.3 BOREHOLE WATER COLLECTION	-	-	-	-	14,248	14,248	-	-	-
1.4 METAL TOWER	-	-	10,623	-	8,453	-	-	-	-
1.5 NEW HOLE / DRILLING OF HOLE AND SOLAR PUMP	-	17,427	8,703	-	-	-	10,932	-	25,072
2 REHABILITATION									
2.1 MAIN BUILDING (MATERNITY AND OUTDOOR)	2,388	3,909	839	-	-	-	894	4,951	2,578
2.2 TECHNICAL PERSONNEL SANITARY	-	-	-	-	-	-	-	-	-
2.3 OUTPATIENT SANITARY	-	-	-	-	-	-	-	-	-
3 CONSTRUCTION									
3.1 MAIN BUILDING (MATERNITY AND OUTDOOR)	-	-	-	-	-	-	-	-	-
3.2 TECHNICAL PERSONNEL SANITARY	6,761	6,949	10,938	10,499	8,686	8,686	-	13,832	9,773
3.3 OUTPATIENT SANITARY	11,739	11,644	13,059	11,139	11,139	11,139	5,160	15,882	14,297
3.4 MATERNITY SANITARY	-	-	-	396	10,479	9,200	-	-	-
3.5 KITCHEN or LAUNDRY	4,820	4,899	6,255	-	-	-	3,376	-	6,226
3.6 SANITATION NETWORK	6,620	7,645	4,433	2,723	2,723	2,723	4,408	5,400	7,623
3.7 SOLID WASTE TREATMENT	1,500	-	9,719	6,628	6,628	6,628	479	3,925	2,070
3.8 DRINK/WASHBASIN	363	121	96	187	187	187	100	-	107
TOTAL WORK	44,895	63,474	68,225	41,063	65,293	62,870	33,051	49,453	70,611
VAT	3,053	4,316	4,639	2,792	4,440	4,275	2,247	3,363	4,802
TOTAL WORK w/ IVA USD	\$ 47,948	\$ 67,790	\$ 72,864	\$ 43,856	\$ 69,733	\$ 67,145	\$ 35,298	\$ 52,816	\$ 75,412

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela
HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
Preliminary	\$ 2,193	\$ 2,193	\$ 475	\$ 949	\$ 949	\$ 949	\$ 2,193	\$ 870	\$ -
Construction	\$ 40,315	\$ 57,372	\$ 66,911	\$ 40,114	\$ 64,344	\$ 61,921	\$ 29,964	\$ 43,632	\$ 68,033
Rehabilitation	\$ 2,388	\$ 3,909	\$ 839	\$ -	\$ -	\$ -	\$ 894	\$ 4,951	\$ 2,578
VAT	\$ 3,053	\$ 4,316	\$ 4,639	\$ 2,792	\$ 4,440	\$ 4,275	\$ 2,247	\$ 3,363	\$ 4,802
Total US\$	\$ 47,948	\$ 67,790	\$ 72,864	\$ 43,856	\$ 69,733	\$ 67,145	\$ 35,298	\$ 52,816	\$ 75,412

Province	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Nampula	Sofala	Zambézia
District	Monapo	Monapo	Murrupula	Murrupula	Murrupula	Murrupula	Nacala-Velha	Buzi	Lugela
HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
Preliminary	5%	3%	1%	2%	1%	1%	6%	2%	0%
Construction	84%	85%	92%	91%	92%	92%	85%	83%	90%
Rehabilitation	5%	6%	1%	0%	0%	0%	3%	9%	3%
VAT	6%	6%	6%	6%	6%	6%	6%	6%	6%
Total US\$	100%	100%	100%	100%	100%	100%	100%	100%	100%

HCF data and cost per beneficiary per HCF (USD)

HCF name	Mecuco	Meserpane	Chinga	Mulhaniua	Tiponha	Umuatho	Barragem	Estaquinha	Tacuane
HCF type	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CSII with maternity	CS com Maternidade	CSII with maternity
HCF size and services volume									
Population of Health Area	35,080.00	14,312.00			24,000.00	21,000.00	25,450.00	23,000.00	10,100.00
Number of staff	7.00	7.00	14.00	9.00	10.00	11.00	15.00	11.00	7.00
Number of Consultations per year (=daily*251)	12,550.00	16,566.00	37,650.00	12,550.00	20,080.00	38,905.00	25,100.00	30,120.00	20,080.00
Births per year (=daily*365)	1,460.00	1,460.00	1,460.00	1,095.00	1,460.00	1,095.00	1,095.00	730.00	1,095.00
Number of maternity beds	7.00	5.00	4.00		6.00	4.00	4.00	2.00	1.00
Cost per beneficiary									
Total cost per catchment population	1.37	4.74	-	-	2.91	3.20	1.39	2.30	7.47
Total cost per outpatients per year	3.82	4.09	1.94	3.46	3.47	1.73	1.41	1.75	3.76
Total cost per staff	6,849.72	9,684.25	5,204.57	4,825.92	6,973.34	6,104.13	2,353.22	4,801.43	10,773.15
Total cost per annual deliveries	32.84	46.43	49.91	39.67	47.76	61.32	32.24	72.35	68.87
Cost of technical personnel sanitary per staff	965.85	992.75	781.26	1,166.51	868.60	789.64	-	1,257.46	1,396.21
Cost of maternity sanitary per annual delivery	-	-	-	-	7.18	8.40	-	-	-
Cost of maternity sanitary per bed	-	-	-	-	1,746.56	2,299.98	-	-	-

Annex 6 – Recommendations list

Step 2 – Set targets and define roadmap	
R1	Finalize the development of the costed roadmap with measurable targets Finalize UNICEF’s support to the Department of Environmental Health (DEH) in the Ministry of Health to ensure a fully consultative process that engages representatives of multi-sector stakeholders, including communities and gender, equality and social inclusion (GEDSI) and focused civil society organizations (CSOs).
Step 3 – Establish national standards and accountability mechanisms	
R2	Continue support to the DEH in completing and finalizing updated WinHCFs standards Ensure their full alignment with related sector strategies and incorporation into the national roadmap, followed by broad dissemination and use across all HCFs.
R3	Use the roadmap process to reposition and elevate WinHCFs as a quality-of-care initiative The roadmap development should serve as an opportunity to relaunch WinHCFs with a stronger focus on improving quality of care and the safety of all patients, ensuring the mainstreaming of gender and disability inclusion and climate resilience across standards, planning, and implementation. This includes ensuring the integration and alignment of WinHCFs with QI, MCH and IPC strategies, strengthening collaboration between the DEH and the Department of Quality Management and Assurance on regular performance monitoring and data analysis, and ensuring WinHCFs has greater institutional visibility within the MoH. Increasing visibility could involve identifying a champion either within the department or at a higher political level to ensure sustained commitment and political will.
R4	Revise the National WinHCFs Multi-sectoral Coordination Group ToRs to strengthen accountability and implementation Revise the Group’s ToRs, composition, and working modalities to ensure regular meetings, inclusive representation, and systematic follow-up on action points. The TWGs should be established as permanent sub-forums focused on tracking roadmap progress, addressing implementation bottlenecks, and ensuring consistent information flow between national, provincial, and district levels.
Step 4 – Improve and maintain infrastructure	
R5	Strengthen local coordination and capacity before the handover Facilitate structured engagement between provincial public works, district health services, HCFs and their communities before and throughout the two-year construction and warranty cycle through periodic coordination meetings and feedback sessions. This will enhance understanding of technical standards, encourage joint ownership and problem-solving, and build long-term capacity for managing WASH infrastructure beyond donor support.
R6	Foster greater engagement and ownership through an updated MoU Revise the MoU template in consultation with all parties detailing roles and responsibilities and funding mechanisms for O&M post-construction. Consider adding community leaders and HCF representatives as signatories, in addition to Provincial government officials, to increase ownership at the lowest levels. Consider signing the MoU earlier in the project cycle to cover both the construction and post-construction phases. Encourage the MoH and other partners to use the revised MoU template in non-UNICEF supported areas.
R7	Establish a digital construction monitoring and repairs tracking system Develop an integrated database to track construction progress, handover dates, and subsequent maintenance at district and provincial levels. This should include a simple digital tracker linking HCFs to SDSMAS and

