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

FANSA-Bangladesh

CWIS Action Plan

Barishal City Corporation, Barishal, Bangladesh

Study Led by: Dr. Md. Mujibur Rahman

SKS

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

(Rising for the Rights Project, FANSA-Bangladesh)

CWIS Action Plan

Barishal City Corporation, Barishal, Bangladesh

CSIRS Center for Smart Infrastructure Resilience and Sustainability

UIU UNITED INTERNATIONAL UNIVERSITY

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

September 2024

Foreword

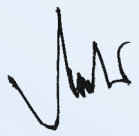
Urbanization is multiplying in Bangladesh. The style and nature of urbanization in Bangladesh are not similar to other countries. As a consequence of urbanization, city dwellers face multi-faceted problems. The population living in low-income communities in urban settings has increased, leading to poor 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 promoting safely managed sanitation services (SMSS) following the city-wide inclusive sanitation (CWIS) approach.

As the FANSA-Bangladesh Secretariat, SKS Foundation 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 Barishal City Corporation, FANSA-Bangladesh realizes that there is no alternative to a CWIS planning to promote SMSS through the duty-bearers in Barishal district town effectively. Concerning this, SKS Foundation has developed a CWIS Action Plan for Barishal City Corporation in partnership with the Association of Voluntary Actions for Society (AVAS), the implementing FANSA-Bangladesh member in Barishal. The CWIS Action Plan has been developed as a pragmatic & practical one with the active participation of the duty-bearers, professionals, relevant stakeholders, and the community 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 CWIS Action Plan for Barishal City Corporation professionally.

I appreciate AVAS and my colleagues at SKS Foundation for their efforts in organizing & supporting the conduction of the study for developing the CWIS Action Plan. I believe, the CWIS Action Plan will be used as a ready reference by Barishal City Corporation and other service providers in promoting safely managed sanitation services inclusively in Barishal district town.



Rasel Ahmed Liton
Chief Executive
SKS Foundation

Preface

This report presents the *City-wide Inclusive Sanitation (CWIS) Action Plan* for Barishal City Corporation, located in the southern part of Bangladesh. Barishal, with its growing population and rapidly urbanizing landscape, faces several challenges in managing sanitation services effectively and equitably. The CWIS Action Plan aims to address these challenges by promoting inclusive, accessible, and sustainable sanitation solutions for all residents, particularly the most vulnerable groups, including low-income communities, women, children, and people with disabilities.

The need for a comprehensive and inclusive sanitation plan has never been more urgent. Sanitation is not only a matter of public health but also a cornerstone of urban development and environmental sustainability. For Barishal, improving sanitation services will contribute to a cleaner, healthier, and more resilient urban environment, essential for the city's overall growth and quality of life. This plan integrates the principles of equity, sustainability, and community participation, ensuring that no one is left behind in the journey toward better sanitation.

This report outlines the strategic framework and actionable steps required to implement the CWIS Plan in Barishal City Corporation. It includes a comprehensive analysis of the current sanitation landscape, identifies key challenges, and proposes innovative solutions & approaches to address these issues. The plan also highlights the importance of community engagement, stakeholder collaboration, and capacity building to ensure the successful implementation and sustainability of the proposed initiatives.

As we embark on this journey towards improved sanitation, we call upon every member of the Barishal city community to join hands in making this vision a reality. Together, we can build a future where everyone has access to safe and dignified sanitation services, thereby enhancing the quality of life for all residents of Barishal City Corporation.

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

CWIS Action Plan

Barishal City Corporation, Bangladesh

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List of Abbreviations

BCC	Barishal City Corporation
CSDA	City Sanitation Service Delivery Assessment
CSIRS	Center for Smart Infrastructure Resilience and Sustainability
CWIS	City Wide Inclusive Sanitation
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
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
WASH	Water, Sanitation and Hygiene
WLCC	Ward Level Coordination Committee

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Background

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. To enhance CWIS promotion, 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 the city areas with the promotion of City-wide Inclusive Sanitation (CWIS) by the service providers 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. 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 CWIS Action Plan is to ensure equitable, sustainable, and safe sanitation services for all residents of Barishal City Corporation, 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 services and addressing gaps in the existing sanitation service chain.

City-wide Inclusive Sanitation

Citywide Inclusive Sanitation (CWIS) is an all-encompassing approach to urban sanitation that focuses on meeting the needs and upholding the rights of every resident, irrespective of their socioeconomic background, gender, or abilities. CWIS aims to ensure that everyone has access to safe, affordable, and sustainable sanitation services, while also enhancing public health, environmental sustainability, and social equity. CWIS stands on the following ***seven principles:***

