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Rising for Rights for Strengthening Civil Society Network in South Asia to Achieve SDG 6

FANSA-Bangladesh

Safe Sanitation Services Improvement
Action Plan

Muktinagar Union, Shaghata, Gaibandha, Bangladesh

Study Led by: Dr. Md. Mujibur Rahman

SKS

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(Rising for the Rights Project, FANSA-Bangladesh)

Safe Sanitation Services Improvement
Action Plan

Muktinagar Union, Shaghata, Gaibandha, Bangladesh

CSIRS Center for Smart Infrastructure Resilience and Sustainability

UNITED INTERNATIONAL UNIVERSITY

Center for Smart Infrastructure Resilience and Sustainability (CSIRS)
United International University (UIU)
Dhaka

September 2024

Foreword

Bangladesh is a rural-based country urbanization is growing rapidly though. However, civic facilities like WASH are not increasing in parallel with urban growth. Some rural periphery has also turned into urban settings without having improved sanitation systems. As a consequence of urbanization, city dwellers face multi-faceted problems. The population in low-income communities in urban settings has increased, leading to poor sanitation conditions and a higher risk of water-borne diseases. The quality of drinking water is often contaminated due to poor supply and/or facilities. To combat these problems, the government and development organizations are emphasizing the promotion of safely managed sanitation services (SMSS).

SKS Foundation, the FANSA-Bangladesh Secretariat, has been implementing the project *Rising for Rights for Strengthening Civil Society Networks in South Asia to Achieve SDG 6* alongside other members of this advocacy network. The Project covers the cities/towns under 3 geophysical locations namely Barishal City Corporation, Barishal; Sreemangal Municipality, Moulvibazar; and Gaibandha Municipality & Muktinagar Union, Gaibandha.

Focusing on the sanitation situation assessed through a comprehensive study to frame a Shit Flow Diagram (SFD) covering Muktinagar Union, FANSA-Bangladesh realizes that there is no alternative to promote safely managed sanitation services (SMSS) through the duty-bearers in Muktinagar Union effectively. This's also special as being a union, Muktinagar holds a combination of rural-urban settings while the urban growth centers are facing challenges in terms of safely managed sanitation services. Concerning this, SKS Foundation has developed a *Safe Sanitation Services Improvement Action Plan* for Muktinagar Union in partnership with the Women Development Program (WDP), the implementing FANSA-Bangladesh member in Muktinagar. The *Safe Sanitation Services Improvement Action Plan* has been developed as a pragmatic & practical one with the active participation of the duty-bearers, professionals, relevant stakeholders and the community people from different tiers in consultations, FGDs & KIIs and field observation.

I express my heartfelt thanks & gratitude to Dr. Md. Mujibur Rahman, Professor, Department of Civil Engineering & Director, CSIRS-UIU, and his team members for leading the study for the development of the S*afe Sanitation Services Improvement Action Plan* for Muktinagar Union professionally.

I appreciate WDP and my colleagues at SKS Foundation for their efforts in organizing & supporting the conduction of the study and development of the *Safe Sanitation Services Improvement Action Plan* for flood-prone Muktinagar Union. I believe, the Action Plan will be used as a ready reference by Muktinagar Union Parishad and other service providers in promoting safely managed sanitation services inclusively in Muktinagar Union of Gaibandha district.

Rasel Ahmed Liton
Chief Executive
SKS Foundation

Preface

The importance of safe sanitation services cannot be overstated, particularly in developing regions where public health and environmental sustainability are at stake. This report presents a comprehensive action plan aimed at improving sanitation services in Muktinagar Union, Saghata Upazila, Gaibandha District, Rangpur, Bangladesh.

In recent years, the community has faced significant challenges related to sanitation, impacting the health and well-being of its residents. Recognizing the critical need for enhanced sanitation infrastructure and practices, this action plan is the result of collaborative efforts among local stakeholders, community leaders, and public health experts. Our goal is to create a framework that not only addresses the immediate sanitation needs but also fosters long-term sustainable practices.

This report outlines the current state of sanitation services, identifies key challenges, and proposes targeted interventions tailored to the specific needs of Muktinagar Union. It emphasizes community engagement, education, and capacity building as essential components for successful implementation.

We extend our gratitude to all who contributed to this initiative, including local government officials, community members, and partner organizations. Together, we envision a healthier, safer, and more resilient Muktinagar Union, where every resident has access to dignified sanitation services.

As we embark on this journey, we invite stakeholders to actively participate in the implementation of this action plan, ensuring its success and sustainability for the benefit of the entire community of Muktinagar and beyond.

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Rising for Rights for Strengthening Civil Society Network in South Asia to Achieve SDG 6

Safe Sanitation Services Improvement Action Plan

Muktinagar Union, Saghata, Gaibandha, Bangladesh

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List of Abbreviations

CSIRS	Center for Smart Infrastructure Resilience and Sustainability
DPHE	Department of Public Health Engineering
FANSA	Freshwater Action Network South Asia
FGD	Focus Group Discussion
FS	Fecal Sludge
FSM	Fecal Sludge Management
FSTP	Fecal Sludge Treatment Plant
HtR	Hard to Reach
IRF-FSM	Institutional and Regulatory Framework for Faecal Sludge Management
KII	Key Informant Interviews
LGED	Local Government Engineering Department
NGO	Non-Government Organization
SDG	Sustainable Development Goals
SFD	Shit Flow Diagram
SMSS	Safely Managed Sanitation Systems
SuSanA	Sustainable Sanitation Alliance
UIU	United International University
UP	Union Parishad
WASH	Water, Sanitation and Hygiene

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Background

In Bangladesh, people are moving to urban areas at a significant rate. According to the Population and Housing Census of 2022, 31.7% of the population is dwelling in an urban setting with an average annual urban population growth rate of 3.9%. However, the country lacks proper planning and is not equipped to overcome the sanitation challenges that come with population surge. Although sanitation and hygiene practices have significantly improved over the years, only 32% of the rural sanitation facilities are safely managed (UNICEF and WHO, 2023).

As Bangladesh aims to reach the Sustainable Development Goals (SDG) by 2030, it is imperative to prioritize the current state of sanitation, which falls within the scope of SDG 6 (Clean Water and Sanitation). The government and development partners are promoting Safely Managed Sanitation Systems (SMSS), through a City-wide Inclusive Sanitation (CWIS) approach in urban areas and safe sanitation improvement plans in peri-urban and rural areas. To enhance the promotion of safely managed sanitation, there's a need to advocate for better policy implementation and address gaps with a clear focus on climate resilience and equity issues.