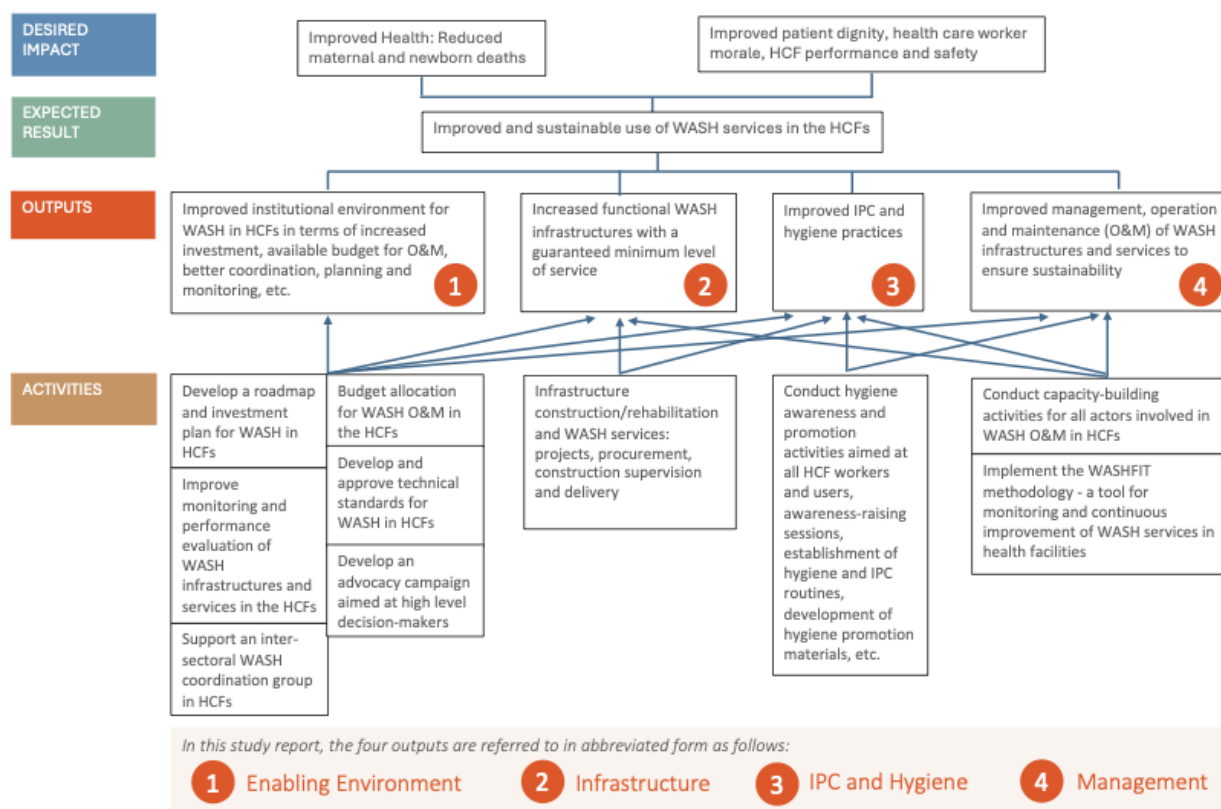
	DPOP/DPS for reporting breakdowns, monitoring response times, and recording completed repairs, strengthening transparency and enabling data-driven planning.
R8	Pilot and institutionalize an O&M financing mechanism Based on lifecycle costing results, and through stakeholder engagement, identify and pilot sustainable funding options, such as district-level maintenance funds, community co-financing, or performance-based allocations, to ensure regular maintenance of WASH infrastructure. UNICEF and partners should continue to advocate for a dedicated O&M budget line within health sector plans and the forthcoming WinHCFs costed roadmap.
Step 5 – Monitor and review data	
R9	Endorse and institutionalize WinHCF indicators Support the final approval and integration of WASH indicators into SIS-MA, harmonizing with IPC and MCH indicators to ensure consistency across departments. Ensure accurate indicator reference sheets are available for each indicator, including the analysis plan. Ensure quality data by training health facility and district staff and conducting regular data quality audits. Ensure ongoing data analysis, use, and triangulation with WASH-FIT data.
R10	Strengthen and digitize WASH-FIT Accelerate completion of the digital platform and train district teams for regular use. Establish a national database with automated dashboards and analytics.
R11	Promote data use and accountability Encourage that WinHCFs is part of the agenda at regular district level progress meetings. Organize annual review meetings at national and provincial levels to share results, discuss gaps, update work plans, share lessons learned, and exchange best practices. Disseminate concise dashboards to decision-makers. Use the forum to identify revisions needed to the roadmap, including milestones and targets. Facilitate the development of a joint learning agenda to address knowledge gaps and identify funding sources among different partners to fulfill these learning priorities.
R12	Develop financial monitoring capacity Track the budget and expenses incurred by WinHCFs from all partners supporting the initiative. Identify gaps and advocate for resource mobilization and supporting costing analyses. Expand ongoing life-cycle costing work to include recurrent costs and embed cost tracking in regular monitoring and advocacy.
Step 6 – Develop health workforce	
R13	Scale up WASH-FIT and strengthen practical learning approaches Expand training to a broader range of health professionals and community members using blended and practical methods, including on-the-job coaching and digital modules. Districts and provinces should maintain updated databases of all trained personnel to support planning and supervision.
R14	Institutionalize WASH and IPC in pre-service curricula Support DEH, together with the IPC and Health Professionals Training department, to integrate WASH, IPC, and basic O&M competencies, including WASH-FIT, into curricula at health science institutes and other health education institutions to ensure long-term workforce capacity.
R15	Standardize induction and refresher training for new and existing staff Develop and roll out an induction package on IPC and WASH for all new health facility staff, emphasizing environmental cleaning, waste management, and hygiene. Establish short annual refresher courses to reinforce competencies and accountability.

R16	Update and disseminate standard tools and job aids Finalize and distribute harmonized promotional materials, SOPs, and job aids across all provinces to support consistent implementation, supervision, and continuous quality improvement.
R17	Strengthen institutional and operational capacity at all levels Collaborate with MoH departments to reinforce management, operational, and financial capacities—such as supervision logistics, equipment, and budget planning, so health authorities can sustainably fulfill their mandates.
Step 7 – Engage communities	
R18	Formalize and strengthen community engagement mechanisms Working with district and provincial health authorities, update and standardize the ToRs defining community roles in WinHCF, particularly for Co-management and Water Committees. The revised ToRs should clarify responsibilities for O&M and financial oversight; institutionalize community participation in monitoring and feedback through WASH-FIT and community scorecards; and ensure alignment with national IPC and health promotion strategies to promote shared accountability between health facilities and communities. This could be done through developing and implementing targeted behavior change strategies to promote community participation at the district and local level thereby encouraging ownership.
Cost considerations	
R19	Establish a standardized national system for cost tracking and financial reporting Support the MoH and UNICEF to develop and adopt harmonized cost-coding templates and reporting tools within the WinHCF framework. This should enable consistent classification of expenditures by WASH service (water, sanitation, hygiene, waste management, environmental cleaning) and intervention type (repair, rehabilitation, construction), improving accuracy and comparability across provinces.
R20	Build capacity and institutionalize cost monitoring for planning and budgeting Strengthen provincial and district capacity to collect, validate, and analyze financial data and integrate these data into WinHCF monitoring systems. Regular provincial and national financial reviews should be used to inform resource allocation, identify efficiency gains, and guide future investment planning.
R21	Improve procurement efficiency and promote value for money Facilitate joint procurement and local sourcing of construction and O&M materials to reduce costs, support local markets, and improve supply chain sustainability. Over time, a comprehensive value-for-money review should be undertaken to establish cost benchmarks and identify opportunities for cost savings and design optimization.