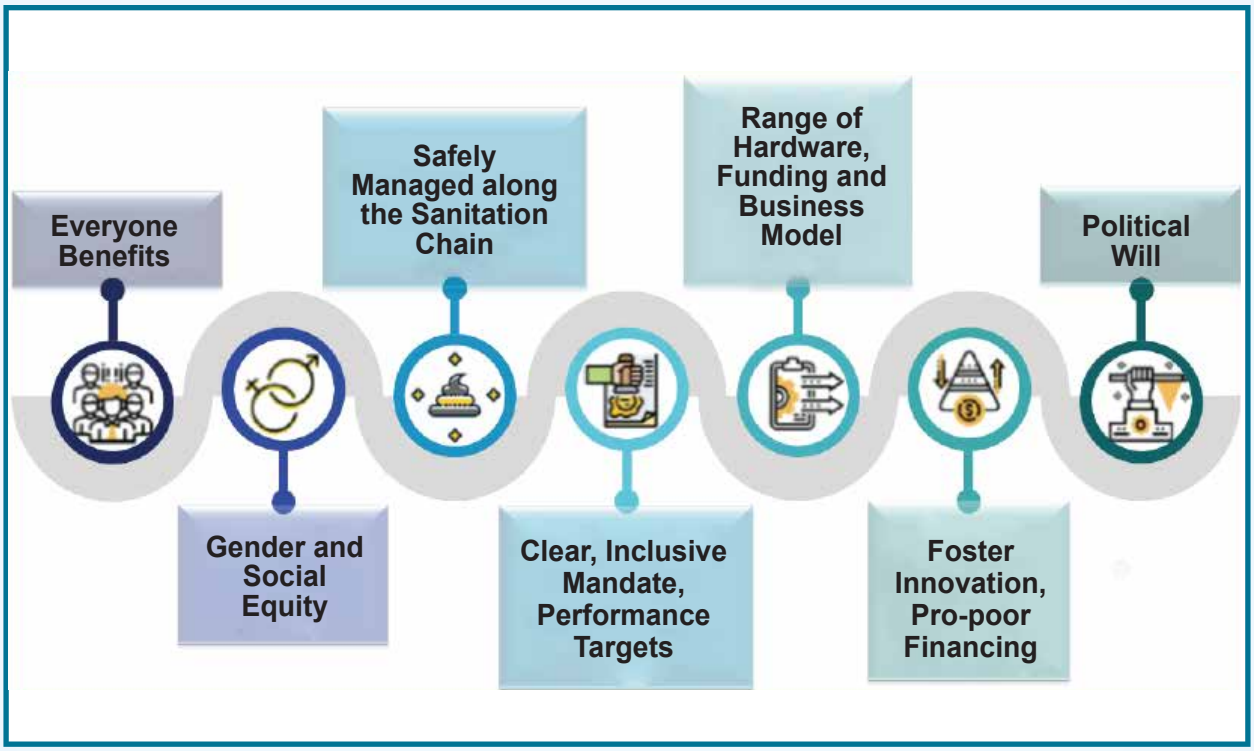

Figure 1: CWIS Principles

These principles emphasize:

1. Equitable Access for All: Sanitation services should be inclusive, ensuring that everyone, including the urban poor and transient populations, has access to safe sanitation. Service pricing should reflect service levels and affordability, with subsidies for the poorest.

2. Gender and Social Equity: Planning and management should prioritize the needs of marginalized groups, including women and those without formal land tenure, while protecting workers' health and rights.

3. Safe Management of Human Waste: Sanitation systems should ensure safety at every stage, from waste containment to disposal or reuse, safeguarding groundwater and the environment.

4. Clear Mandates and Accountability: Authorities should have clear mandates, performance targets, and accountability mechanisms to ensure effective urban sanitation services, especially for the poor.

5. Diverse Approaches to Funding and Technology: Authorities should use a variety of funding models and both sewered and non-sewered solutions to meet sanitation goals, engaging the private sector when appropriate.

6. Comprehensive, Long-term Planning: Planning should be informed by an analysis of needs, resources and constraints, including climate change and water constraints, and coordinated with other urban services.

7. Political Will and Accountability: Governments should demonstrate commitment to inclusive sanitation through transparent budgets, institutional reforms, and accountability systems that empower marginalized communities.

The ***CWIS Service Framework*** has been designed to implement all the principles of CWIS in a planned and programmatic way. Successful implementation of the CWIS framework will provide inclusive sanitation services, prioritizing marginalized and vulnerable populations, ensuring that human waste is safely managed throughout the sanitation service chain, and promoting long-term sustainability through resource recovery and efficient service delivery. The safely managed sanitation service chain includes the stages of capture (in a hygienic toilet), safe containment (and treatment in situ if appropriate), emptying, transport, treatment and safe disposal/reuse as shown in the figure below:

Figure 2: Safely Managed Sanitation Service Chain

To obtain expected CWIS outcomes, clear roles and responsibilities at the City Corporation and national levels are vital, along with data-driven accountability mechanisms that track performance and ensure compliance through regulatory incentives or penalties. The framework also emphasizes effective resource management, incorporating innovative technologies and business models to maintain financial, environmental, and social sustainability. Ultimately, CWIS seeks to improve public health, promote social and gender equity, and foster economic and environmental benefits across urban areas.

The CWIS Service Framework is illustrated below:

CORE CWIS OUTCOMES	**EQUITY**	**SAFETY**	**SUSTAINABILITY**
	Services reflect fairness in distribution and prioritization of service quality, prices, deployment of public finance/ subsidies	Services safeguard customers, workers and communities from safety and health risks by reaching *everyone* with safe sanitation	Services are reliably and continually delivered based on effective management of human, financial and natural resources
CORE CWIS FUNCTIONS	**RESPONSIBILITY**	**ACCOUNTABILITY**	**RESOURCE PLANNING AND MANAGEMENT**
	Authority(s) execute a clear public mandate to ensure safe, equitable and sustainable, sanitation services for all	Authority's performance against its mandate is monitored and managed with data, transparency, and incentives	Resources–human, financial, natural, assets–are effectively managed to support execution of mandate across time/ space

Figure 3: CWIS Service Framework

The responsibility for implementing CWIS in the city corporation rests with the City Corporation authority, with policy support provided by the Local Government Division. City Corporations should form a ***CWIS unit (or Cell)*** which will work in coordination with DPHE, NGOs, Ward level coordination committees and the existing standing committee on health, water & sanitation. The typical institutional arrangement for providing CWIS at the City Corporation level is shown in the following figure:

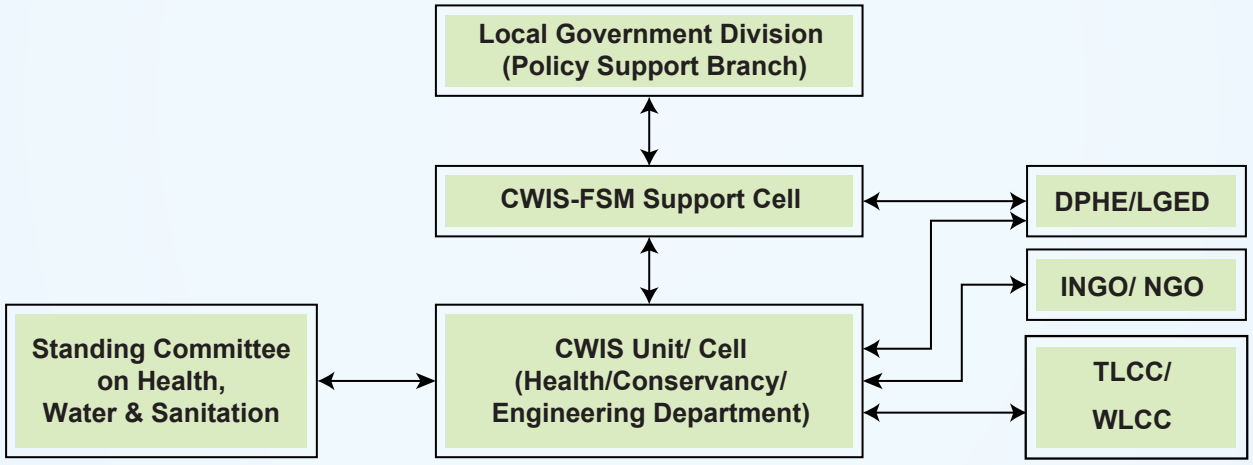

Figure 4: CWIS Institutional Structure at City Corporation Level

Review of Relevant Policies, Strategies, and Acts

The success of Citywide Inclusive Sanitation (CWIS) 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 implementing Citywide Inclusive Sanitation (CWIS) and faecal sludge management (FSM). Notable policies include the Local Government (City Corporation) Act 2009, which defines city corporations' responsibilities, the National Sanitation Strategy 2005, and the Institutional and Regulatory Framework for FSM (2017), which provides specific guidelines for safe sanitation practices. Other important documents include the Bangladesh National Building Code (2020) and Pro-Poor Strategy for Water and Sanitation (2020), which provide design standards and 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 CWIS plan:

Table 1: List of Policies, Strategies, Acts

Local Government (City Corporation) Act, 2009	Defines the overall role of City Corporations
Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM) for City Corporations, 2017	The Local Govt Act 2009 defines the roles and responsibilities of City Corporations and other concerned institutions in ensuring safe and adequate sanitation
Implementation of Institutional and Regulatory Framework for Faecal Sludge Management National Action Plan (City Corporations), 2021	Recommended specific actions at national and City Corporation levels to implement FSM
National Sanitation Strategy, 2005	Provides guidelines for safe, hygienic sanitation, faecal sludge management & strategies for improved urban sanitation
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 discharges
Bangladesh National Building Code (BNBC), 2020	Provides standards for sanitation facilities in buildings
Pro-Poor Strategy for Water and Sanitation Sector in Bangladesh, 2005 (revised 2020)	Recommends sanitation standards for low-income communities

Profile of Barishal City Corporation

Barishal is a rapidly growing city located 235 km from Dhaka, situated alongside the Kirtankhola River and well-connected by road and waterway. Established as a Pourashava in 1869, it became a City Corporation in 2002. Barishal is one of the 12 City Corporations in the country. The City Corporation spans an area of 58.05 square kilometers. Currently, Barishal City Corporation features a road network of 543 km and a drainage network of 148 km. Its geographical coordinates are 22°42′17″ N, 90°22′12″ E. The topography of the City Corporation is relatively flat. Its boundaries are as follows: to the north and west, Barishal and the Baleshwar River (which separates the district from Jessore); to the south, the Bay of Bengal; and to the east, the Meghna River and its estuary. The district stretches approximately 85 miles from north to south, and including the southern Shahbazpur Island, its width is about 60 miles.

The Kirtankhola River runs along the southeast side of Barishal City Corporation (BCC), with several canals, including Napiter Khal, Chanmari Khal, Jel Khal, Nabogram Khal, Sagordi Khal, Bhatar Khal, and Lakutia Khal flowing through the city. According to Bangladesh's flood zoning map, Barishal is classified as a flood-free zone, having experienced no flooding events in the past 12 years. However, the city's drainage network is inadequate, resulting in waterlogging in many areas during the monsoon due to drainage congestion. Some secondary drains are in place to transport stormwater and domestic wastewater to the rivers and canals (CWIS-FSM Support Cell, DPHE, 2022).

