

COMPLETION REPORT FOR BMMT HEALTH CENTRE - MASANGA

Name of Project:	Improvement of WASH Infrastructure
Location:	Tarime DC, Mara Region
Subject:	Completion Project Report
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Name of Client:	Bikira Maria Mama wa Tumaini Health Centre - Masanga
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On 18th of July 2026, Masanga health centre in Tarime DC, photo shows among of the constructed infrastructures (staff toilet block) for BMMT HC. Photo captured by Franco

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CHAPTER 1

1.0 INTRODUCTION

1.1 Introduction

Sanitation and Water Action (SAWA), in collaboration with Water Engineers for the Americas and Africa (WEFTA), with funding support from the Daughters of Charity, has been implementing interventions to improve water, sanitation and hygiene (WASH) services at Bikira Maria Mama wa Tumaini (BMMT) Health Centre in Tarime District. The support builds on earlier WASH investments made at the facility, including the installation of rainwater harvesting systems through the construction of underground water storage tanks, installation of plastic water tanks, and rehabilitation of the existing borehole water supply system in 2020. The interventions also contributed to improving access to water services for surrounding communities and schools. Since then, the management of BMMT Health Centre has continued to operate and maintain the systems using its available resources.

As part of the Circuit Riding (CR) programme, which is implemented across SAWA projects supported by WEFTA and the Daughters of Charity, regular technical monitoring visits are conducted to assess the functionality and sustainability of WASH infrastructure and identify areas requiring corrective action. During the CR visit conducted in 2025, several gaps were identified at BMMT Health Centre. These included non-functional underground rainwater storage tanks, inadequate toilet facilities for staff and patients, insufficient handwashing facilities, and other WASH-related challenges. Action points were subsequently developed to address the identified gaps; however, the extent of the required interventions necessitated additional external financial and technical support.

In response to these identified needs, WEFTA, with funding from the Daughters of Charity, provided support to SAWA to implement priority WASH improvement activities at BMMT Health Centre. The project focused on addressing the key gaps identified during the Circuit Riding assessment and strengthening the overall WASH infrastructure and services at the facility.

This completion report provides an overview of the activities implemented under the Improvement of WASH Infrastructure Project by SAWA in collaboration with the BMMT Health Centre. The main interventions included construction of a new toilet block, construction of group handwashing facilities and concrete, rehabilitation and renovation of existing WASH infrastructure, and installation of handwashing facilities at all points of care.

The planned activities were successfully completed, contributing to improved access to safe, functional and appropriate WASH facilities for patients, staff and other users of the health centre. A summary of the completed activities is presented in the table below.

Table 1: SUMMARY OF CONSTRUCTION ACTIVITIES CARRIED OUT – BMMT HC – MASANGA – TARIME DC

S/N	Main Activities	Target	Achievement (%)
1. WATER SUPPLY			
1.1	Construct tank bases	Six tank bases were constructed to support the installation of 5,000 litre plastic water tank.	- 100% complete
1.2	Rehabilitate of Five underground rainwater storage tanks	Seven underground rainwater storage tanks were successfully rehabilitated and restored to function.	- 100% complete
1.3	Improve of water supply at the sisters' convent	A centralized solar water heating system was installed, and a new tank tower was constructed to support a 5000ltr plastic water storage tank	- 100% complete
1.4	Renovation of the rainwater harvesting (RWH) system	First -flush Rainwater diversion systems were installed to improve the quality of the harvested rainwater	- 100% complete
1.5	Servicing of borehole water pumps and installation of submersible pumps	Two Borehole pumps were serviced and restored to full functionality. Three new submersible pumps were supplied and installed to pump water to the raised tanks. In addition, 3 existing submersible pumps serviced and are now functioning.	- 100% complete
1.6	Rehabilitation of	The protected springs	- 100% complete

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	community protected springs and installation of a new handpump at Kenyamsabi.	chambers were cleaned and fencing, and gates were repaired. Installation of a new hand pump was installed and is fully functional	
2. SANITATION			
2.1	Construction of Staff toilet block	A new staff toilet block was constructed and completed including installation of all required sanitary and hygiene fixtures and accessories	- 100% complete
2.2	Rehabilitation IPD toilet block	The IPD toilet block was rehabilitated, comprising 5 stances, including one stance designated to accommodate person with disabilities	- 100% complete
2.3	Rehabilitation of OPD toilet block	The OPD toilet block was rehabilitated, comprising 10 toilet stances.	- 100% complete
2.4	Construction of storm water run-off drainage channel (,40m)	A 40m stormwater drainage channel was constructed to improve the management and safe disposal of surface run-off at the VIP ward.	- 100% complete
3. HYGIENE			
3.1	Construction of Group Hand Washing (GHW)	Three group handwashing stations were constructed unequipped to support improved hand hygiene practices among patients, staff and visitors.	- 100% complete
3.2	Installation of ceramic wash handwashing basins	Thirty-four ceramic handwashing were installed at all designated point of care to improve access to handwashing facilities for HealthCare workers and patients.	- 100% complete