Annex 7 – Strengthening the Theory of Change for scale-up

Current Theory of Change

The current ToC is presented below. The study team did not find explicit ToC assumptions describing how activities and outputs are expected to lead to outcomes and impacts.



The current ToC may have been suitable for the introduction of WinHCFs in Mozambique with a focus on selected ‘quick wins’ building blocks earmarked for donor support, including for major infrastructure costs but to fully embed and scale-up WinHCFs in the health sector as a government led initiative, the following needs to be strengthened.

Enabling environment

Institutional home - All the activities under the improved institutional environment in the ToC assume that WinHCFs has the required leadership within the government. We have seen through this study that the government leadership to drive WinHCFs is not currently optimal, possibly because of where it is housed in the MoH structure in addition to the absence of a DEH head, but also possibly because it is perceived as a donor-driven program. Because WinHCFs require input from multiple departments within the MoH, as well as from other ministries and sectors, they require strong government leadership and a champion who can garner interest and commitment from a wide range of stakeholders. It also requires recognition at the national policy, strategy, and budget levels.

In addition, because much of the progress made and visible to date has been in the area of WASH infrastructure construction or improvement, the rationale for WinHCFs as a continuous quality of care improvement approach has understandably received less traction. The current association of WinHCFs primarily with infrastructure work runs the risk of further de-prioritization once infrastructure work or donor support ceases. Reorienting WinHCFs as a QI initiative in the future is likely to strengthen its institutionalization and sustainability. Where possible, WinHCFs should ideally be integrated into existing QI and IPC approaches. Consolidated training and behavior change messages on WASH and IPC

should be developed and implemented at the HCF and community levels. WASH-FIT could also be integrated into other supportive supervision mechanisms.

Coordination – UNICEF has been instrumental in establishing a multi-sectoral coordination group for WinHCFs. Attendance at coordination meetings has not been strong or regular. Its five TWGs were formed to give impetus to specific time-bound activities, and once these activities have been completed (e.g., a WinHCFs roadmap has been developed and approved), the TWG will no longer be relevant. For further institutionalization, the TWGs should be established on a permanent basis and structured around strategic areas of WinHCFs implementation. For example, a TWG could focus on MEL and be tasked not only with advancing the establishment of monitoring systems, but also with an ongoing role in reviewing and interpreting data for action planning. The terms of reference and composition of the overall coordination group and its TWGs should be revised and disseminated.

The ToC refers to supporting an intersectoral WinHCFs coordination group, assuming that this means a coordination structure at the national level. If this is the case, the ToC fails to recognize that multisectoral coordination is equally important at the provincial and district levels, which also needs support (at these levels, through existing general coordination mechanisms and specific meetings to discuss progress); this should be corrected in the ToC.

Budget and costing – The current ToC seems to assume that only the budget for O&M needs to be secured, whereas the budget for all other components such as norms and plans development, infrastructure works, capacity building, behavior change communication and WASH-FIT roll-out would most likely be provided through donor support, but these cannot be guaranteed. A focus on ensuring the availability of funds for O&M as a priority is correct as a direct follow-up to infrastructure support, but the scope of WinHCFs is much broader and government commitment needs to extend to the ongoing availability of adequate WASH infrastructure, services and capacity in all HCFs.

Accurate budgeting requires accurate costing. The current ToC assumes that costs will be part of the roadmap development, and which in turn should inform the intended investment case. However, costing and budget tracking need to be done on an ongoing basis and at all levels. HCFs currently do not know the cost of their WASH infrastructure or what monthly budget is required for O&M which limits the ability to advocate for and track funding for WinHCFs.

Data generation and use – The use of quality evidence to advocate for the importance of WinHCFs and their funding is a prerequisite for progress. The current ToC seems to assume that improved monitoring systems will lead to appropriate use of the data generated for decision making and advocacy at all levels. This is not necessarily the case; data analysis, interpretation and presentation before it can be used for decision making requires dedicated processes, support and capacity strengthening.

The current WinHCF ToC further separates WinHCF M&E (under Institutional Environment) from WASH-FIT (under Management). This may be explained by an intention to distinguish M&E at higher levels from M&E conducted at the HCF level. While WASH-FIT is used as a management tool and its methodology and tools are indeed applied at the HCF level, it is also an ongoing monitoring process that might be more effectively considered as the cornerstone of WinHCFs M&E. Due to the lack of a dedicated central database, the data generated by the initial and periodic follow-up assessments conducted to date as part of the WASH-FIT rollout in Mozambique are not centrally collated or used to monitor progress or as a basis for evaluating the effectiveness of WinHCFs and WASH-FIT. Inclusion of key WASH indicators in the HMIS will be important, as will regular analysis of health and WASH indicators to assess the potential contribution of WASH improvements to health service utilization and population health. However, these HMIS indicators are likely to be limited in number and will not replace the WASH services in the HCFs functionality assessment conducted using the WASH-FIT approach, which are important to track over time.

Including WASH-FIT under the institutional environment output would also reinforce its intention to be a process that generates action planning not only at the HCF and community levels, but also at higher levels for issues identified that are beyond the control of the HCF and need to be addressed, for example, by district, provincial, or national stakeholders.

WASH-FIT data could also be used as the basis for a nationwide certification scheme for HCFs that meet the WASH and IPC standards, which would also raise the profile of WinHCFs and their importance to health workers and service users.

Advocacy – Developing an effective advocacy strategy requires a good understanding of the institutional environment and stakeholder landscape at all levels, as well as robust data to demonstrate the potential benefits of financial investment in WinHCFs. The WHO-UNICEF 8-step process for WinHCFs includes a step to conduct a situational analysis,

which we understand was not done in Mozambique prior to the introduction of WinHCFs. A situational and political economy analysis could have helped to understand the level of support for WinHCFs from different stakeholders in order to focus advocacy efforts where they are most needed. Advocacy for WinHCFs also needs to be underpinned by a robust and impactful investment case that includes a clear mapping of roles, responsibilities and investments expected from different stakeholder groups, as well as clear accountability mechanisms. Once the investment case is completed, it will be important to develop an appropriate advocacy campaign, as currently envisaged in the ToC. However, unlike what is currently specified in the ToC, the advocacy campaign should not only target high-level decision-makers, but rather decision-makers at all levels, including facilities and communities.

Roadmap and technical standards – The intention to use a roadmap to drive the scale-up of WinHCFs is fully valid; the roadmap is now being developed with support from UNICEF. It would have been preferable to develop it much earlier in the process to support advocacy as described above. Going forward, it should be maintained as an important driver of progress and should include a regular review of achievements against targets and necessary revisions to ensure it remains fit for purpose and context.

The setting and monitoring of technical standards is also essential to improve the quality-of-service delivery through improved WASH services. Going forward, it will be important to integrate these as much as possible into existing norms and standards, so that WASH is not managed in isolation, but rather becomes part of the basic requirements of HCFs standards.

Peer learning and motivation – Not only, but especially when an initiative is newly introduced, it is important to identify key lessons learned from successes and failures and to share best practices among relevant actors, in this context mostly provincial and district level actors. The current ToC is silent on the need for continuous learning for adaptation and improvement, as well as feedback loops between the different levels of the system in which WinHCFs operates. This study is the first dedicated effort to understand the enabling and inhibiting factors and lessons of WinHCFs in the Mozambican context. Building a deliberate learning culture and process and organizing annual forums for progress review and peer learning, would contribute to the institutionalization of WinHCFs and to stakeholder motivation and commitment.