As part of the advocacy network covering the South-Asian countries, FANSA-Bangladesh focuses on SMSS in city and rural areas under the project ***Rising for Rights for Strengthening Civil Society Networks in South Asia to Achieve SDG 6 Project (hereinafter Rising for the Rights Project).*** The project includes services for creating Shit (Fecal waste) Flow Diagrams (SFD) and CWIS Action plans for targeted areas that include one City Corporation- Barishal, two municipalities- Gaibandha and Sreemangal, and one union- Muktinagar, Gaibandha (safe sanitation service improvement action plan). The project also includes developing an evidence-based Advocacy Strategy and an Implementation Guideline for FANSA-Bangladesh to effectively promote CWIS. Successful implementation of the *Rising for the Rights Project* will contribute to strengthening civil society networks in South Asia to achieve SDG 6.

SKS Foundation (FANSA-BD Secretariat) entered into an agreement with the **Center for Smart Infrastructure Resilience and Sustainability (CSIRS)** of the ***United International University (UIU)*** for conducting the above-mentioned studies under the ***Rising for the Rights Project.***

Objective

The primary objective of this safe sanitation service improvement plan is to ensure equitable, sustainable, and safe sanitation services for all residents of Muktinagar Union, in alignment with the Sustainable Development Goals (SDG), particularly SDG 6 (Clean Water and Sanitation). This plan aims to improve public health, environmental sustainability, and social equity by providing access to safely managed sanitation systems and addressing gaps in the existing sanitation service chain.

Safely Managed Sanitation Service

Safely managed sanitation refers to a sanitation system that ensures human waste is hygienically captured, contained, treated, and disposed of or reused in a way that protects both human health and the environment. It is the highest level of sanitation service as defined by global health and development standards, such as the Sustainable Development Goals (SDG 6.2).

Successful implementation of safely managed sanitation services will provide equitable sanitation services, with a focus on marginalized and vulnerable populations. To meet the criteria for a safely managed sanitation service, three key conditions must be fulfilled:

i) People must use improved sanitation facilities that are not shared with other households.

ii) Excreta must be:

- Treated and disposed of on-site,
- Temporarily stored, then emptied and transported to an off-site treatment facility, or
- Transported via sewer systems with wastewater for off-site treatment.

iii) Human waste must be safely managed across the entire sanitation service chain.

The safely managed sanitation service chain consists of the following stages: capture (in a hygienic toilet), safe containment (with in-situ treatment if appropriate), emptying, transport, treatment, and safe disposal or reuse, as illustrated in the widely used figure below:

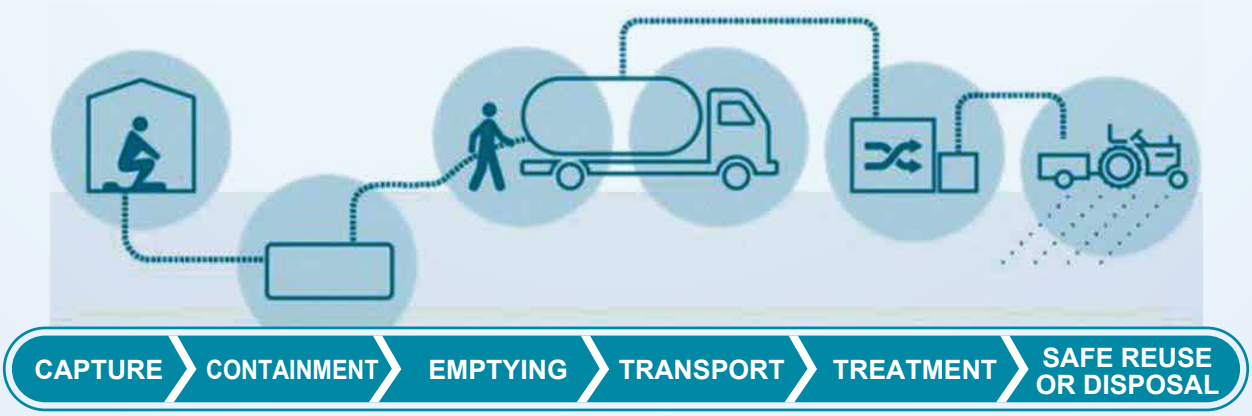


Figure 1: Safely Managed Sanitation Service Chain

The responsibility for providing safe sanitation in unions rests with the Union Parishad authority, with support provided by the Local Government Division, CWIS-FSM Support Cell, WATSAN and standing committees. The typical institutional arrangement for providing safe sanitation at the rural level is shown in the following figure:

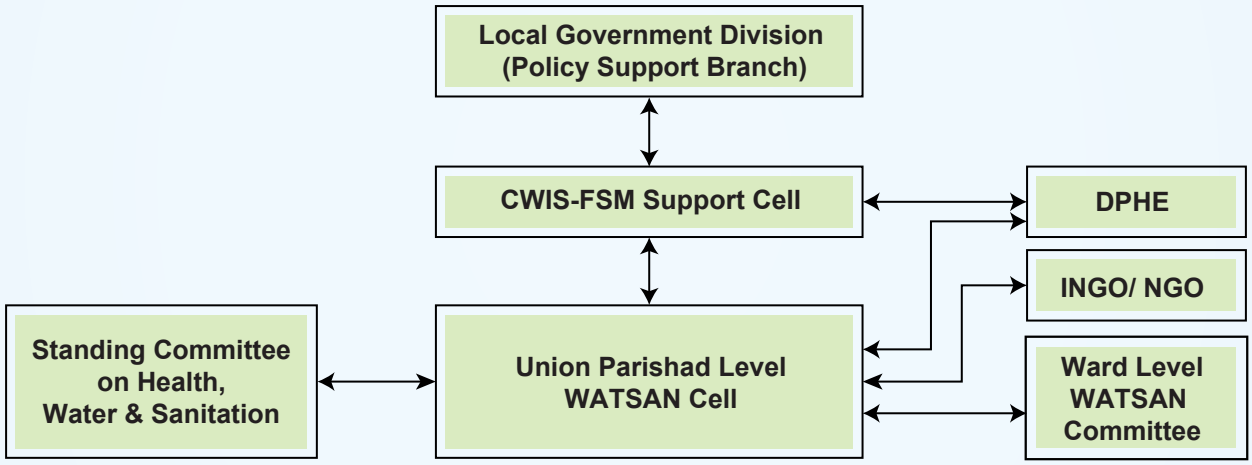


Figure 2: Institutional Arrangement

Review of Relevant Policies, Strategies and Acts

The success of safe sanitation service improvement planning hinges on a thorough understanding of relevant national and local policies, acts, and strategic frameworks governing water, sanitation, and hygiene (WASH) services in Bangladesh.

These documents provide the legal and institutional bases for providing safe sanitation and faecal sludge management (FSM). Notable policies include the *Local Government (Union Parishad) Act 2009,* which defines the responsibilities of the Union Parishads, the National Sanitation Strategy 2005, and the Institutional and *Regulatory Framework for FSM- Rural (2017),* which provides specific guidelines for safe sanitation practices. Other important documents include the *Bangladesh National Building Code (2020)* which provides design standards and the *Pro-Poor Strategy for Water and Sanitation (2020),* which provides standards for ensuring sanitation access for all, especially low-income communities respectively.