4. WASTEWATER SYSTEM AND HCF SOLID WASTE MANAGEMENT			
4.1	Construction of septic tank for the staff and IPD toilet blocks	A septic tank was constructed in accordance with the approved design	- 100% complete
4.2	Construction of a district hospital level incinerator High-tech (MARK II)	A district hospital level- high-tech incinerator was constructed in accordance with approved designs and specification	- 100% complete
5.0	Building capacity of management committee	A one-day orientation training was organized where the project sustainability issues were discussed and agreed, and action plan developed.	-100% complete

CHAPTER 2

CONDUCTED ACTIVITIES

2.0 DETAILS OF THE CONDUCTED ACTIVITIES

2.1 CONSTRUCTION / REHABILITATION OF SANITATION FACILITIES

2.1.1 Construction of two stances toilet for staff.

Initially, staff were using an existing single-stance toilet facility shared by both male and female staff. During the needs assessment, the assessment team identified the facility as inadequate and recommended the construction of a new two-stance toilet block to provide appropriate and separate sanitation facilities for male and female staff.

The recommended two-stance staff toilet block has been successfully constructed and completed, including the installation of medium-sized handwashing basins and other necessary sanitary fittings. The new facility has improved access to safe, convenient and appropriate sanitation facilities for both male and female staff.

In addition, the project constructed a **single-compartment septic tank measuring 2,000 mm × 2,000 mm × 1,800 mm deep** to improve the capacity and efficiency of the existing wastewater management system.

The project also improved access to the emergency building by replacing the existing small doorway with a larger door. This modification required the construction of a ramp to allow vehicles to move closer to the building and facilitate easier access for patients. The improvement has significantly reduced the distance over which patients need to be carried on stretchers from vehicles to the emergency building. One of the doctors at the facility commended the intervention, noting that it has reduced the burden on staff when transporting patients on stretchers and improved access to the emergency services.



Situation before construction



After completing construction



2.1.2 Rehabilitation of IPD toilet block.

Initially, it was proposed to construct a new toilet block for the IPD wards. During the reassessment, it was advised that it would be better to renovate one existing block which had four unused small rooms and one that was being used as staff toilets. Among these five stances, one was specifically intended for use by people with special needs.

Initially, the project proposed the construction of a new toilet block to serve patients in the Inpatient Department (IPD) wards. However, during the subsequent reassessment of the facility, it was determined that rehabilitating an existing toilet block would be a more practical and cost-effective option. The existing block comprised four small, unused rooms and one room that was being used as a staff toilet. It was therefore agreed to convert and rehabilitate the five rooms into a functional toilet block serving the IPD wards.

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Of the five toilet stances, one stance was specifically designed and equipped to accommodate persons with disabilities (PWDs), thereby improving accessibility and ensuring that the facility responds to the needs of users with special requirements.

Prior to the intervention, the IPD wards did not have dedicated toilet facilities. As a result, inpatients were required to use the toilets located at the Outpatient Department (OPD), which was not an appropriate arrangement due to the distance from the wards and the different needs of inpatients. The rehabilitation and conversion of the existing rooms into an IPD toilet block has therefore provided patients with convenient and accessible sanitation facilities located closer to their wards, while also reducing unnecessary movement of patients within the health facility.

The rehabilitation works involved a range of civil, plumbing and finishing activities to ensure that the facility met the required standards for functionality, hygiene, safety and durability. The main activities undertaken included:

- Demolition and removal of the existing floor finishes
- Installation of new ceramic toilet pans
- Installation of water shower to each stance and two water heaters.
- Installation of internal water supply and wastewater plumbing systems
- Internal and external re-plastering of walls
- Installation of gypsum boards and PVC boards where required
- Wall and floor tiling
- Skimming and painting of internal and external surfaces
- Installation of aluminium windows
- Repair and installation of the existing four doors
- Installation of a new door for the PWD-accessible toilet stance; and
- Construction of wastewater inspection chambers to facilitate proper wastewater management and maintenance.

The rehabilitation of the IPD toilet block has been successfully completed, providing five functional toilet stances, including a dedicated PWD-accessible stance. The intervention has significantly improved sanitation, accessibility and convenience for patients admitted to the IPD wards and contributes to a safer and more dignified healthcare environment.