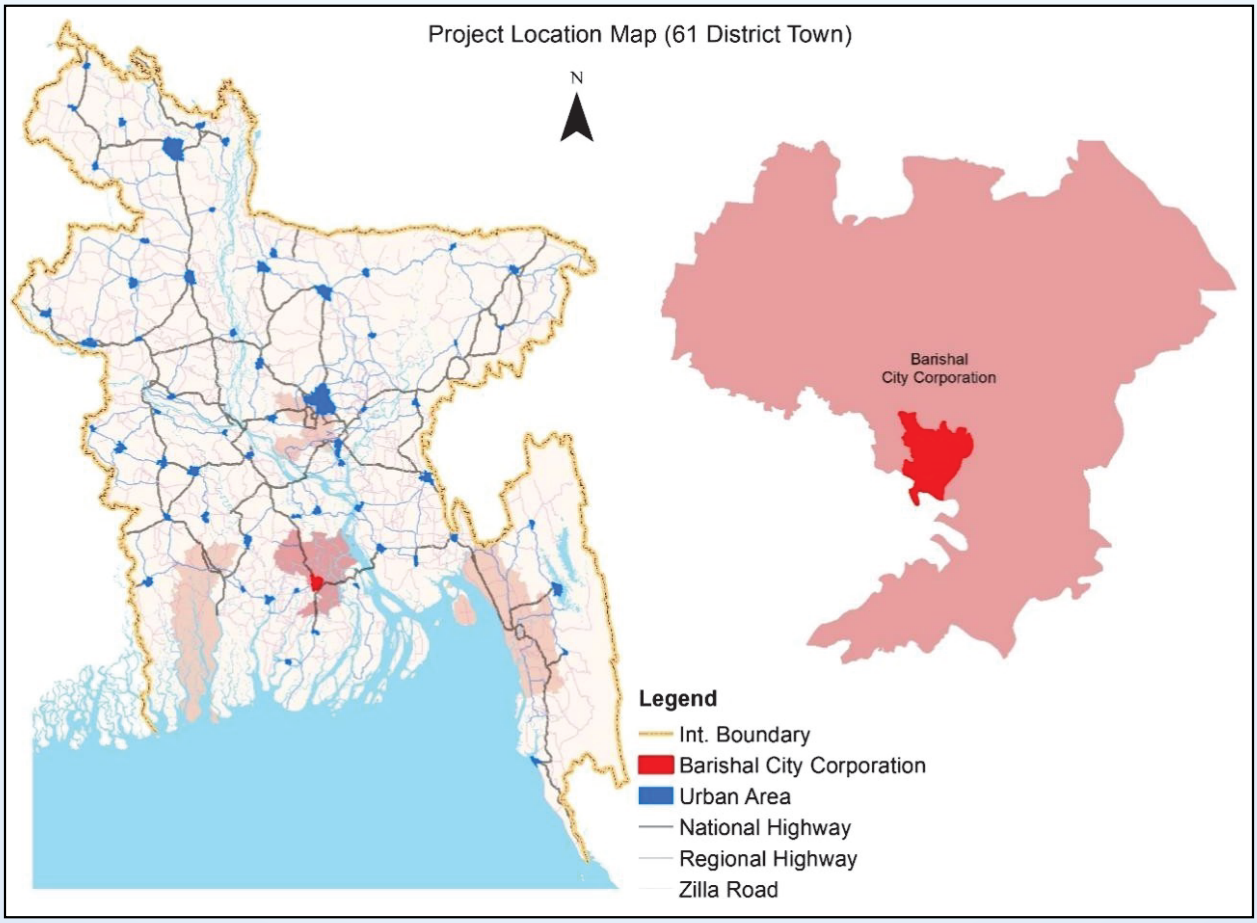

Figure 5: Barishal City Corporation Location Map

Table 2: City Profile

Population parameters	Numbers
Estimated population in 2024	427,018
Households in 2022	105,200
Area, sq. km	58.05
Total roads, km	543
Total drains, km	148

According to the population census in 2022 by the Bangladesh Bureau of Statistics (BBS), the Barishal city population was 419,484 with a density of 7232 people per square kilometer. The annual population growth in Barishal is 0.89%. Considering this, the present (2024) population is estimated to be around 427,018 (Table 1). According to the Bangladesh Meteorological Department (1981-2017), Barishal City and its surroundings experience a tropical monsoon climate, characterized by warm, humid summers and cool, dry winters. A climatological station within the City Corporation has provided weather data for this period. Approximately 90% of the total annual rainfall occurs from May to October, while the driest months are from November to March. The maximum mean temperature ranges from 30.8°C to 33.4°C between April and August, while the minimum mean temperatures in January range from 11.9°C to 13.3°C. The annual average rainfall is around 2,128 mm, according to the BMD data.