The following table summarises the related documents that were reviewed for preparing the plan.

Table 1: List of Policies, Strategies, Acts

Local Government (Union Parishad) Act, 2009	Defines the overall role of Union Parishads
Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM) for Rural Areas, 2017	The Local Govt Act 2009 defines the role and responsibilities of UPs and other concerned institutions in ensuring safe and adequate sanitation
Implementation of Institutional and Regulatory Framework for Faecal Sludge Management National Action Plan (Rural Areas), 2020	Recommended specific actions to national and local stakeholders to implement FSM
National Sanitation Strategy, 2005	Provides guidelines for safe sanitation & strategies for sanitation improvement
National water supply and sanitation strategy, 2014 (revised and updated 2021)	Provides uniform strategic guidelines to sector stakeholders, including the government, semi-government and local government institutions, private sectors and NGOs.
The Bangladesh Environmental Conservation Rules (2023)	Provides standards for domestic sewage and industrial discharge
Provides standards for domestic sewage and industrial discharge	Provides standards for sanitation facilities design in buildings
Pro-Poor Strategy for Water and Sanitation Sector in Bangladesh, 2005 (revised 2020)	Recommends sanitation standards for low-income communities

Profile of Muktinagar Union

Muktinagar Union, located in the Saghata Upazila of Gaibandha District in the Rangpur Division of Bangladesh, is a rural region characterized by its agrarian economy and unique geographic features. The population of the Union stands at 43,881, with a growth rate of 1.18% annually. The region experiences modest seasonal fluctuations in population due to migratory labour movements, particularly during the agricultural season. The monsoon season also causes temporary displacements as residents move to safer areas in response to seasonal flooding. Despite these variations, the overall population remains relatively stable.

The topography of Muktinagar Union is shaped by its location within the Bengal delta, which lends itself to a flat, low-lying landscape that is highly fertile due to the deposition of alluvial soil from nearby rivers. Agriculture is the primary economic activity in the region, with rice and other staple crops being the main products. However, the area's proximity to major rivers, particularly the Jamuna River, presents significant challenges, especially in terms of water management and infrastructure development. The frequent flooding during the rainy season severely impacts local infrastructure and has a direct bearing on sanitation services.

The climate of Muktinagar Union is tropical, with three distinct seasons: a hot and humid summer, a monsoon season, and a cooler winter. The monsoon season, from June to October, brings heavy rains that result in extensive flooding across the region. This flooding not only disrupts transportation and daily life but also complicates the management of sanitation systems. The region's sanitation infrastructure is underdeveloped, largely due to its rural setting and the challenges posed by its geography and climate.

Sanitation services in Muktinagar Union are largely informal and insufficient to meet the needs of the growing population. The lack of a robust sewage system, combined with the area's reliance on basic pit latrines and septic tanks, creates numerous challenges for waste management. Most households use on-site sanitation facilities, which are often poorly constructed and vulnerable to contamination during the rainy season. The frequent flooding exacerbates this problem, as overflow from latrines and septic tanks can seep into the surrounding environment, increasing the risk of water-borne diseases.