Before Renovation IPD toilet block (outside)



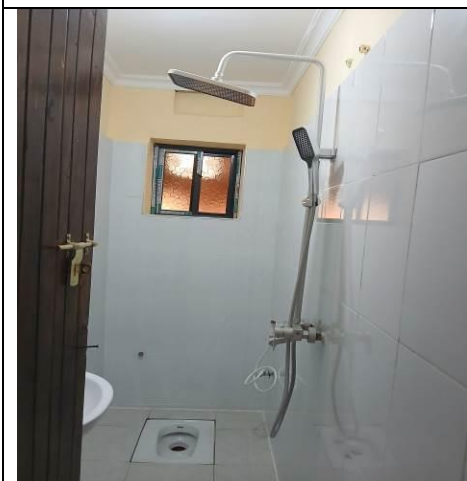
Renovated toilet block with five stances for IPD



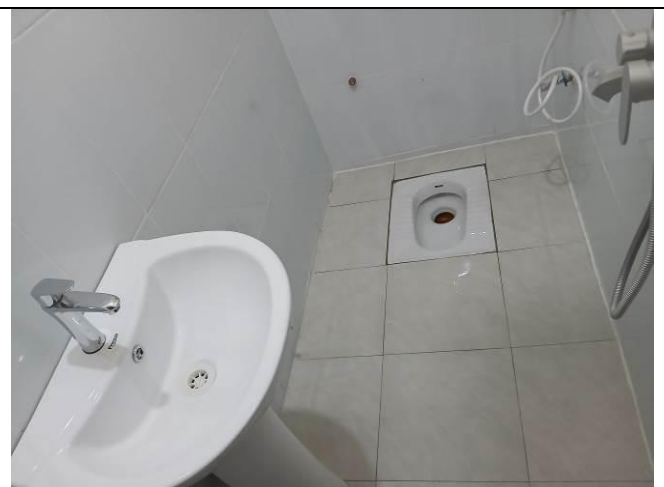
Before renovation of IPD toilet block's corridor



Renovated corridor



Inside of the renovated stance



Installed wash hand basin inside the stance

2.1.3 Rehabilitation of OPD toilet block

The Outpatient Department (OPD) toilet block comprises a total of ten toilet stances, with five designated for female users and five for male users. Each gender section is also equipped with two bathing units.

During the assessment, several challenges affecting the functionality and condition of the facility were identified. These included peeling and deteriorated paintwork, damaged water supply infrastructure, inadequate ventilation due to insufficient vent pipes, and lack of a reliable water supply within the toilet block. These challenges affected the proper use, cleanliness and overall hygiene of the facility.

To address the identified gaps, the following rehabilitation and improvement works were undertaken:

- Internal and external wall skimming and painting
- Reinstallation of two existing ceramic toilet pans
- Installation of additional ventilation pipes to improve airflow and reduce odours within the toilet block
- Reconnection of the water supply to the existing plumbing system, including the installation of ten water taps; and
- Construction of ramps at both entrances to improve accessibility for users, including persons with mobility challenges.

The reconnection of the water supply to the OPD toilet block has been particularly beneficial to the sanitation workers. Previously, the workers had to fetch water from a distant source for cleaning purposes and spend considerable time filling the water barrels inside the toilet block. With a reliable water connection and taps now available within the facility, cleaning and maintenance can be carried out more efficiently and regularly. This has improved the overall cleanliness and hygiene of the OPD toilet facilities while reducing the workload and time spent by sanitation workers in accessing water.

The rehabilitation works have been successfully completed, significantly improving the functionality, accessibility, cleanliness and overall hygiene conditions of the OPD toilet block.

*Before rehabilitation**After rehabilitation*

2.1.4 Construction of storm water run-off drainage,40m length

During the rainy season, stormwater runoff accumulated around the VIP building, resulting in stagnant water and making it difficult for patients, staff and visitors to access the building. The stagnant water also created potential mosquito breeding sites, increasing the risk of malaria and other vector-borne diseases. Addressing this drainage problem was therefore important for improving both accessibility and the health and safety of people using the facility.

To address the problem, the project constructed a 40-metre stormwater drainage channel to safely convey runoff away from the building and prevent water from accumulating around the facility. Before construction, the site was assessed to determine the most appropriate drainage solution, taking into consideration the terrain and the volume of stormwater generated during the rainy season.

Based on the assessment, a trapezoidal drainage channel was constructed to accommodate and effectively convey the relatively high volume of stormwater generated in the area. The completed drainage system has improved stormwater management around the VIP building and created a safer and more conducive environment for patients, staff and visitors.

In addition to the drainage works, an access ramp was constructed at the building to improve accessibility for patients, particularly those using wheelchairs or with limited mobility. The ramp also enables ambulances and other vehicles to move closer to the building when picking up or delivering patients, particularly during emergencies. This improvement has enhanced

accessibility and facilitated more efficient and dignified delivery of healthcare services.