Infrastructure

The infrastructure building block in the ToC is straightforward and clearly delineates the activity as the process from procurement to delivery of the infrastructure work. However, it fails to show the needs assessment and prioritization step that needs to take place to decide where the infrastructure work will be done before embarking on it. It also assumes that the actors involved in this process have the capacity to perform their expected roles. The study has shown that the capacity of private sector contractors and provincial government stakeholders needs to be built to improve their ability to implement and manage infrastructure works contracts, so a capacity building activity block could be added.

Improved IPC and hygiene practices

The activities listed in the ToC under the improved IPC and hygiene practices building block would benefit from being broken down into parts. Establishing hygiene and IPC routines involves both establishing SoPs to be followed and monitored by health workers and raising awareness of these routines among health workers and service users. This requires improved coordination with the Nursing Department and in particular, the IPC department at the central and provincial level. The development of promotional materials is often a prerequisite for carrying out awareness and promotion activities. A clear distinction between activities at HCF level (and within HCF targeting health workers and service users differently) and at community level would ensure that all necessary levels are targeted in a complementary way to reinforce messages.

Management

Capacity building for O&M - O&M capacity building under the WinHCFs has taken various forms, from formal training workshop at the time of infrastructure handover, to hybrid format of theory and practice, to on-the-job training (including during WASH-FIT assessments). O&M technician positions will be piloted at the district level (whose salaries will be supported by UNICEF for two years and then expected to be absorbed into the government payroll) and CSOs have recently been appointed with UNICEF funding to provide hands-on support to the DPS/DPOP for WASH-FIT training and implementation. While these different capacity building approaches do not need to be clearly depicted in the ToC, it

might be good to reiterate their respective purpose, target audience, process, tools and monitoring as a supporting narrative to the ToC (see also cross-cutting point on overall approach to capacity building).

The ToC is silent on the availability of the right number and cadre of staff to ensure O&M of the WASH infrastructure. The study has shown that Service Assistants are important actors in the day-to-day O&M of WASH services in HCFs, but they appear to be insufficient in number. The ToC could potentially expand capacity building activities to include a broader consideration of the health workforce and capacity issues, including accounting for the role of community committees in O&M.

Implementing WASH-FIT – As noted above, WASH-FIT is presented in the ToC under the management output, but WASH-FIT is also a risk assessment, planning, and monitoring tool, and thus directly contributes to other outputs in the ToC. In an era of limited resources, the full and regular implementation of WASH-FIT in the districts that have benefited from improved infrastructure works should be prioritized over further construction phases in order to contribute to building evidence that shows the results of WinHCFs and the implementation of the WASH-FIT methodology.

Expected result and desired impact

The expected result "Improved and sustainable use of WASH services in HCFs" could be revised to emphasize that WinHCFs improve access to WASH services in addition to improving the use of these services. And as part of this new emphasis on access, the GEDSI cross-cutting principle should be emphasized. For example, it could read: "Improve equitable access and sustainable use of WASH services in HCFs".

The objective on improved health should specify that WinHCFs will contribute to the reduction of preventable maternal and newborn deaths (not all maternal and newborn deaths).

The ToC does not mention that WinHCFs will improve prevention and management of outbreak responses, which could be included as a desired impact, although some aspect of this is likely assumed under the current mention of "HCF safety".

If climate were to be included in the ToC, climate change mitigation could also be included as part of the desired impact.

Potential ToC restructuring and additions

In addition to the above comments on the current ToC, we suggest a few things that could inform the WinHCFs ToC revision. Once the key revisions have been agreed upon, a narrative supported by clear visuals and full assumptions underlying the pathways to change should be developed.

Data generation and use – Singling out the need to regularly collect, analyze, and use data to track progress and inform actions will provide the necessary focus. Currently, this is the biggest gap hampering success.

Infrastructure and O&M - The current ToC separates infrastructure from O&M, which has advantages and disadvantages. On the one hand, keeping them separate reflects the different investment and time scales involved in each, with major infrastructure improvements being much more costly and time-bound (in the context of UNICEF support to Mozambique WinHCFs, a two-year cycle), while O&M is an ongoing requirement. Treating it separately also ensures that O&M does not lose visibility once the WASH infrastructure work is completed. On the other hand, commitment needs to be secured for the entire WinHCFs continuum, from infrastructure improvements to ongoing management of improved services. For example, MoUs could be signed prior to infrastructure work and include a commitment to secure funding for O&M. O&M costing should be calculated based on studies on life-cycle costs, and case studies and best practices on approaches to securing O&M funding from government, service users and communities should be investigated and disseminated.

Advocacy, communication and social mobilization - Currently, the ToC presents advocacy (influencing decision makers), communication (sharing information and messages) and social mobilization (engaging community members) separately. Advocacy is presented under the institutional environment, communication is mostly covered under IPC and hygiene practices, while social mobilization is assumed under the four ToC outputs with an aspect of community engagement in all. Bringing them all under an integrated advocacy, communication and social mobilization (ACSM) strategy (and output in the ToC) may promote a more coordinated approach to influencing public policy, changing behavior and mobilizing support for WinHCFs at all levels. The line between these three categories is not always

straightforward, and interventions in one area may positively influence or facilitate processes in the others. Bringing them all together in a coherent strategy allows for consistent and reinforcing messaging to all audiences.

Capacity strengthening – Bringing everything related to the human resources and capacity building needed to implement and sustain WinHCFs under one output may be a way to address the various aspects of human resources and capacity building needs in a more systematic and comprehensive way. It may also make it easier to integrate WinHCFs requirements into broader health human resource requirements and technical standards.

Cross-cutting issue – GEDSI – The ToC does not mention gender, disability and social inclusion (GEDSI) but this study has reported that these issues are addressed in WinHCFs in various ways. The prioritization of HCFs to receive UNICEF support included equity considerations. Technical standards for infrastructure and WASH services address gender and cultural norms, as well as accessibility for people with disabilities. GEDSI should therefore be included as a cross-cutting principle in the ToC. It should also be highlighted in the MEL to ensure that data is disaggregated and analyzed to ensure that all users, including more vulnerable groups, benefit equally from improved WASH services in terms of accessibility, safety, privacy, social acceptability, and convenience. The WASH-FIT methodology and tools include indicators to assess and monitor these aspects.

Cross-cutting – Climate change mitigation and resilience – Climate change mitigation and resilience are not currently included in the WinHCFs ToC, but climate considerations are being incorporated into WASH infrastructure standards, as reported in this study, and environmental sustainability and climate resilience are prominent in the second edition of the WASH-FIT methodology (2022). The latter includes new aspects of HCFs related to WASH and climate change mitigation strategies - i.e. energy, vector control and occupational health. As such, climate should be included in the ToC, possibly as a cross-cutting issue (or alternatively, under infrastructure).

Cross-cutting – WASH-FIT – WASH-FIT could potentially be presented as a cross-cutting approach that supports planning, monitoring and learning, coordination and collaboration, supervision of health workers, and capacity building.