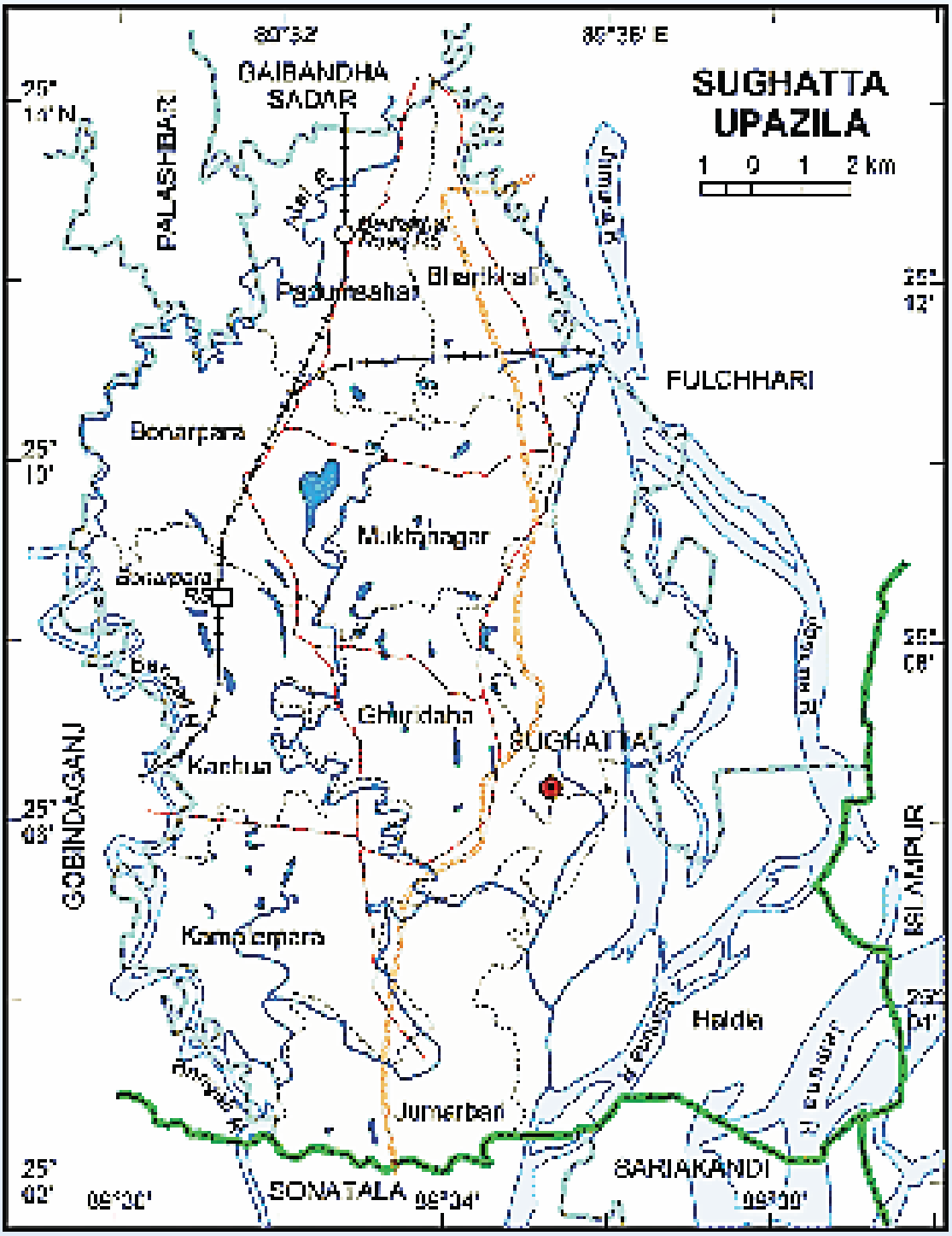


Figure 3: Map of Muktinagar Union

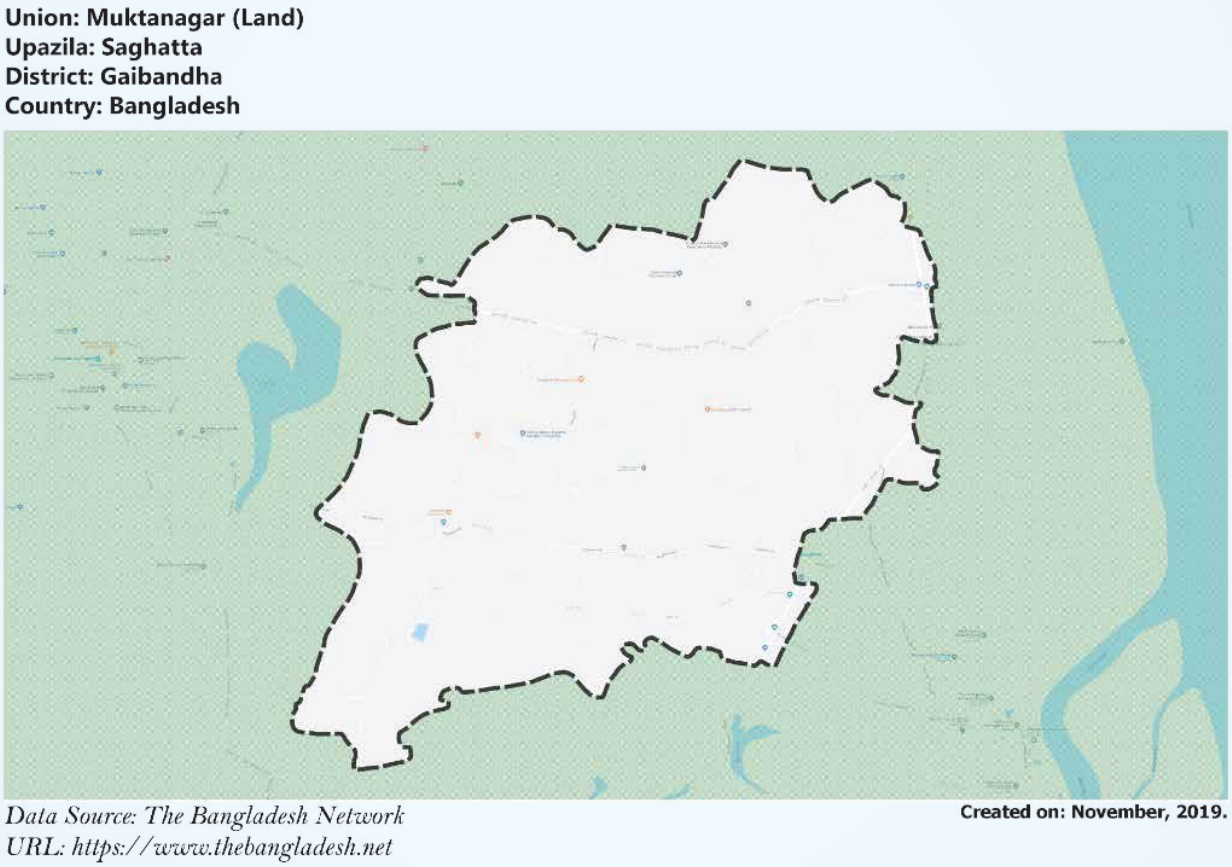


Figure 3: Map of Muktinagar Union

The region's road infrastructure further compounds these sanitation challenges. Most roads in Muktinagar Union are unpaved and become impassable during the monsoon season due to waterlogging and mud. This hampers access to sanitation services, making it difficult for waste to be collected or for improvements to be made to existing sanitation systems. Additionally, the region lacks a formal waste management system, and much of the human waste is discharged untreated into the environment, either through open defecation or through rudimentary containment systems that are not adequately maintained.

Industrial activity in Muktinagar Union is minimal, and the area is largely rural and agrarian. However, the proximity to rivers means that untreated waste from households can end up in water bodies, contaminating water sources that are critical for both drinking water and agricultural irrigation. The spread of contamination during the monsoon season poses serious public health risks, especially in areas where open defecation is practiced or where pit latrines and septic tanks overflow into local water sources.

Assessment of Existing Sanitation Situation

Evaluating the current sanitation conditions is an essential component of the sanitation improvement action plan. Using primary and secondary sources all relevant data were collected. For Muktinagar Union, a field survey was conducted, forming the basis for preparing an intermediate-level SFD Report. Throughout the process, stakeholders were actively involved through consultations, focus group discussions (FGDs), and key informant interviews (KIIs), ensuring a participatory approach to understanding the local sanitation challenges.

Field Survey

A questionnaire survey was carried out to gain a comprehensive understanding of the on-ground sanitation practices and infrastructure within Muktinagar Union. The survey involved approximately 400 households, ensuring a confidence level of at least 95% with a 5% margin of error. To ensure the field data quality, the data collection team (8-10 enumerators) were properly trained. The survey covered various aspects of the entire sanitation value chain. Few of the relevant questions on sanitation were: 1) User interface of the toilet, 2) Type of containment, 3) Outlets from the containments, 4) Desludging of septic tanks and latrine pits, 5) Desludging frequency, 6) Responsibility of desludging, 7) Desludging process, 8) Location of sludge disposal, 9) Water supply source and risk of contamination and 10) Transportation, treatment and reuse of faecal sludge.