2.2 CONSTRUCTION / REHABILITATION OF WATER FACILITIES

2.2.1 Construction of tank bases

To improve the reliability and availability of water supplies, the project constructed six tank bases to support 5,000-litre plastic water storage tanks for the collection and storage of harvested

rainwater. The selected locations were areas where functional rainwater harvesting (RWH) systems were already in place, allowing the newly installed tanks to be connected directly to the existing RWH infrastructure.

Of the six tank bases constructed, four were installed at the hospital and two at St. Catherine School. The additional storage capacity has strengthened the existing rainwater harvesting systems and increased the amount of water that can be collected and stored for use during periods of water shortage.

The tank bases were constructed using stone masonry bonded with sand-cement mortar at a 1:6 cement-to-sand ratio. The bases were properly levelled and finished in accordance with the requirements and recommendations for the installation of plastic water storage tanks, providing stable and durable support for the tanks.

Following completion of the bases, the 5,000-litre plastic tanks were installed and connected to the existing rainwater harvesting systems. The tanks are now functional and collecting harvested rainwater for the intended uses at the respective facilities.

2.2.2 Rehabilitation of underground water storage tanks

Initially, five underground rainwater storage tanks were identified as requiring rehabilitation due to leakage, which significantly affected their ability to retain harvested rainwater. A detailed inspection was conducted to establish the causes of the leakage and determine the appropriate rehabilitation measures. The assessment revealed that several tanks had cracks in the walls, while others had holes and damaged sections in the floor and walls.

Based on the findings, rehabilitation works were undertaken to restore the structural integrity and watertightness of the affected tanks. The works included casting a new concrete floor slab of approximately 130 mm thickness and applying a new cement and water proof -sand plaster layer of approximately 50 mm thickness to the internal walls. The repaired surfaces were properly finished to minimize water leakage and improve the tanks' capacity to retain harvested rainwater.

During implementation, two additional tanks were identified as having similar leakage problems, one located at the Priest's residence and another at St. Catherine Primary School. Following discussions with the relevant stakeholders, it was agreed to include these two tanks in the rehabilitation program. This decision was considered appropriate because the tanks were part of the existing rainwater harvesting systems, and their poor condition meant that significant amounts of harvested rainwater were being lost.

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Consequently, a total of seven underground rainwater storage tanks, with capacities ranging from 20,000 to 50,000 litres, were rehabilitated. All seven tanks are now functional and able to effectively retain harvested rainwater. The rehabilitation has restored previously lost water storage capacity and improved the availability and accessibility of water at the beneficiary facilities.

Table 2.2.2.1: Distribution of seven renovated tanks

S/N	Location	No. of Tank	Type of storage tank	Approximated Capacity (Liters)
1	Sister's convent	2	Underground	20000 and 25,000
2	St. Catherine P/S	2	Underground	25,000 and 30,000
3	ATFGM	1	Underground	35,000
4	BMMT HC	1	Unground	25,000
5	Priest's house	1	On ground	50,000



Observed holes in the tank walls



Observed holes in the base floor



Observed cracks in the tank walls



Preparation of surfaces ready replastering and floor



Reinforcements before concreting work



applied new plaster coat and reinforced concrete floor



Finishing work of the applied plaster



Before rehabilitation



After rehabilitation



Before renovation (at the priest's house)



After renovation of on-ground storage tank

2.2.3 Improvement of water supply at the sister's convent

The infrastructure rehabilitation works did not include any repairs to the Sisters' house. However, as the project activities progressed, the Sister in charge requested us to assess the water supply situation at the house. The assessment revealed that the existing water supply infrastructure was outdated and had significantly deteriorated. In addition, the existing 2,000-litre water storage tank was too small to meet the water demand of the house.

Based on the assessment findings, we recommended constructing a three-metre-high tank tower to support a 5,000-litre plastic water storage tank. This would provide adequate storage capacity and allow the existing 2,000-litre tank to be used for other purposes. We also recommended replacing and upgrading the existing water supply pipe to a one-inch diameter to improve water flow and pressure throughout the house.

Following discussions and agreement on the proposed improvements, the project proceeded with the recommended works. A three-metre-high tank tower was constructed, and the necessary plumbing works were completed. The project also installed a centralized solar water-heating system, which supplies hot water to all twelve bedrooms, thereby significantly improving the water supply and living conditions for the sisters.