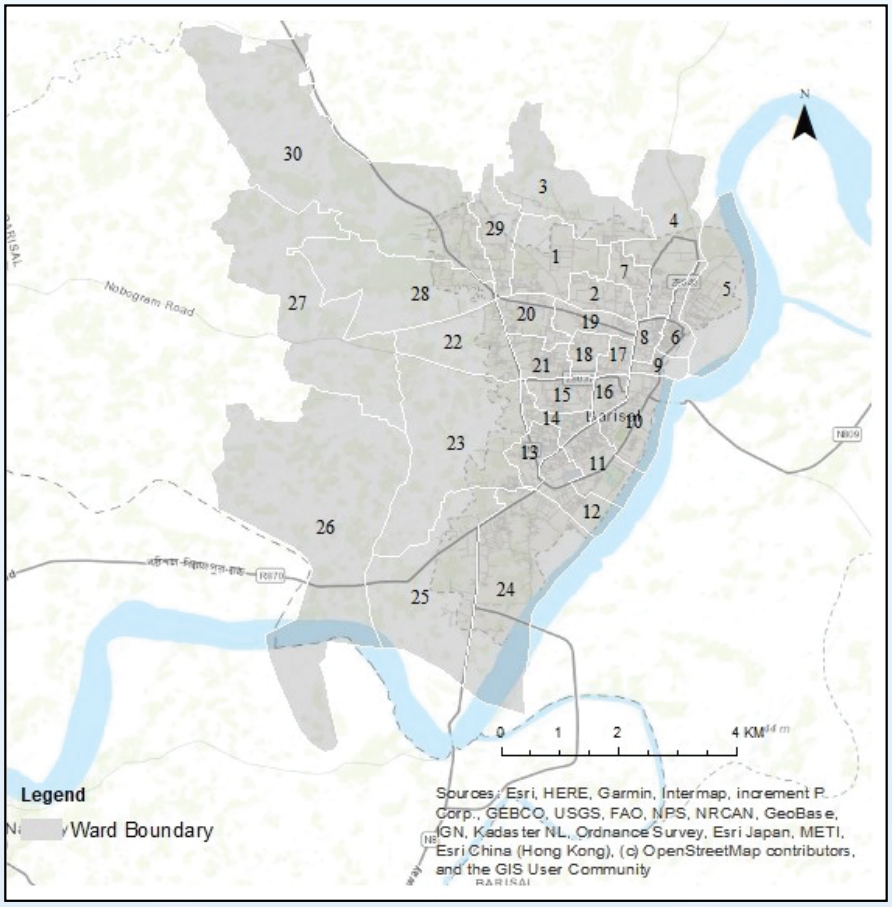

Figure 6: Barishal City Corporation Ward Boundary Map

Assessment of Existing Sanitation Situation

Evaluating the current sanitation conditions is an essential component of CWIS planning. Using primary and secondary sources all relevant data were collected. For Barishal City Corporation, a field survey was conducted, forming the basis for preparing an intermediate-level SFD Report. Throughout the process, stakeholders were actively involved through 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 Barishal City Corporation. 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 7: Typical Sanitation Scenario of Barishal City Corporation

The most common on-site containment system is a pit latrine in the households of BCC. However, in recent years, it has become common practice to build septic tanks when constructing new buildings. The number of septic tanks is likely to increase in the near future. A small portion of the population uses community latrines, which use septic tank technology. Most commercial enterprises have septic tanks in their buildings. However, many households do not follow the regulations and dispose of untreated liquid waste into the environment. A limited number of households use soak pits and the majority dispose of the liquid waste in nearby drains, open ground, or water bodies.

In Barishal City Corporation there is a significant amount of variation in containment types. The household survey data shows that more than 50% of the population uses pit latrines with varying degrees of safety based on the construction and maintenance of the pits (20% direct pit, 27% single offset pit, 7% alternate twin pit). Approximately 41% of the population have septic tanks that are not connected to soak pits. A large proportion of pit latrines are connected to drains or nearby water bodies.

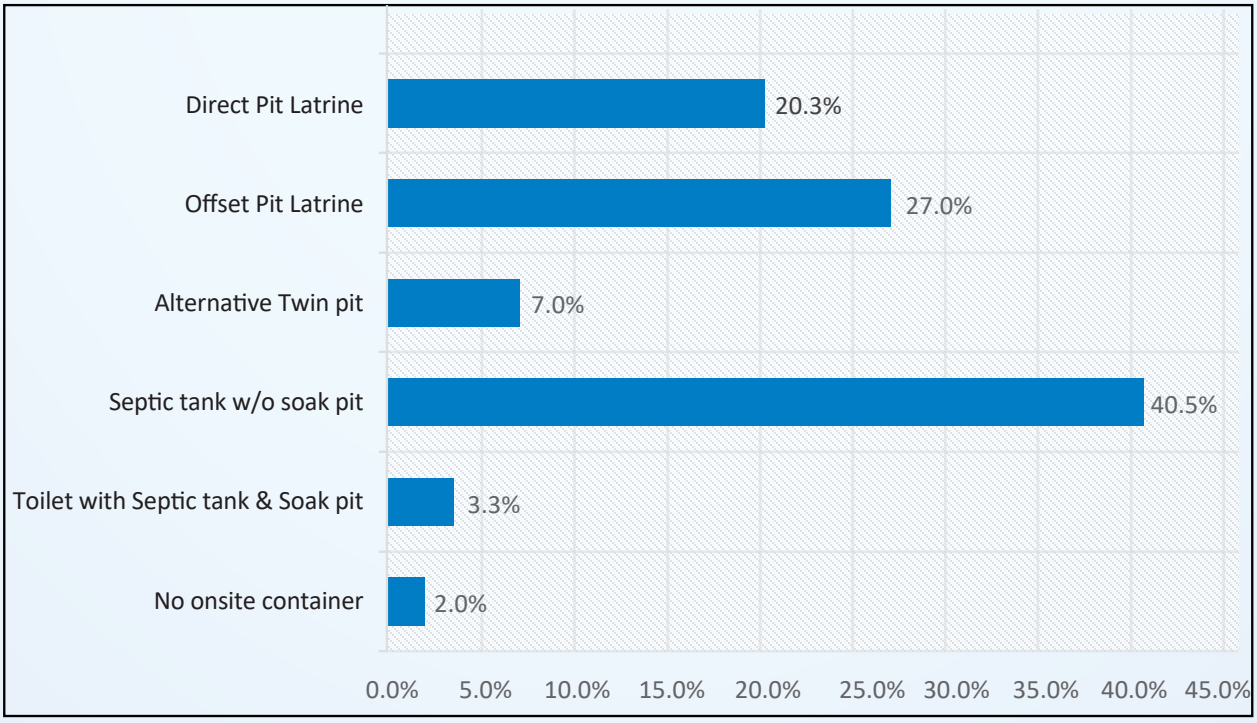

Figure 8: Containment type in Barishal City Corporation

The survey found that almost 66% of the containments have been emptied. Most of the emptying (62%) is done manually using bucket and rope. This method highly risks the health and safety of the workers. 89.7% of the septic tanks that are connected to soak pits have been emptied and 5.1% of such is delivered to dumping ground. A major issue for Barishal City Corporation is that a substantial portion of the emptied sludge (95%) is disposed of in open drains or water bodies. This practice severely contaminates the water bodies within the city corporation.