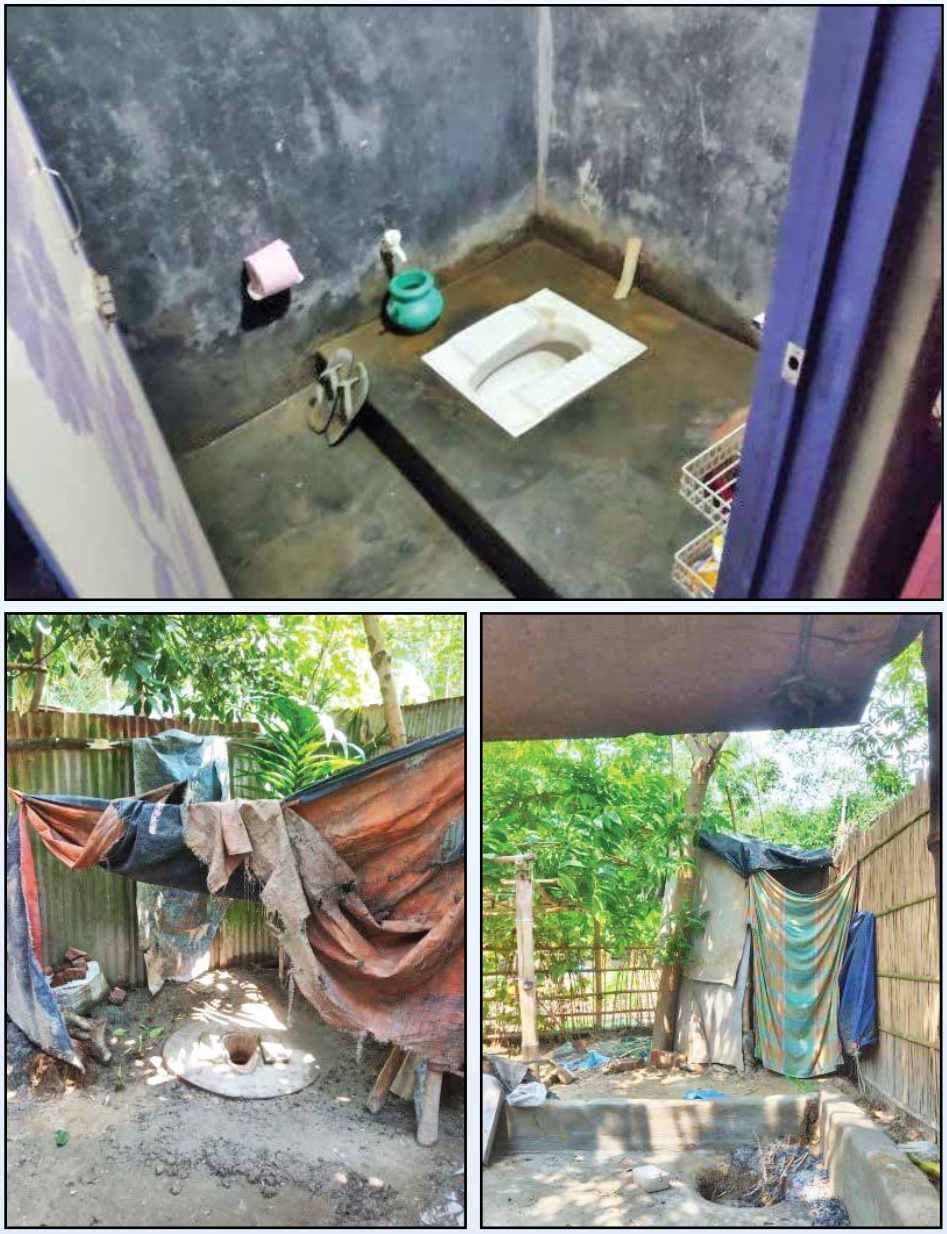


Figure 4: Typical sanitation scenario of Muktinagar Union

In Muktinagar Union, there is a slight variation in containment types. The household survey data shows that the majority of the population (84.4%) uses pit latrines with varying degrees of safety based on the construction and maintenance of the pits. A total of 62.3% of people rely on direct pit latrines, while comparatively smaller percentages (approximately 20%) use alternative twin-pit latrines, which are considered safer. The use of septic tanks is not that common in Muktinagar UP with a total of 9.6% using septic tanks; however, connecting the septic tank with a soak pit is not a common practice. The survey also reveals that open defecation is still a problem for Muktinagar Union (3.6%).