Existing storage tank 2000L on 6m tower



Constructed 3m tank tower



Plumbing works at the tank



Installed tank 5000L



Installation of 200L solar water heater



Electrical connection of solar water heater



Training on the installed solar water heater



Technician providing training of the heater installed

2.2.4 Renovation of the RWH systems

The existing rainwater harvesting systems were not equipped with first-flush devices to prevent the initial, potentially contaminated runoff from entering the storage tanks. In collaboration with the water infrastructure operators, the project identified all locations where first-flush systems were required. The project subsequently installed first-flush devices at all identified sites, thereby improving the quality and safety of harvested rainwater entering the storage tanks.

The project also addressed leakages in several plastic water storage tanks. The affected tanks were inspected and repaired using M-Seal adhesive, which successfully sealed the leaking points and restored the tanks to functional condition. These repairs helped reduce water losses and extended the useful life of the existing storage infrastructure.



Installed first flush system



2.2.5 Repair of water pumps and rehabilitate gates at the protected springs

The project successfully rehabilitated several water pumps that had remained out of operation for an extended period due to a lack of maintenance. In addition, two new pumps were procured and installed on the existing water supply infrastructure to improve water availability and reliability.

For example, prior to the intervention, patients were using water from a dug well for washing clothes and other domestic purposes. In collaboration with BMMT, the project installed a pump to convey water from the well to an elevated storage tank, from where it could be accessed through taps. The water supply was also connected to the OPD toilets, thereby improving access to water for patients and supporting better hygiene and sanitation.

Furthermore, the project repaired and secured two protective gates at two spring water sources. These improvements have enhanced the physical protection of the sources and helped safeguard them from unauthorized access, contamination, and potential damage.



Connection
of sensor
of the new
installed
pump

2.2.6 Repair of 6m tank tower.

The project successfully rehabilitated an existing six-metre-high steel tank tower, which had an inadequate support base for the plastic water storage tank. The condition of the base posed a risk of cracking or leakage of the tank due to uneven support and the pressure exerted by the stored water. In addition, the tower lacked a protective tank guard, creating a risk that an empty plastic tank could be displaced or blown off the tower during strong winds, potentially resulting in damage.

To address these risks, the project strengthened and improved the tank support base by welding a 3 mm thick steel plate onto the existing structure to provide a stable and secure platform for the tank. A protective tank guard was also fabricated and installed to prevent the tank from being displaced or falling from the tower.

Furthermore, the project procured and installed a new 2,000-litre plastic water storage tank, including all necessary plumbing connections. These improvements have enhanced the safety.



2.3 CONSTRUCTION/INSTALLATION OF HYGIENE FACILITIES

2.3.1 Construction of Group Hand Washing

The project constructed a group handwashing station equipped with four taps, two positioned at a suitable height for children and two for adults, at the main entrance gate. The facility was strategically located to ensure easy access and encourage regular handwashing practices among all users. The design considered the needs of both children and adults, promoting convenience, accessibility, and inclusivity.

As the handwashing station was constructed adjacent to the guard room, the project also took the opportunity to improve the condition of the guard room. The room was renovated through internal and external painting, and a fascia board was installed to improve its overall appearance and protect the building structure.



Constructed Group hand washing station



2.3.2 Construction of concrete hand washing at OPD

Regarding the OPD toilets, instead of installing conventional ceramic handwashing basins, the project, in collaboration with BMMT, constructed two concrete handwashing stations, one for women and one for men. Each station is equipped with two taps, with one tap positioned at a suitable height for children and the other for adults. This arrangement improves accessibility and convenience for users of different age groups while promoting proper handwashing practices.



Buckets that were being used before



Constructed hand washing stations

2.3.3 Installation of wash hand basins in all points of care

A total of 34 handwashing basins were installed at all identified points of care to ensure that healthcare workers, patients, and other users have convenient access to handwashing facilities and can always observe proper hand hygiene practices. Of the 34 basins, two were wall-mounted while 32 were pedestal-mounted.

The handwashing basins were installed in key areas of the health facility, including the maternity ward, doctors' rooms, VIP ward, inpatient department (IPD), surgical ward, and outpatient department (OPD) building. The installation has improved access to handwashing facilities and supports infection prevention and control practices throughout the facility.



Before intervention



After intervention



Washing hand at the new installed hand basin



New installed wash hand basin (pedestel) at the dream building



Installed wash hand basin (pedestel) at the emergency room



Installed wash hand basin at surgical ward

2. 4 CONSTRUCTION OF WASTE-WATER SYSTEM AND HCF SOLID WASTE MANAGEMENT

2.4.1 Construction of High-tech incinerator (Mark II)

To ensure that healthcare waste generated by the facility is properly managed and safely disposed of, the project, in collaboration with key stakeholders, successfully constructed a large-capacity incinerator suitable for a district-level hospital.