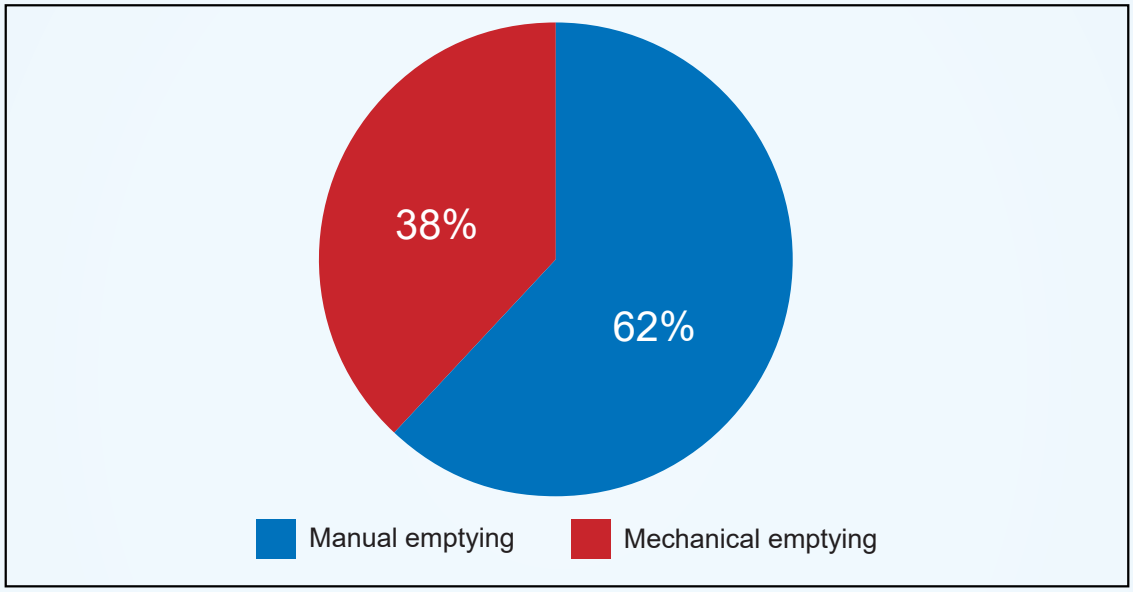

Figure 9: Sludge emptying method

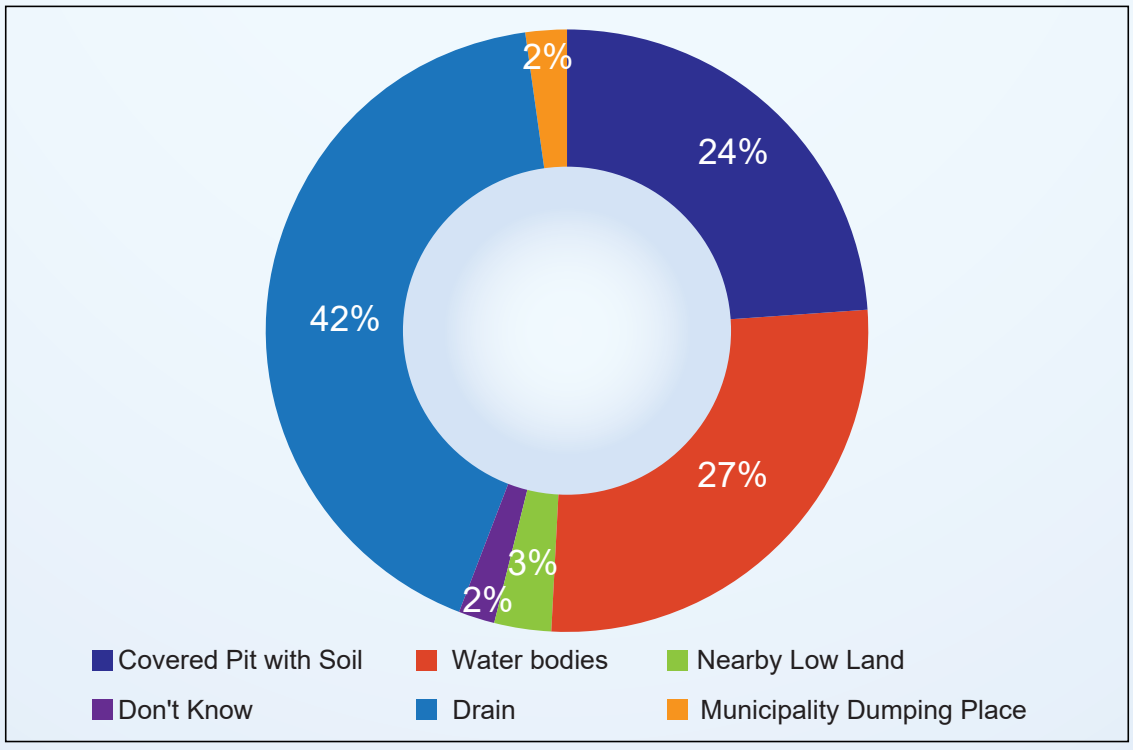

Figure 10: Sludge disposal location

In Barishal City Corporation there are some vacu-tug for sludge transportation to the designated disposal ground. There are also some private sweepers, who empty pits and septic tanks manually using a bucket and rope, with little support and no safety protocol.