Revised outputs – Based on all the above suggestions, the revised ToC could have the following revised outputs:

WinHCFs institutionalized and integrated in health sector

- Embed WinHCF in MoH as a HCF QI methodology, with right leadership (champion)
- Integrate WinHCFs in national health policies, strategies and budget
- WinHCFs Road Map with clear accountability mechanisms (who is responsible for what)
- WinHCFs Road Map costing
- WinHCFs Investment Case
- WinHCFs Technical standards
- Integrate WinHCF trainings and key resources in broader QI efforts
- Effective coordination at all levels

Improved data generation and use

- Regular data collection
- Budget and expenses tracking
- Effective analysis and presentation of data for planning, monitoring and advocacy purposes
- Learning facilitation and sharing
- Evaluate
- Undertake research to fill evidence gaps

Capacity strengthened

- Health workforce for WinHCFs norms (qualification and number)
- Training (contract management, services management, O&M, etc.)
- Training database
- Supervision and on the job-training
- Certification schemes (individuals and HCFs)

WASH infrastructure in HCFs constructed/improved and functional

- Targeting
- Construction/improvement
- Operations and Maintenance

Behavior changed

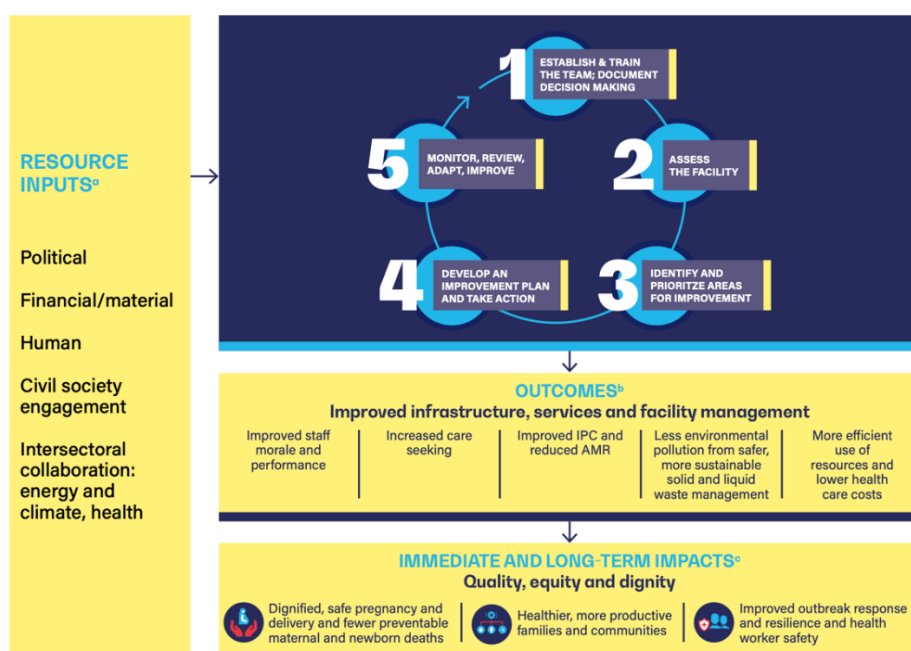
- Advocacy to decision-makers
- Communication
- Social mobilization

Cross-cutting

- WASH-FIT
- GEDSI
- Climate

Alignment with WASH-FIT methodology - Another alternative to revising the current ToC structure could be to align it more closely with the WASH-FIT content and purpose, placing WASH-FIT at the center of the ToC and acting as a catalyst for all other required actions and expected changes at the HCF level and institutional framework in line with the WASH-FIT overview figure contained in the latest WASH-FIT guidance and copied below as Figure 5.

Figure 11 – Overview over WASH FIT



ToC narrative and assumptions - Any revision of the ToC should include a complete narrative to accompany the visual. This narrative should describe the expected pathways to change and the assumptions made beyond the expected results chain.

Annex 8 – Overview of research questions responses

What specific components of the program have been, or have not been implemented as intended? If not, why?

An overview of key milestones reached under the WinHCFs Initiative during the six years of implementation to date is present in two figures in Section 3.1. To the study team's knowledge, there is currently no target nor reliable data available to measure progress against expected results and desired impact.

Key components implemented as intended include:

- Improvement of WASH infrastructure: UNICEF's support for infrastructure development in HCFs has been consistent and the biggest success of the program, with improvements including handover to the MoH, completed in 126 HCFs over five years. Despite challenges like climatic events, security concerns and epidemics, the infrastructure component is largely on track to meet targets (214 HCFs with improved WASH infrastructure by 2025).
- Development of technical standards: Initial WASH in HCF standards were developed with UNICEF support and provisionally approved during the COVID-19 pandemic. These cover water quality, water supply, sanitation, waste management, environmental cleaning, and energy sources. They are currently being updated with technical assistance support from UNICEF.
- Capacity building for O&M: Training packages on O&M of WASH services have been developed and delivered, evolving from longer formal training to shorter orientations and on-the-job training, with practical sessions included.
- Use of WASH-FIT: WASH-FIT has been rolled out to selected HCFs to prioritize and maintain WASH services; however, coverage until 2024 was limited. Last year has seen a renewed commitment from the national level to WASH-FIT roll-out, with key steps taken to adapt the global second edition of WASH-FIT guidance to the Mozambique context and engage CSOs on a pilot basis to support WASH-FIT training on going HCFs assessments using the WASH-FIT tool.

Components not fully implemented or facing challenges include:

- Development of the national roadmap and investment plan: a consultant has only recently been hired to develop a national roadmap, which was still in the inception phase at the time of this study. The investment plan has not yet been developed, likely because the roadmap is foundational to it.
- Monitoring and use of data: WinHCFs indicators to be included in the national information system have not been approved yet and there is an overall lack of data to monitor WinHCFs progress and standards; where data from WASH-FIT is available, use is low at all levels. UNICEF has recently commissioned a CSO to develop a digital platform to increase visibility and encourage use of WASH-FIT data for decision-making at all levels.
- UNICEF has effectively established a multi-sectoral coordination group for WinHCFs, which provides a strong foundation for the initiative. However, for the initiative to be truly sustainable, it's important to further empower government leadership and increase engagement from all departments, thereby transitioning from a UNICEF-led to a government-led model.
- TWGs have been set-up to provide temporary focus on completing key milestones rather than as ongoing fora to monitor and improve WinHCFs.
- Budget allocation for O&M: Government health budget allocations for health, and by extension for WASH O&M, have been low and decreasing, heavily reliant on donor funding. There is also poor execution of available funds, limiting decentralized support for O&M and supervision. Raising funds from communities for O&M has had mixed results to date.
- Advocacy campaign: UNICEF support has mainly channeled advocacy efforts toward the establishment and functioning of the WinHCFs coordination group but a comprehensive advocacy strategy targeting high-level decision-makers was not developed.
- Hygiene promotion and IPC practices: Training materials exist but need updating and broader endorsement. Promotional materials and tools for behavior change are limited, and supervision and follow-up are insufficient.

While progress has been made, several factors have affected implementation of the initiative. Key areas for improvement include strengthening government ownership and leadership, better integrating the initiative into the

broader health sector, and developing a WinHCFs national strategy. Addressing government funding issues, enhancing data and monitoring systems, and streamlining the approval and dissemination of policies and guidelines are also crucial steps. There is also a need to focus on building capacity at the provincial and district levels.

In summary, infrastructure improvements and some capacity building have been successfully implemented, but components of the institutional environment, such as policy development, coordination, financing, and monitoring, require further strengthening to fully realize the goals of the program. However, several important steps have recently been taken, with technical assistance from UNICEF, to make progress in these areas. While these would ideally have occurred earlier in the life of the program, they suggest that the enabling environment for WinHCF should improve by the end of 2025.

What are the internal (UNICEF) and external (local contexts, government counterparts, contractors etc.) factors that influenced the implementation success or failure of key interventions during the different stages of the project cycle (targeting, design and supervision procurement, design/costing, civil works procurement, construction, post-construction)?

Key factors influencing implementation during the different stages of the project cycle are listed below.