The initial project budget was intended for the construction of a small incinerator appropriate for a dispensary-level health facility. However, as BMMT Health Centre has been working towards upgrading its services and becoming a district-level hospital, it was considered more appropriate to invest in an incinerator that would meet the anticipated requirements and standards of a higher-level facility. Constructing a small incinerator could have resulted in the facility failing to meet inspection requirements, potentially leading to the need for additional investment and the inefficient use of project resources.

In response, the project stakeholders, including WEFTA and the Daughters of Charity, mobilized additional funding to cover the budget deficit required for construction of the larger incinerator. SAWA also engaged an experienced contractor with a proven track record in constructing healthcare waste incinerators for projects implemented by both SAWA and government institutions.

The construction of the incinerator has now been successfully completed. This intervention has addressed a long-standing healthcare waste management challenge and provides the facility with an appropriate system for the safe and effective disposal of healthcare waste, while also supporting its efforts to meet the requirements of a district-level hospital.



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CHAPTER 3

OTHER ACTIVITIES

3.1 Joint team inspection

Prior to the formal handover of the project, SAWA Executive Director, and Sr. Mary, Sister in Charge, led the project team on a comprehensive inspection of all completed construction sites. The purpose of the visit was to assess the quality and functionality of the completed works, confirm that the planned activities had been implemented, and obtain feedback and opinions from relevant stakeholders.

In parallel, the team visited various areas of the hospital to review the completed improvements and assess how the facilities were being utilized. Feedback and recommendations were collected from the users and stakeholders to identify areas that may require further improvement or attention in the future.

The team also visited the Sisters' house to inspect the improvements undertaken there and assess the functionality of the upgraded water supply and related infrastructure. The visit provided an opportunity to gather additional feedback and ensure that the completed interventions were responding to the intended needs of the beneficiaries.



Joint team inspection of project activities



Inspection at the constructed hand washing station

3.2 Refresher training to the project committee members

To promote the long-term sustainability of the project, a refresher training session was conducted for 19 project members and key stakeholders. The training brought together representatives from St. Catherine school, Government primary and secondary schools, the sisters convent, BMMT health centre, project operators, the Village Chairman, the Ward Executive Officer (WEO) and representatives from the community management committees.

The training was conducted under the themes **“Water and Sanitation Project Sustainability.”** It aimed to strengthen participants’ understanding of their roles and responsibilities in the supervision, operation. Management, maintenance and the water and sanitation facilities. The session also provided an opportunity to remind members of the importance of proper coordination, routine maintenance, timely reporting of faults, and collective responsibility for ensuring that the facilities remain functional and beneficial to the community.

For effective participation and discussion, the members were divided into four groups (Group No. 1 - Kemchage and Mohomoni, Group No.2 – Government schools (Masanga p/s, Kenyamsabi p/s and Goroma secondary), Group No.3 – Kenyamsabi, and Group No.4 – BMMT (Health centre, sister’s convent, st. catherine and ATFGM). The group discussions enabled participants to review the current status of the facilitated, identify key sustainability challenges, and discuss practical measures for improving the operation management, maintenance of the project.

Table 3.2.1: Participants distribution in each group

Group Number	Group representation	Number of members	Type of project / scheme	Sex	
				Male	Female
1	Kemchage and Mohomoni	7	(Water) - Protected Spring sources	6	1
2	Government schools	2	(Water) - Rainwater Harvesting infrastructures	2	0
3	Kenyamsabi	4	(Water) - Hand pump well	1	3
4	BMMT institutions	8	Water and Sanitation	5	3

Through these groups, each group discussed successes of the project and challenges they have been facing in managing the project. From the shared challenges, members were able to discuss solutions on how to mitigate those challenges

Through the four groups, participants discussed the successes achieved by the project as well as the challenges encountered in operating and managing the facilities. The discussions provided an opportunity for participants to share their experiences, identify common challenges, and jointly develop practical solutions and measures to address them.

Following the group discussions, participants reflected on the key factors that can contribute to the failure or poor performance of water and sanitation projects. The main factors identified included: Lack of regular operation and maintenance of the facilities, inadequate funds for operation and maintenance, Weak leadership and limited commitment of project committees, Poor financial management and accountability, Pollution and contamination of water sources; and Limited follow-up and supervision of the facilities.

The participants then discussed the way forward and measures required to prevent the project from failing. One of the key recommendations was the need to establish and maintain an active and functional water committee with clear roles and responsibilities. The committee should regularly supervise the facilities, mobilize and manage funds for operation and maintenance, monitor the performance of the system, and ensure that any faults are reported and addressed promptly.

The training also provided an opportunity for participants to discuss the key characteristics of sustainable water and sanitation projects. Particular attention was given to the importance of effective management, regular maintenance, community ownership, financial accountability, and the availability of adequate resources for operation and maintenance.