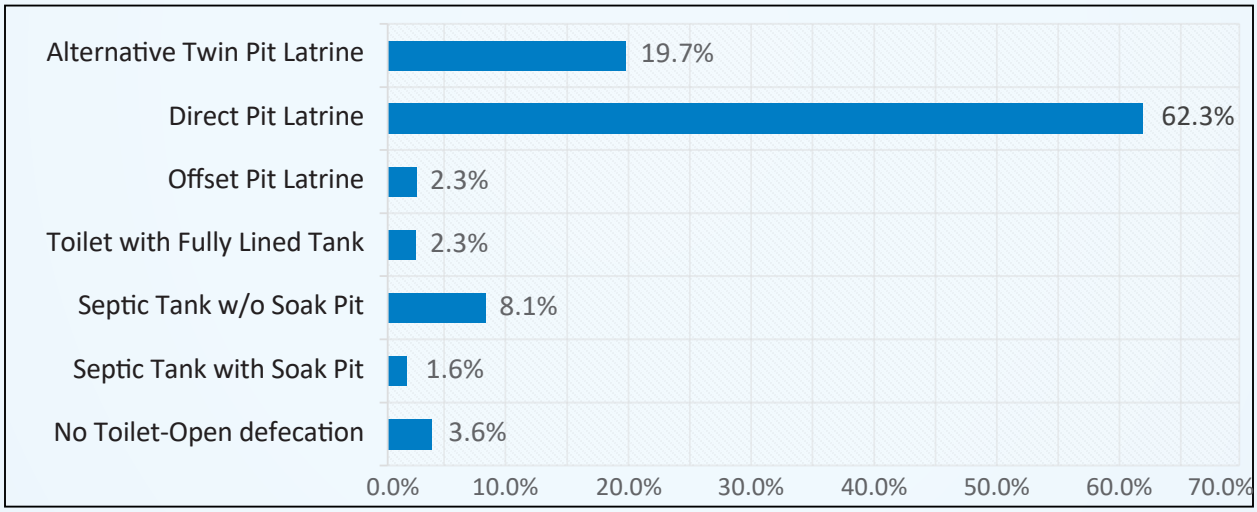


Figure 5: Containment type in Muktinagar Union

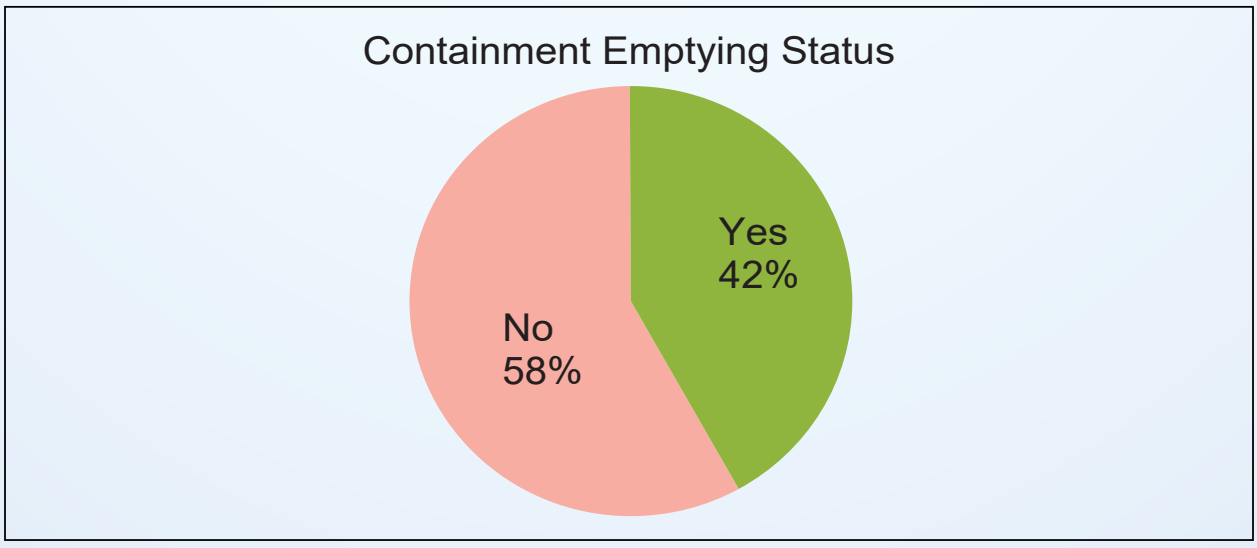


Figure 6: Containment emptying status

The survey finds that 58% of the containments have never been emptied, and 42% of containments consisting of 32% pit, 1% fully lined tanks and 9% of septic tank systems have emptied at least once manually or mechanically. Manual emptying is the predominant practice, accounting for 93%, despite posing significant risks of injury or harm to the emptier.

Currently, there is no faecal sludge treatment plant or sludge disposal ground in Muktinagar Union. 58% of the emptied sludge is disposed of in pits which are later covered with soil.

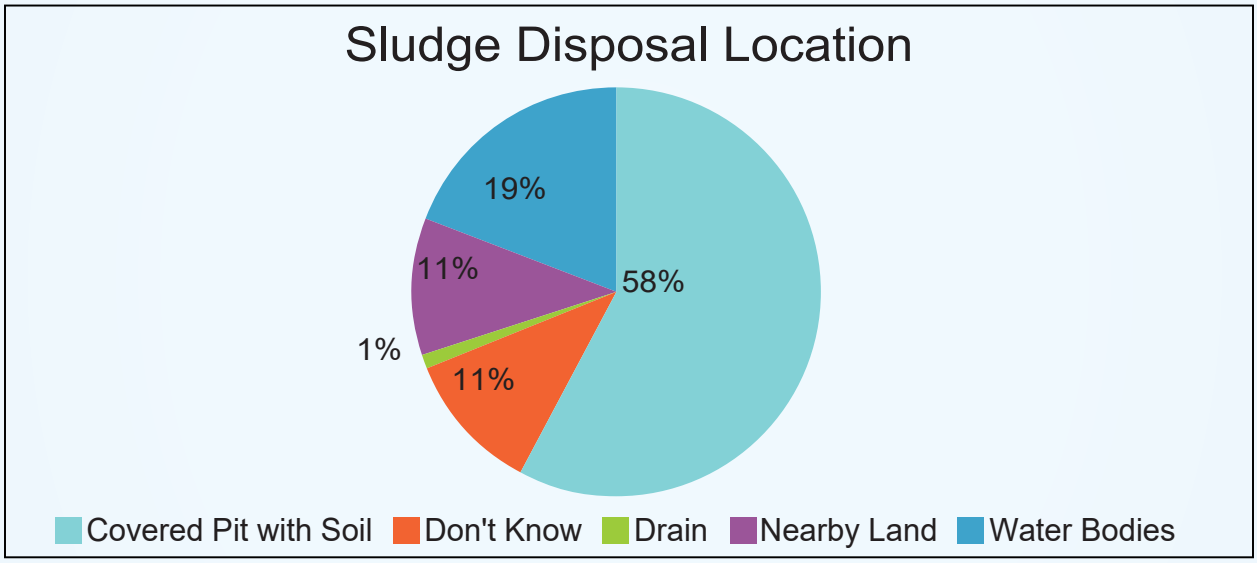


Figure 7: Sludge disposal location

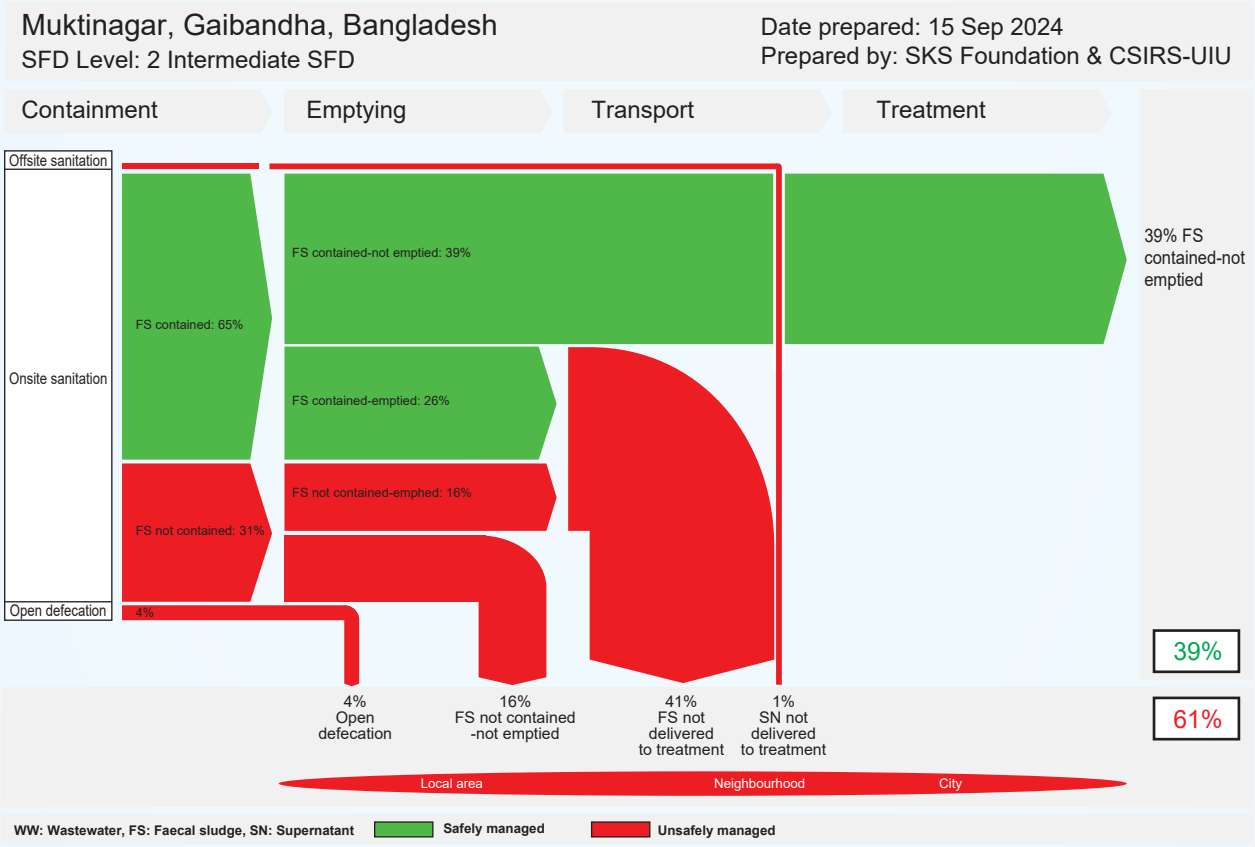
Shit (Fecal Waste) Flow Diagram (SFD)

SFD is a diagnostic tool that presents a clear overview of the pathways taken by excreta from defecation to disposal along the sanitation service chain in selected areas. The model provided by the Sustainable Sanitation Alliance (SuSanA) was followed to create the SFD for Muktinagar Union. The complete SFD (Intermediate level) Report of Muktinagar Union has been developed earlier.