Project cycle stage	Factors that influenced success	Factors that influenced failure
Targeting	<u>Internal</u> – good participatory approach involving multi-sector and multi-level stakeholders to target 229 HCFs	
Design and supervision procurement	<u>Internal</u> Clear procurement processes	<u>External</u> – limited number of companies
Design/costing	<u>Internal</u> – design features address accessibility <u>External</u> – MoH has developed HCFs design norms in collaboration with UN-Habitat to make HCFs climate resilient, including WASH infrastructure	<u>Internal</u> - in a few cases, it was found that the original design had not sufficiently assessed the volume output and quality of existing water sources <u>Internal</u> - water quality issues were raised in coastal areas where it was not possible to drill deep and where well water can be contaminated with salt water during the dry season; <u>Internal</u> – costing data is not tracked at required granular level to inform efficiencies and potential cost savings <u>External</u> - some construction materials have low availability, particularly in remote districts and high price on Mozambican market, sometimes requiring sourcing from abroad
Civil works procurement	<u>Internal</u> - UNICEF provided on-the-job training to DPOPs for procurement and contract management <u>Internal</u> – UNICEF contracted directly inspection and construction firms in the last phase to speed up progress and meet donor timeline	<u>Internal</u> – some study respondents felt that some UNICEF approvals for procurement should be decentralized for efficiency's sake <u>External</u> - the decentralization reform in 2019-2020 caused delays and challenges as new institutional structures and roles had to be defined and contracts transferred. <u>External</u> – procurement and approval processes managed by government entities like DPOP and the Administrative Tribunal involve extensive documentation and can be slow, causing delays
Construction	<u>Internal</u> - UNICEF leveraged his relationship and experience with provincial authorities on other WASH projects to successfully have them handling WinHCFs construction contracts <u>Internal</u> – UNICEF demonstrated adaptability to maintain the focus on	<u>Internal</u> – lack of involvement of health sector stakeholders during construction leading to lack of ownership and affecting post-construction uptake <u>Internal</u> – poor quality of monitoring tools to track construction progress across all stages, reducing efficiency and accountability <u>External</u> - climatic events (cyclones, floods), insecurity and ongoing epidemics (cholera) diverted attention and

Project cycle stage	Factors that influenced success	Factors that influenced failure
	implementation progress despite delays experienced due to external factors	resources towards emergency response, causing delays in routine program activities <u>External</u> - contractors often faced capacity constraints, logistical challenges, and had to manage multiple contracts with different government departments, leading to prioritization issues and delays, especially in early phases
Post-construction	<u>External</u> – communities are better involved in post-construction matters when they have been properly engaged since the beginning of WinHCFs in their community <u>External</u> – recognition of the role of Service Assistants for WinHCFs duties, with some provinces having hired more Service Assistants since WinHCFs introduction <u>External</u> – the more exposed stakeholders are to WASH-FIT, the better understanding they have of it, valuing its role in improving WASH in HCFs	<u>Internal</u> – Possible over-focus on infrastructure delaying key steps required for strengthening the enabling environment that is required for sustaining WASH infrastructure and services post-construction <u>Internal</u> – Should UNICEF WASH team have worked more closely with UNICEF health team to facilitate WinHCFs institutionalization in health sector? <u>Internal</u> – WinHCFs perceived as donor program rather than government-led, which affects ownership and sustainability <u>External</u> – Lack of funding for health, including for WASH in HCFs and supervision <u>External</u> – Lack of clarity of responsibilities for O&M, including for community involvement (MoU to be strengthened) <u>External</u> – Limited community engagement, and lack of community access to a water source while the HCF had benefitted from improved services led to vandalism and poor relations

Based on identified bottlenecks, how can the interventions be realistically modified to strengthen and increase the chances of program success? What are the main bottlenecks during implementation and their maintenance afterwards (for example in operations & maintenance (O&M))?

As noted earlier, key bottlenecks include lack of government ownership and leadership, fragmented enabling environment, insufficient and inequitable funding, capacity constraints, fragmented capacity building approaches, limited monitoring and supervision and lack of systematic integration of gender, disability, and social inclusion principles for sustaining inclusive WASH services.

In an era of decreasing development aid, sustainability considerations are more important than ever. The study suggests three key entry points UNICEF could use to maximize sustainability, as follows:

- **Prioritize the rollout of WASH-FIT over anything else** - As shown by the experience of other countries, WASH-FIT can effectively catalyze change. It supports the institutionalization of WinHCFs post-construction phase through regular assessment and supervision, and the generation of data, which is currently lacking, to inform action, accountability and learning at all levels.
- **Re-brand and integrate WinHCFs within the MoH as a quality improvement (QI) initiative** - There is a need to move away from the perception that the WASH in HCF initiative in Mozambique is an infrastructure initiative with a limited timeframe, as several stakeholders have described it. UNICEF can use its leadership in developing the roadmap to rebrand WinHCFs as a quality-of-care improvement initiative fully integrated with other key MoH strategies. To do so, the roadmap should consider relevant MCH and IPC strategies and plans (and vice versa in the future). The WASH-FIT rollout will also support a necessary perception shift about WinHCFs' purpose at lower levels.
- **Build a case for WinHCFs** - UNICEF should support gathering robust data on effectiveness and costs to demonstrate the return on investment from WinHCFs' efforts and funding. This will be facilitated by setting targets and monitoring progress, as well as by data gathered through WASH-FIT and supporting research. The roadmap development process should advocate for elevating WinHCFs within DEH. This could entail creating its own section or pillar with a designated lead who collaborates closely with health services quality assurance initiatives within the MoH (e.g., the Department of Quality Management and Assurance). Building a case for

WinHCFs will also require UNICEF to encourage improved collaboration, coordination, and knowledge sharing among other donors and implementing partners.

The study team has proposed how the Mozambique WinHCFs ToC could be strengthened for scale-up and sustainability moving forward in Annex 7. We also offer additional concrete recommendations to address key bottlenecks at the end of this Annex.

Are there activities or practices that are no longer effective or were never effective in the first place that should be removed from the program?

No specific activities or practices were identified as grossly ineffective and recommended for removal. Instead, the study has highlighted gaps and areas needing strengthening. Therefore, the focus should be on enhancing existing components to further increase program success. As such, addressing all of the "soft issues" highlighted above should take precedence over embarking on new phases of WASH infrastructure work.

What are the main gaps affecting the implementation of the UNICEF WASH in HCFs initiative in Mozambique in terms of: 1) policies and strategies, 2) regulations, standards and guidelines, 3) capacity, 4) coordination, 5) funding?

There are several gaps in the institutional environment in which WinHCFs is operating. To summarize in a concluding statement these are:

- **Policies and strategies** - There is a fragmented and lack of higher-level policy and strategic framework covering WinHCFs. The National Health Strategic Plan (2020-2024 extension) mentions WASH-related goals but does not have specific interventions for WinHCFs. WinHCFs is covered under the Environmental Health Strategy (2017-2025), which lacks an operational plan, and there is no specific WinHCFs strategy. Many relevant documents remain unapproved and not disseminated, limiting effective implementation and monitoring of progress. There is a lack of visibility and prioritization of WinHCFs at the MoH, which is partly due to competing agendas and the perception of the program as donor-driven rather than government-led. A robust investment case for WinHCFs and a comprehensive advocacy strategy targeting decision-makers at all levels are major gaps hindering progress. The costed roadmap currently being developed will be an important milestone in addressing these gaps.
- **Regulations, standards and guidelines** - Prior to the UNICEF-led initiative, there were no national WinHCFs technical standards, which made performance monitoring difficult. Although an initial standards document was developed, it requires updating and alignment with strategic objectives and other programs, such as MCH and IPC. It also needs to incorporate climate change adaptation and Gender Equality, Disability and Social Inclusion (GEDSI) considerations. Often, relevant guidelines and standards are not disseminated or made available at the subnational level, which hinders implementation. Additionally, there is a need to finalize and approve specific WinHCF indicators for incorporation into the national health information system. A central database for WASH-FIT metrics was overdue and is being developed. The setting of targets and use of data for tracking progress and decision-making must also be improved. WASH-FIT has only been partially implemented, and in areas where it has been implemented, several HCFs have not undergone their first WASH-FIT assessment after receiving training.
- **Capacity** - Capacity gaps exist at provincial and district government levels, particularly in managing infrastructure contracts and O&M. There is limited and fragmented training and supportive supervision due to lack of funds. District and health facility staff and community members often lack clarity about roles and responsibilities for WASH services. Limited capacity results in poor accountability and ad hoc maintenance of infrastructure.
- **Coordination** - Although a multi-sectoral coordination group and TWGs were established at national level, participation has been irregular and passive and the TWG have time-bound remits. Coordination meetings have often been delayed or infrequent, especially during political events or unrest. At provincial and district levels, coordination is weak or ad hoc, with no set windows to discuss WinHCFs progress and issues in existing coordination mechanisms. There is a lack of ownership of the program at district and health facility levels due to limited engagement during design and construction phases.
- **Funding** - There is a lack of dedicated budget lines for WASH O&M in the National Health Strategic Plan, and health facilities depend on limited and unevenly allocated government funds. Government budget allocation to the health sector has decreased over recent years and remains well below the Abuja target of 15%. Budget

execution rates are low, and fund absorption challenges persist. There is a heavy dependence on donor funding for supervision, capacity building, and commodity supplies. Health facilities often face delays or inability to repair or maintain WASH infrastructure due to insufficient funds. Community funds for O&M have had mixed success. Infrastructure work and O&M expenses costs are not tracked in any details making advocating for WinHCFs funding even harder.