In addition, participants were introduced to methods for calculating the actual cost of operating and maintaining the project and determining an appropriate and affordable user fee. The discussion emphasized the need to establish a fee that users can reasonably afford and are willing to pay regularly and on time, while ensuring that the funds collected are sufficient to support routine maintenance and other operational costs.

Finally, each group developed a practical action plan outlining the key activities, responsibilities, and follow-up measures required to strengthen project management and ensure the long-term functionality and sustainability of the water and sanitation facilities. The action plans were presented and discussed with all participants, allowing the groups to learn from one another and agree on priority actions.

Group Name.	Action Plan	Timeline	Responsible person
Kemchage and Mohomoni	Strengthen the water committee and improve its effectiveness in managing the water facilities	1 month (11/7 – 10/8/2026)	Village chairman and WEO

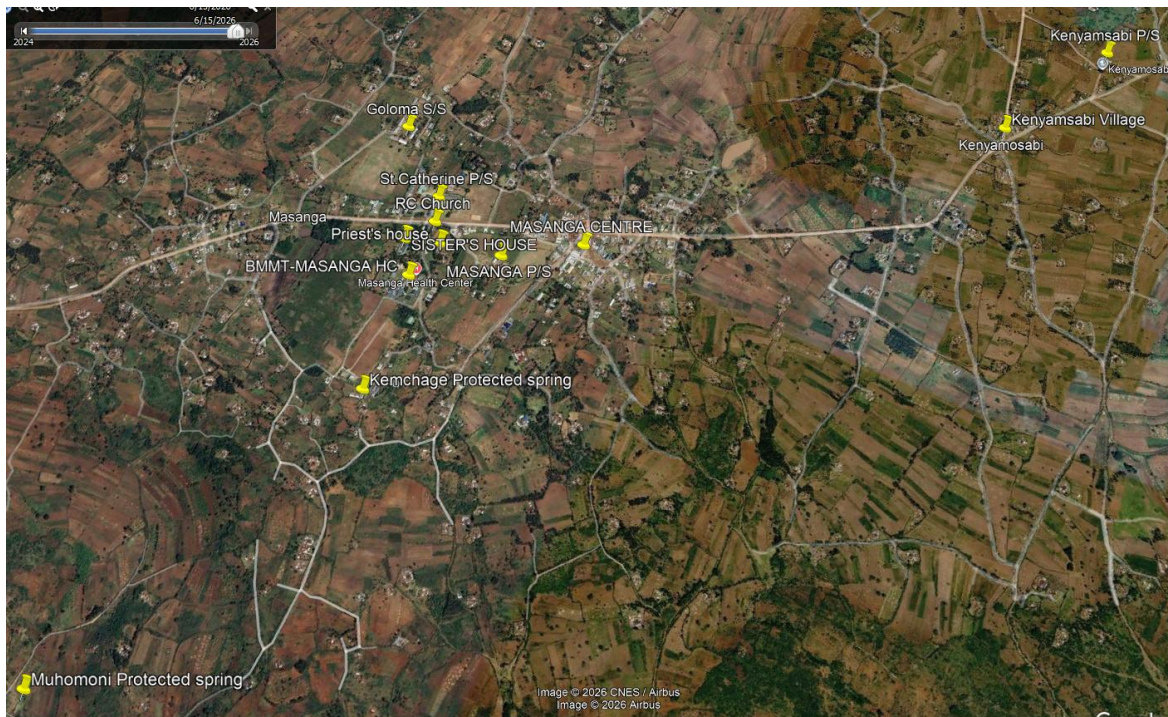
	Improve road access to the water sources to facilitate operation, maintenance and monitoring	3 months (12/7 – 11/10/2026)	VC
	Identify and register water users within the respective service area	1 month (11/7 – 10/8/2026)	VC
Government schools	Engage water users and school stakeholders in the respective areas to strengthen ownership and responsible use of the facilities	2 months ((11/7 – 10/9/2026)	Teachers & WEO
Kenyamsabi	Provide hygiene education to water users with particular on maintaining cleanliness around the water source and protecting the facility from contamination.	3 months (12/7 – 11/10/2026)	Water committee
	Develop and enforce by-laws to protect the water infrastructure and promote responsible use of the facility	2 months (12/07- 11/09/2026)	VC & WEO
BMMT institutions	Establish a functional management committee and prepare a budget for the operation and maintenance of the water and sanitation facilities	1 month (12/07- 11/08/2026)	Sr. Incharge
	Install a water tap outside the hospital compound to improve access for users and reduce movement of external users into the hospital premises	1 month (12/07- 11/08/2026)	Plumber



On 11th July 2026, refresher training conducted to project committee at BBMT HC-Masanga