The use of the SFD enables a standardized assessment of excreta flows in selected areas. Excreta which are safely managed and move along the sanitation service chain are represented by green arrows moving from left to right in the graphic, while excreta which are unsafely managed are represented by red arrows. The width of each arrow is proportional to the percentage of the population whose excreta contributes to that flow (SFD Manual,2018).

The graphic highlights the stark reality that the majority of fecal sludge is directly discharged into the environment without any treatment (61%). Although 39% of the excreta is shown as safely managed in the SFD, it should be noted that this proportion is based on the findings that pits and septic tanks that have never been emptied, which might turn into unsafe practices in the future when these pits and septic tanks are emptied without having safe transport and treatment facilities in place. Key points from the SFD graphic include:

- 39% of excreta is safely contained, which mostly comes from pit latrines and has not been emptied yet.
- 41% of FS is not delivered for treatment.
- 16% FS not contained - not emptied
- 4% open defecation
- 1% supernatant not delivered to treatment



The SFD Promotion Initiative recommends preparation of a report on the city context the analysis carried out and data sources used to produce this graphic.
Full details on how to create an SFD Report are available at sfd.susana.org

Figure 8: SFD of Muktinagar Union

The graphic underscores the urgent need for infrastructural improvements, development of treatment facilities in particular and better sanitation management systems including safe emptying and safe transportation of fecal sludge to address the critical sanitation challenges and ensuring sustainable and resilient sanitation solutions in Muktinagar Union.

Stakeholder Consultation/Engagement

Consultation/engagement with stakeholders was a key component in understanding the local sanitation challenges. Engagement was conducted through Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs), both of which played a crucial role in collecting qualitative data and insights.

Key Informant Interviews (KIIs):

KIIs involved conversations with significant local figures, such as the Union Chairman and representatives from different wards. These interviews revealed the local context of sanitation, infrastructure issues, and service provision gaps. For instance, the Union Chairman highlighted the region's heavy reliance on direct pit latrines, which according to him make up nearly 80% of the sanitation systems. He acknowledged the need for more hygienic solutions but pointed out that financial and logistical barriers made it difficult to transition. Local Ward Members from Wards 1 & 2 discussed the lack of resources and education about

sanitation, while a member from Ward 4 noted some progress, such as 3-5% of households installing septic tanks. However, issues like open defecation and poor faecal sludge management persist, particularly in Ward-6.

Figure 9: Stakeholder Consultation/ Engagement

Focus Group Discussion (FGD):

In addition to KIIs, Focus Group Discussions (FGD) were conducted with a diverse group of stakeholders, including local volunteers, UP workers, and sanitation experts. These FGDs facilitated open dialogue on the various issues surrounding sanitation in Muktinagar Union. The discussions pointed out that most households still rely on direct pit latrines, with septic tanks being affordable only for wealthier families. One significant concern raised was the risk of groundwater contamination, particularly near river-adjacent areas like Ward-4, where pit latrines are close to water sources. The FGD participants stressed the need for better sanitation infrastructure and proper sludge management.

Both KIIs and FGDs highlighted the critical gaps in sanitation services, the heavy reliance on traditional pit latrines, and the lack of financial and technical support to improve the situation. These engagements are instrumental in shaping the region's approach to upgrading sanitation infrastructure and practices.

Gaps in Sanitation Service Chain

Open Defecation: Around 4% of the population still practices open defecation, which further exposes the community to environmental contamination and disease. This is particularly prevalent in low-income areas where access to improved sanitation is limited.

Lack of Faecal Sludge Management: There is no formal FSM system in place. Approximately 61% of the faecal sludge in Muktinagar is unsafely managed. The Union lacks a dedicated faecal sludge treatment plant or any designated zones for sludge dumping. This results in unsafe disposal practices and poses serious public health threats, particularly during the monsoon season when flooding exacerbates sanitation challenges.

Inadequate Manpower & Budget: Current investments in sanitation infrastructure in Muktinagar Union are minimal, and most are supported by external NGOs or local funding. There has been some investment in installing basic latrines and tube wells, but there is little to no investment in fecal sludge management facilities or treatment plants. The lack of funding and government support hampers any long-term, sustainable improvements in sanitation services.

Inadequate Infrastructure and Service Expansion: The infrastructure for sanitation in Muktinagar is insufficient to meet the needs of the growing population. The existing pit latrines and septic tanks are vulnerable to flooding, leading to contamination. Moreover, there is a lack of investment in expanding sanitation services, including the development of improved latrines and FSM systems.

Absence of Monitoring and Reporting Mechanisms: There is no formal system for monitoring or reporting the status of sanitation services. As a result, authorities have limited insight into which households have access to improved sanitation or how faecal sludge is being managed. This lack of data hampers effective planning and intervention.

Safe Sanitation Improvement Action Plan

The Safe Sanitation Improvement Action Plan has been developed considering the prevailing sanitation challenges and gaps in the Muktinagar Union. Aligning with the target of Bangladesh Government to achieve SDG 6 by 2030, this action plan also aims to provide access to adequate and equitable sanitation and hygiene for all and end open defecation in Muktinagar Union by 2030.

The Sanitation Improvement Action Plan is developed for implementation in three phases – (i) Short-term (2024-2026), (ii) Medium-term (2027-2030), and (iii) Long-term (2031 and beyond). Details of activities under each phase are given in the following table that are self-explanatory:

Table 2: Safe sanitation services improvement action plan

Short-term: By **2024-2026,** 70% population of Muktinagar including growth centres will gain sustainable access to safely managed sanitation services through public engagement and awareness raising, institutional reform, technological solutions, and private sector engagement to reduce the health risks and minimize environmental pollution.