What is the cost per output and beneficiary (focusing on expenditures related to program delivery mainly)? Are there areas for cost-saving and how can they be delivered in a more efficient way?

Due to limitations in data availability, we were only able to conduct a basic cost analysis for nine of the 24 HCFs sampled in this study. As a result, all results must be interpreted with caution and are not generalizable given the very small sample size and possible incompleteness of the data.

Based on the sample for this analysis, we found that the average cost per HCF is around US\$59,000, which is well below the US\$100,000 per HCF threshold used by UNICEF for budgeting purposes at the program level. This further translates into a cost per person in the HCF catchment population of US\$2.7, US\$2.5 per annual outpatient visit, and US\$48.6 per birth delivery.

Based on the findings from this study, improving O&M ownership and management at the local level could lead to cost savings in the long run. Regular and appropriate maintenance of WASH infrastructure would avoid major breakdowns that could otherwise be prevented with adequate O&M. The study also reported accounts of some expensive materials that could not be sourced easily locally; UNICEF could support provincial stakeholders identifying alternative suppliers and negotiating prices for these construction and O&M materials.

Recommendations

The recommendations below overlap partially with the priority recommendations in the main body of the study report, but are more detailed. They are provided to guide action planning and inform the finalization of the roadmap.

#	Recommendations	Priority	Intended audience
WinHCF institutionalization			
1	<u>Road map</u> – Ensure a full, participatory, consultative process for developing and endorsing the road map (including targets), involving representatives of multi-sector stakeholders, including communities and GEDSI-focused CSOs.	2025	UNICEF
2	<u>Road map</u> – Use the road map opportunity to "relaunch" WinHCFs with a greater emphasis on improving quality of care. This should consider relevant MCH and IPC strategies and plans and be facilitated by elevating WinHCFs within DEH and a close collaboration between DEH and the MoH health services quality assurance initiatives (e.g., under the Department of Quality Management and Assurance).	2025	MoH with UNICEF TA support
3	<u>Responsibilities</u> – Use the road map development process to decide with relevant stakeholders on specific responsibilities for WinHCFs at all levels, particularly for O&M at lower levels, and sourcing of necessary funding.	2025	MoH with UNICEF TA support
4	<u>ToC and targets</u> – Use the road map as an opportunity to revise the WinHCFs ToC based on the findings of this study, where agreed. Develop a related results framework with clear milestones and targets for all actions included in the road map. Where baseline data are missing, include collecting baseline data as the first milestone for that action instead of delaying the roadmap.	2025	MoH with UNICEF TA support
5	<u>WinHCFs standards</u> – Update the WinHCF standards and integrate them with other relevant health standards, such as MCH and IPC. Ideally, this should be completed before finalizing the roadmap, so the revised standards can be used to set targets.	2025	MoH with UNICEF TA support
6	<u>Provincial action plans</u> – Based on the finalized roadmap, assist the UNICEF-supported provinces in developing two- to three-year action plans contextualized for each province's situation. These plans should include milestones and targets.	2026	Provinces with UNICEF TA support
7	<u>Coordination</u> – Revise the National WinHCFs Multi-sectoral Coordination Group's Terms of Reference (ToRs), composition (to include all key actors involved in WinHCFs across Mozambique), and ways of working (e.g., meeting frequency, action point	2026	MoH with UNICEF TA support

	follow-up) to ensure it is fit for purpose and can drive roadmap implementation. This should include revising the purpose and composition of the TWG to make them permanent forums that focus on tracking progress and solving bottlenecks in specific action areas of the roadmap.		
8	<u>Coordination</u> – Support provincial and district authorities in quarterly progress meetings to systematically discuss progress against WinHCF action plans, in line with other QI initiatives; support incorporating WinHCFs into planning and budgeting cycles.	2026	Provinces with UNICEF TA support
9	<u>Investment case</u> – Once the roadmap is complete, progressively build a smart investment case to advocate for the long-term adoption and funding of WinHCFs. The case should include information on the effects and benefits of WinHCFs, building on efforts to strengthen data generation and use (see below), as well as the resources required to scale it up (costing).	2027	MoH with UNICEF TA support
10	<u>National policies, strategies and budgets</u> – Stay informed about government policies, strategies, and budgets that are being developed or revised, and continuously advocate for the inclusion of WinHCFs where relevant.	Ongoing	MoH and UNICEF
Data generation and use			
11	<u>Data platform and analysis plan</u> – Use the opportunity of the WASH-FIT digital data platform being developed to create a realistic data analysis plan. Gradually increase the scope and complexity to track the use of WASH services and compliance with standards, in addition to the availability and functionality of WASH services. Include in the analysis the correlation between WASH in HCF and health indicators (e.g., number of outpatient visits, assisted births, postpartum infections, neonatal infections) to inform effectiveness metrics.	2025	MoH with UNICEF support
12	<u>Progress review and learning</u> – Organize and facilitate an annual forum to review progress in the WinHCFs initiative, share lessons learned, and exchange best practices. Facilitate the development of a joint learning agenda to address knowledge gaps (see some suggestions for initial studies below) and identify funding sources among different partners to fulfill these learning priorities. Use the forum to identify revisions needed to the roadmap, including in terms of milestones and targets.	2025	MoH with partners support
13	<u>Routine information system</u> – Support the final approval of the selected WinHCF indicators to be included in the routine health information system. Ensure accurate indicator reference sheets are available for each indicator, including the analysis plan. Ensure ongoing data analysis, use, and triangulation with WASH-FIT data.	2026	MoH with UNICEF support
14	<u>Budget tracking</u> – Track the budget and expenses incurred by WinHCFs from all partners supporting the initiative. Identify gaps and advocate for resource mobilization and supporting costing analyses.	2026	MoH, partners with partners support
15	<u>Evaluate</u> – Following the one-year WASH-FIT support pilot, commission an evaluation of the effectiveness of the WASH-FIT rollout on access to and use of inclusive WASH services in HCFs. Compare the results between HCFs that have and have not benefited from WASH-FIT and CSO support during the pilot.	2026	MoH with UNICEF support
16	<u>Research</u> – Commission an in-depth life-cycle costing study to inform budgeting, advocacy efforts, and the identification of potential cost savings. Include in the scope benchmarking costs against other WinHCFs supported programs in Mozambique and elsewhere.	2026	UNICEF or other partners
17	<u>Research</u> – Commission a qualitative study to identify success stories and best practices for raising regular funding for O&M within and outside of Mozambique. Ensure that the results are disseminated at all levels.	2027	UNICEF or other partners
18	<u>Research</u> – Commission formative social science research to inform the ACSM strategy (see below), based on evidence of key stakeholders' knowledge, attitudes, and practices regarding WASH for HCFs (i.e., decision-makers, health workers, service users, and community members).	2025	UNICEF or other partners
Capacity building			
19	<u>Staffing norms</u> – To ensure there is enough capacity at the lowest level for O&M, collaborate with the MoH on the current revision of staffing norms (pacote basico). These norms should include clear roles and responsibilities for O&M, as well as the necessary personnel to fulfill these duties. This includes the number of Service	2025	MoH with UNICEF support