On 11th July 2026, discussion of the action plan developed during the refresher training with the project committee at BBMT Health centre, Masanga



Masanga -
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CHAPTER 4

4.0 OBSERVATION, LESSON LEARNT, CHALLENGES, RECOMMENDATIONS AND CONCLUSION

4.1 OBSERVATION AND LESSON LEARNT

- The strong cooperation and support provided by the hospital administration, led by Sr. Mary, together with the wider community, played a significant role in the successful

and timely completion of the project activities. Their commitment and willingness to support the implementation process contributed greatly to the overall success of the project. Effective collaboration among project stakeholders: A key lesson learned from the project was the importance of close collaboration among all project stakeholders. The good working relationship between the stakeholders enabled many activities to be implemented quickly and efficiently. Stakeholders provided valuable advice on the most appropriate approaches for implementing activities within the local context and environment.

- The stakeholders also demonstrated flexibility by allowing artisans to work beyond normal working hours when necessary. This flexibility helped the project maintain progress and complete construction activities within the planned implementation period. The experience demonstrates that effective communication, local stakeholder involvement, and flexibility are important factors in achieving timely and successful project implementation.

In addition, the excellent cooperation and dedication demonstrated by Mr. Werema Chacha, who served as the driver, plumber and storekeeper, made a significant contribution to the timely and efficient completion of the project activities. He consistently demonstrated a strong commitment to his responsibilities and was willing to work beyond normal working hours whenever necessary to support the project. His dedication and flexibility, including his willingness to provide additional support without requesting extra compensation, greatly contributed to maintaining the implementation schedule and ensuring that activities were completed promptly.

4.2 CHALLENGE.

Many of the renovation works were challenging due to the poor condition and age of the existing buildings. In several cases, renovating one area required additional improvements to adjacent or related areas to ensure a consistent standard, appearance, and functionality throughout the building.

Furthermore, the condition of some buildings was significantly more deteriorated than initially anticipated. For example, in some areas where floor tiling was planned, the commencement of the work revealed that the walls were not vertically aligned and were in poor condition. As a result, additional plastering works had to be undertaken before the tiling could proceed.

4.3 RECOMMENDATIONS

- Following the rehabilitation of the water storage tanks, it is important to ensure that the tanks are regularly filled with water to maintain structural stability and minimize the risk of cracks developing in the repaired areas. Regular inspection and maintenance should also be undertaken to ensure that the tanks remain in good condition.
- It is also recommended that trees and other vegetation growing close to the tanks be regularly trimmed or removed where necessary to protect the structures from damage caused by roots, falling branches, or other related risks.

- In preparation for the rainy season, the tank inlet and first-flush system should be properly checked and the appropriate plugs or outlets opened to allow the initial runoff, which may contain dirt and other debris, to be discharged before clean rainwater is directed into the tanks. This will help maintain the quality of harvested rainwater and prevent unnecessary accumulation of debris in the storage tanks.
- During the monitoring visit, some cases of improper use of installed facilities, particularly water taps, were also observed among patients. Healthcare workers were therefore strongly encouraged to continue providing regular awareness and hygiene education to patients and other facility users on the proper use and care of the installed facilities. This will help reduce misuse, minimize frequent breakdowns, and extend the lifespan of the infrastructure.

4.4 CONCLUSION

Overall, the project was successfully implemented, with the planned rehabilitation, construction, and improvement works completed through strong collaboration among SAWA, BMMT, the hospital administration, project stakeholders, artisans, and the wider community. The project team demonstrated commitment, flexibility, and diligence throughout the implementation period, enabling the activities to be completed effectively despite challenges associated with the condition of some existing infrastructure.

The interventions have significantly improved the availability, accessibility, safety, and reliability of water, sanitation, hygiene, and healthcare waste management facilities at the health centre. Key improvements included rehabilitation of water storage tanks and pumping systems, installation of additional water storage capacity, improvement of rainwater harvesting systems, construction of accessible handwashing facilities, installation of handwashing basins at points of care, improvement of water supply to the Sisters' house, and construction of a hospital-grade incinerator. These interventions are expected to contribute to improved hygiene, infection prevention and control, patient care, and the overall working environment at the facility.

The project also demonstrated the importance of continuous consultation and collaboration with facility management and other stakeholders. Their involvement enabled the project to respond to emerging needs and identify practical solutions that were appropriate to the local context.

For the investments to remain productive and sustainable, continued commitment to proper operation, routine maintenance, timely repairs, and responsible use of the facilities will be essential. Regular monitoring and user education should also continue to prevent misuse and premature deterioration of the infrastructure. With continued ownership and care from the hospital administration, healthcare workers, patients, and the community, the improvements made through the project can provide lasting benefits to the health centre and the people it serves.