Improved and Safe Containment System	*Capacity Enhancement*	*Mechanical Emptying and Safe Transportation of Faecal Sludge*	Treatment and Safe Disposal and/ or *Re-use of Treated Faecal Sludge*
1. Transform/retrofit 75% of unsafe containments (from field survey: 4% open defecation, 62.3% direct pit latrines) into safe ones by increasing containment capacity: building new pits or converting single pits into twin offset pits by following technical guidelines through motivation/ enforcement. **2. DPHE, in consultation with the Upazilla and Union Parishad, to conduct a Union** union-wide on-site sanitation compliance assessment to develop a database and prepare a Faecal Waste **Flow Diagram (SFD)** including the Union Sanitation Roadmap. **3. DPHE will develop technical (design, operation & monitoring) guidelines.** **4. DPHE will facilitate and conduct WATSAN committees (Ward, Union & Upazila) coordination meetings** for reviewing progress, technical advice & suggestions.	**1. Muktinagar UP will conduct public hearing events** to gain insight into the various aspects of safely managed sanitation services. **2. Develop communication and campaign strategy** to make people understand the meaning of the 'safely managed sanitation system' at union level. **3. Enhance Capacity of LGIs in terms** of manpower, resources and, training for safe sanitation implementation with support from DPHE.	**1. Develop & design appropriate emptying and safe transportation** of FS of 70% containments (currently 93% are emptied manually) including HtR areas. **2. Promote 'schedule desludging'** of 70 % containments. DPHE to support the development of a scheduled desludging system.	**1. Treat/safe disposal of FS of 70% containments** (From SFD: 39% safely managed) at designated locations in trenches/ safe burial or at FSTPs. **2. Conduct a Feasibility study** on technological solutions focusing minimal land-intensive options for regional FSTPs covering 2 or more adjacent unions. **3. Develop guidelines/ protocol/ business model to involve private** sector for scaling up safely managed sanitation services. **4. Secure land for FSTP construction by LGIs. Muktinagar will initially require approximately 1** Acre of land. The UP is suggested to go for 2/3 decentralised treatment plants preferably located in less densely populated localities. The size, number & location of FSTPs are subject to change based on detailed study. Typical components of the FSTPs will be drying beds, storage sheds & other facilities. **5. Conduct a feasibility study on co-composting, compost use & demand,** marketing, incentives, standardization, **branding, and certification,** etc.

Medium-term: By **2027-2030,** 100% population including growth centres will gain sustainable access to safely managed sanitation services through public engagement and awareness raising, institutional reform, technological solutions, and private sector engagement to reduce the health risks and minimize environmental pollution.

Improved and Safe Containment System	*Capacity Enhancement*	*Mechanical Emptying and Safe Transportation of Faecal Sludge*	Treatment and Safe Disposal and/ or Re-use of Treated Faecal Sludge
1. Transform/ retrofit 100% of unsafe containments into safe ones by increasing containment capacity: building new pits or converting single pits into twin offset pits by following technical guidelines through motivation and enforcement. 2. DPHE to facilitate and conduct coordination **meetings with LGIs (Ward, Union, Upazila) WATSAN** Committees, for reviewing progress, technical advice and suggestions. **3. DPHE** will review and revise technical (design, operation & monitoring) guidelines (if required) after taking feedback from the field.	**1. Continue to conduct Public hearings for people** to gain insight into the various aspects of safely managed sanitation and assess progress. **2. Review and revise communication and campaign strategy to understand and practice of** 'safely managed sanitation system' at union level. **3. Continue capacity building/ refresher training for LGIs (Union/ Upazila Parishad)** on SMOSS implementation with the support of DPHE/ LGED 4. Impact study on the capacity building and campaign program including revision, recommendation & way forward. **5. Sharing best practices through** exchange visits.	**1. Promote appropriate emptying and safe transportation of** FS of 100% containments including HtR areas. **2. Promote 'scheduled desludging' of 100% containments.** **3. With support from DPHE,** develop and design Apps/hotline-based services for ensuring scheduled desludging.	**1. Treat/safe disposal of FS** of 100% containments at designated locations in trenches/ safe burial or in FSTPs by engaging private sectors. **2. Continue Feasibility of regional integrated FSTPs.** **3. Construct and operate** decentralized FSTP **4. Private sectors to manage individual or regional FSTPs** covering all unions 5. Inclusion of FSM in the **Union Parishad Annual Development Plan** as a separate budget line with adequate fund allocation. **6. Encourage private sector organizations** to implement co-composting facilities in the union. **7. Promote Packaging and marketing** through standardization, branding & certification of compost.

Long-term: By **2031** and beyond, the local authority will take lead to ensure safely managed sustainable sanitation services for all populations of the union through public engagement and awareness raising, coordination. and collaboration, *to develop a clean, green and smart Muktinagar Union*.

Improved and Safe Containment System	*Capacity Enhancement*	*Mechanical Emptying and Safe Transportation of Faecal Sludge*	Treatment and Safe Disposal and/ or Re-use of Treated Faecal Sludge
1. Transform/ upgrade all containment systems into safe and sustainable systems employing new/ emerging technologies that may be available. **2. Continue standard design checks** of the containment system by the local authority and enforce changes if required. **3. Private sectors** provide quality and sustainable services to all the residents maintaining a high standard of containment system.	**1. Continue implementation** of campaign strategy focusing on continued use of safe sanitation services and application of advanced technologies for maximum resource recovery. **2. Evaluation of** the capacity building and campaign program. **3. Continue capacity/ refresher training** program for the relevant stakeholders for continual improvement.	**1. Use of apps/hot-line-based smart services** for emptying & transportation. **2. Use of advanced, smart mechanical equipment** for safe emptying and transportation to designated disposal and /or treatment locations.	1**. Private sectors continue to manage individual or regional FSTPs** covering all unions. **2. Create a Private sector-led compost hub/ network** among all unions to ensure the compost supply chain. **3. Concerned agencies of the Ministry of Agriculture** take responsibility for ensuring compost quality and application.

Safe Sanitation Service Improvement Action Plan Implementation Monitoring

It would be crucially important to develop an appropriate system to monitor fecal sludge safe containment regularly and monitor all other activities along the entire sanitation chain to ensure the progress of safely managed sanitation services. For effective monitoring, however, it is important that relevant monitoring indicators are identified, and mechanisms devised that can be adopted locally. The monitoring data would then be analyzed and evaluated to assess progress, inclusivity and continual improvement.

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Annexes:

Annex I: Additional Photos of Engagement with Stakeholders and Field Survey

Annex II: List of Stakeholders

Name	Designation
1. Ahsan Habib Lion	Union Chairman
2. Md. Panna Sheikh	Member, Ward-1
3. Md Mahbubur Rahman	Member, Ward-2
4. Md Halim Molla	Member, Ward-3
5. Ahsan Ali	Member, Ward-4
6. Md Razu Ahmed	Member, Ward-6
7. Name: Sri Parimal Chandra	Member, Ward-8
8. Md Faruk Hossain	Member, Ward-9
9. Simu Akter	SKS Volunteer
10. Afia Asma	Pouroshava worker
11. Mohammed Azad	Assistant Officer- Pouroshava

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