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 urban areas. The model provided by the Sustainable Sanitation Alliance (SuSanA) was followed to create the SFD for Barishal City Corporation. The complete SFD (Intermediate level) Report for Barishal City Corporation has been submitted to SKS Foundation 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 outcome of the SFD graphic shows that thirteen percent (13%) of the excreta flow is classified as safely managed, and the remaining eighty-seven percent (87%) is classified as unsafely managed within the BCC area.

It should be noted that the proportion of safely managed fecal sludge 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. The majority of the unsafely managed excreta originates from unsafe containment connected to drains, lowlands and nearby waterbodies instead of safe emptying and treatment. Some key issues affecting sanitation service delivery in Barishal is the lack of FSTP and a well-coordinated sludge transport system. The unsafely managed excreta originate from the following sources:

- FS not delivered to treatment 57%
- FS not properly contained-not emptied 23%
- Supernatant not delivered to treatment 4%
- WW not delivered to treatment 2%

In the SFD Lite Report for Barishal City Corporation (CWIS-FSM Support Cell, DPHE, 2022), it was found that 75% of the FS was unsafely managed. However, this recent assessment indicates a further deterioration, with the percentage of unsafely managed FS increasing to 86%. This worsening situation underscores the need for urgent interventions, such as expanding safe sanitation services, improving waste treatment capacity, and implementing stricter regulatory enforcement to reserve this negative trend.

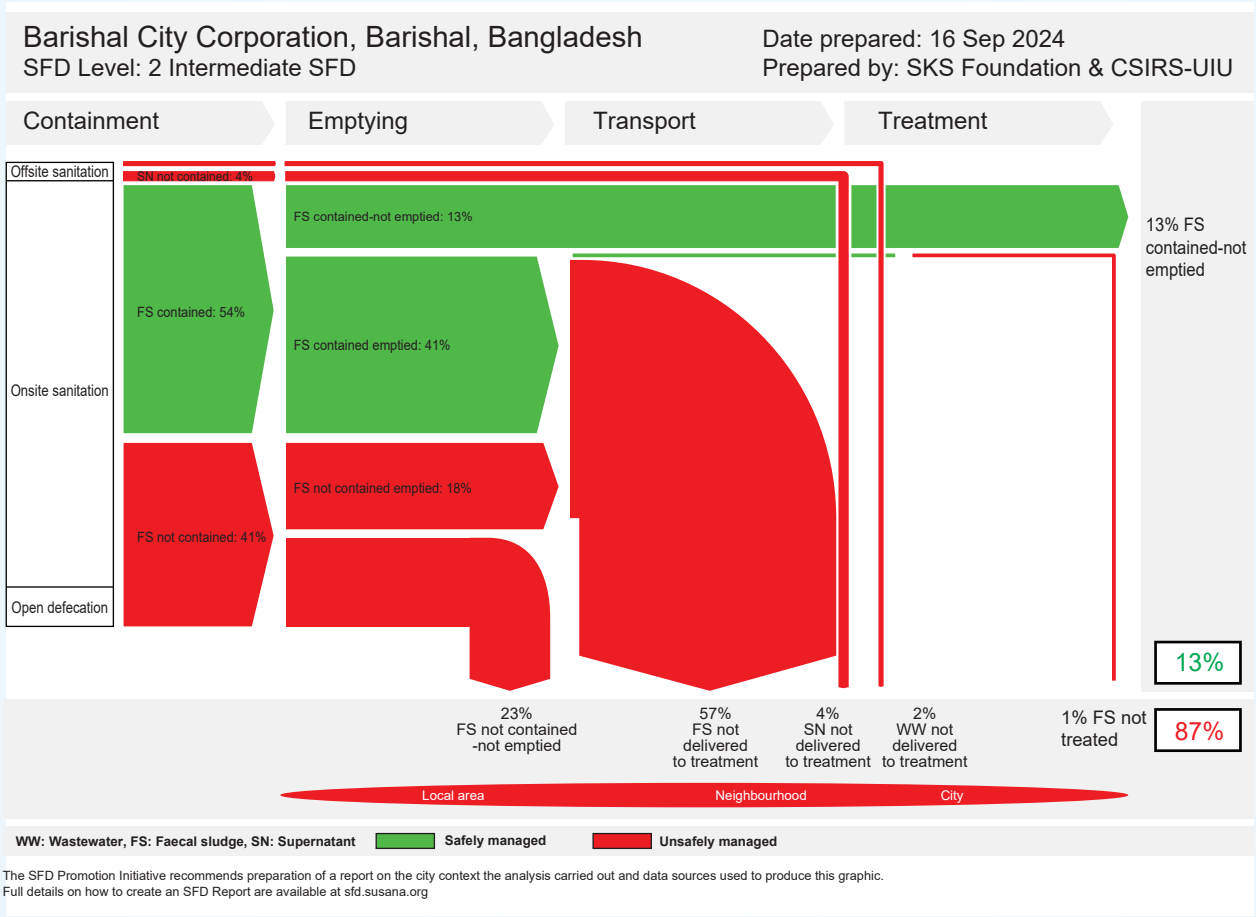

Figure 11: SFD of Barishal City Corporation

Stakeholders' Consultation/Engagement

The stakeholder consultation/ engagement in Barishal City Corporation involved several methods to gather insights into local sanitation challenges. These included Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs).