	Assistants required based on the size and level of the HCF and annual volume of HCF patients.		
20	<u>Training integration</u> – In an attempt to better integrate WinHCFs in the health sector, look for ways to combine WinHCFs training content (WASH infrastructure use and IPC) with other related training such as MCH, health promotion, nutrition. Consider the opportunity of joint training to increase length of training for the lowest cadres of staff.	2026	MoH with UNICEF support
21	<u>Training database</u> – Support the development and maintenance of a WinHCFs training database to track the number of trainers and trainees per province/district, as well as initial and refresher trainings.	2026	MoH, Provinces with UNICEF support
22	<u>Widen dissemination of and access to training materials and other resources</u> – Support the inclusion of all WinHCF and WASH-FIT training materials and resources on the MoH Tele-Saúde platform to allow health professionals to easily access these resources and self-train. If budget permits, ensure that training materials and manuals are available in print in all WinHCF-benefiting HCFs.	2025	MoH
23	<u>Supervision</u> – Support provinces and districts in identifying existing supervision mechanisms in which WinHCF supervision could be integrated more systematically. Support the identification of funding to contribute to these supervision exercises. This would be in addition to the repeated WASH-FIT assessments, which should also serve as opportunities for supervision and on-the-job coaching.	2026	Districts with UNICEF TA support
24	<u>Motivation</u> – Consider developing certification schemes and other non-financial motivational programs for district teams, health workers, and communities. Certification could involve different levels, from participating in WinHCFs (e.g. after successfully completing WASH-FIT training) to meeting set WinHCFs standards and targets.	2026	MOH with UNICEF support
Infrastructure improvement and management			
25	<u>Stakeholder engagement pre- and during construction phase</u> - Even though the Ministry of Public Works remains primarily responsible during construction, organize regular information-sharing and feedback sessions with health officials, HCF staff, and communities during the two-year construction phase. These sessions will foster a sense of ownership, which is critical to sustaining the infrastructure post-construction.	2026	DPOP/DPS with UNICEF support
26	<u>WASH infrastructure MoU</u> – Revise the MoU template in consultation with all parties to provide greater clarity and detail on roles and responsibilities in O&M post-construction, including how to secure funding for it. Consider adding community leaders and HCF representatives as signatories, in addition to government officials, to increase ownership at the lowest levels. Consider signing the MoU earlier in the project cycle to cover both the construction and post-construction phases. This will foster engagement and ownership from all parties from the beginning.	2025	MOH with UNICEF support
27	<u>Contractor's onboarding process</u> – Develop an onboarding package for contractors, including an informative session and document, prior to their starting work under each lot. This will ensure they are aware of the construction requirements peculiar to WASH infrastructure.	2026	MOH with UNICEF support
28	<u>Construction database</u> – Consider adding a module to the WASH-FIT data platform to track construction status, reduce delays, and promptly address bottlenecks. It would also allow keeping track of the WASH improvements each HCF has received and when. This information may be important for reviewing the effectiveness of O&M and informing future needs assessments and investments.	2026	MOH/MOPHRH with UNICEF support
29	<u>Support sourcing of stock-out and expensive construction materials</u> - If possible, support the identification of alternative sources of critical materials with low availability/high prices on the Mozambican market.	2027	UNICEF
30	<u>HCF O&M plans and tracking forms</u> – As part of the O&M guidance, provide a template for developing routine O&M plans that suit each HCF context and personnel composition. Ensure the template is used and its implementation is tracked. Also, introduce and enforce maintenance tracking forms that can be referred to during supervision and WASH-FIT assessments.	2025	MOH/MOPHRH with UNICEF support
31	<u>District level WASH infrastructure repairs tracker</u> – Develop a system between HCF and District to record HCF repair requests, track their status (from reporting to completion), and allocate resources.	2025	MOH/MOPHRH with UNICEF support

Advocacy, communication and social mobilization (ACSM)			
32	<u>ACSM strategy</u> – Develop a comprehensive ACSM strategy that coherently and consistently addresses messaging on WinHCFs for different audiences, including decision makers, health officials, health workers, service users, and communities. Integrate with MCH and IPC ACSM efforts as much as possible.	2026	MOH with UNICEF and other partners support
33	<u>ACSM resources</u> – In the same vein as policies, strategies, and training resources, attempt to better integrate WinHCFs into the health sector by integrating WinHCFs ACSM resources into wider BCC quality of care improvements materials.	Ongoing	MoH and UNICEF
WASH-FIT			
34	<u>Prioritize WASH-FIT roll-out and promote it as critical driver for WinHCFs success</u> – Prioritize funding for the institutionalization of WASH-FIT. Consolidate and support repeated assessments (every six to twelve months, depending on the budget available) in HCFs that have received training on WASH-FIT before supporting additional training. Ensure that data generated through WASH-FIT is used locally and reported at high levels for planning and actions. Ensure that actions are followed up on. Review the experience of WASH-FIT at the first annual learning forum (see above) to inform strategic direction.	2025	MOH with UNICEF support
35	<u>Contextualize WASH-FIT</u> – Find another name for the WASH-FIT approach and tool to contextualize them and maximize local buy-in and ownership.	2025	MOH and UNICEF
Gender, equity, disability and social inclusion (GEDSI)			
36	<u>GEDSI in institutional environment</u> – As the roadmap is developed and WinHCFs is gradually integrated into broader national policy documents, ensure that GEDSI principles are included in program design and government commitments. Invite GEDSI CSOs to participate in the consultative process for policies, strategies, and standards updates. They have a lot to offer to make WASH services more equitable and inclusive.	2025	MOH with UNICEF support
37	<u>GEDSI in data generation and use</u> – As indicators are agreed upon and more data is collected, ensure that GEDSI considerations are included in the data collection and analysis to assess the extent to which WASH services in HCF are responsive to GEDSI. Prioritize GEDSI in the learning agenda and research.	ongoing	MOH with UNICEF support
38	<u>GEDSI in capacity strengthening</u> – Ensure that training materials and other resources are GEDSI-aware and accessible. Include GEDSI considerations in supervision, as outlined in the latest WASH-FIT assessment tool.	ongoing	MOH with UNICEF support
39	<u>GEDSI in infrastructure improvement and management</u> – Build on the suggested formative research for ACSM (see above) to determine if any infrastructure standards require revision for greater GEDSI and contextual responsiveness including climate change response strategies.	2026	MOH with UNICEF support
40	<u>GEDSI in ACSM</u> – Ensure that the ACSM strategy and materials are informed by GEDSI data and considerations.	2026	MOH with UNICEF support
Climate			
41	<u>Climate resilience and mitigation</u> – continue to support the government of Mozambique to select the most appropriate WASH technology for the local context taking into account its ability to withstand potential risks, how it is constructed and housed, and the changing conditions that are expected to affect the relevant water resources, supply chains and infrastructure.	ongoing	UNICEF
UNICEF			
42	<u>UNICEF support to WinHCFs</u> – Find a way to distinguish the government-led WinHCFs initiative from the support that UNICEF provides to it, in order to reduce the perception that it is a donor-led and donor-dependent program.	2025	UNICEF
43	<u>Collaboration between UNICEF WASH and health teams</u> – Strengthen the involvement of the UNICEF health team in resolving the "soft issues" and post-construction bottlenecks documented through this study, if needed.	2025	UNICEF
44	<u>Support to 'hardware' vs 'software'</u> – Budget permitting, consider bringing additional resources to the team and split responsibilities to drive WinHCFs 'hardware and 'software' components within to provide equal emphasis and strengthen to the	2026	UNICEF

	“software” component that focuses on sustainability issues and turn away from the idea of this being an infrastructure project		
45	<u>Cost data</u> – Improve breakdown of budget and cost documentation and tracking to support cost analyses.	2025	UNICEF