Key Informant Interviews (KIIs):

In the Key Informant Interviews (KIIs) conducted with local officials, Ward Councillors, and community leaders in Barishal City Corporation, the discussions revealed a range of significant sanitation challenges that the city faces, particularly in the most densely populated wards. For example, in Ward-10 and Ward-9, key informants reported that a majority of households rely on direct pit latrines. These latrines are not connected to any formal sanitation system, and during the rainy season, they often overflow, leading to the contamination of local water sources. Interviewees highlighted that in many cases, toilets are directly connected to open drains, rivers, or nearby water bodies like the Kirtankhola River, exacerbating water pollution and creating a major public health risk. This is particularly concerning for communities living near these water bodies, as many use the contaminated water for daily activities, except for drinking.

Ward Councillors and other local leaders also stressed that the lack of proper sanitation infrastructure, such as septic tanks, poses an on-going challenge. While there have been efforts to install septic tanks in some areas, these have been insufficient to meet the growing demand in rapidly expanding urban and slum areas. Additionally, the KIIs pointed out that Barishal City Corporation lacks an organized system for waste management and fecal sludge treatment. Without proper facilities, much of the emptied sludge is disposed of in open spaces or water bodies, contributing further to environmental degradation. Informants called for more robust government intervention, including financial support, infrastructure development, and regulatory enforcement. They emphasized the need for stronger collaboration between the City Corporation, NGOs, and private sector actors to implement sustainable sanitation solutions. Many interviewees also noted that a comprehensive strategy, including public education on hygiene and health risks, is critical to drive long-term improvements in sanitation practices and reduce the city's vulnerability to disease outbreaks.

Figure 12: Stakeholders' Consultation/ Engagement

Focus Group Discussions (FGDs):

In the Focus Group Discussions (FGDs) held in Barishal City Corporation, participants, including community members and local volunteers, highlighted the pressing sanitation challenges faced by the city, especially in densely populated and lower-middle-class areas. The widespread use of pit latrines, combined with poor maintenance, often leads to waste overflow, particularly during the rainy season. This results in contaminated water sources and significant health risks for the residents. Participants stressed the urgent need for improved sanitation infrastructure, regular waste collection, and enhanced drainage systems to prevent waterlogging and pollution. Moreover, they called for increased community awareness and hygiene education programs to encourage better sanitation practices, emphasizing the importance of both government and community-led initiatives to address these challenges.

City Sanitation Service Delivery Assessment (CSDA)

The CSDA is a complementary tool that assesses why the sanitation situation is as it is. CSDA separately addresses both sewered and non-sewered sanitation.

The Full CSDA is structured around three pillars: enabling, delivering, and sustaining. There are 48 questions in full CSDA, 24 of which are set for sewered system and the rest are for non-sewered system. Each question can be scored with 0 (poor), 0.5 (developing), or 1 (good) on those questions. Each question is scored along the whole service chain. The scores are based on document review and information obtained by interaction with stakeholders.

Barishal City Corporation does not have a sewerage system in place, and its sanitation system is still developing. Some policies and acts define the role of city corporations in sanitation sectors, however, these policies are not widely circulated and thus exist only as a guideline. The investment in sanitation infrastructure and services is inadequate. Only 97.39 crore BDT is allocated for sanitation and environmental development, which is insufficient to address the city's growing needs. The limited budget restricts the city corporation's ability to invest in much-needed facilities, such as fecal sludge treatment plants, expanded drainage systems, and improved waste collection services. Currently, there are only 205 sanitation workers employed by the city corporation, but their efforts are hampered by a lack of proper equipment and support. Also, there is no institution that can monitor the health and safety of sanitation workers.

Although inclusion is mentioned in the policies, it is not present in practice. The current sanitation services available to the urban poor are notably inadequate and unevenly distributed across various wards. In Ward 10, a significant portion of households have toilets that discharge directly into the Kirtankhola River. The situation is similar in Ward-9, where direct pit latrines are prevalent, and many residents resort to emptying their waste into nearby rivers or waterways, causing severe environmental and public health concerns. Wards 22 and 5 reflect a mix of some progress and on-going challenges, with a small percentage of households in Ward 5 adopting septic tanks, though the majority still rely on direct pit latrines. The overall sanitation service is sub-standard.

CSDA Full Assessment

City name: Barisal City Corporation, Bangladesh

Date: September 2024

Non-sewered sanitation

	Toilet, pit or septic tank	Emptying & transport	Sludge treatment & reuse
Enabling			
Policy, legislation	0.5	0.5	0.5
Planning, budgeting	0.5	0.5	0.5
Inclusion	0.5	0.5	
Delivering			
Funding	0.7	0.7	0.7
Capacity, outreach	0.3	0.3	0.3
Inclusion	0.0	0.0	
Sustaining			
Regulation, cost recovery	0.3	0.3	0.3
Institutions, service providers	0.3	0.3	0.3
Inclusion	0.0	0.0	

Figure 13: CSDA Graphic

Gaps in Sanitation Service Chain

Lack of Centralized Sewer System: BCC lacks a dedicated sewer system, with almost entire households relying on on-site sanitation systems such as pit latrines of varying types and septic tanks. The absence of a formal, centralized system to manage wastewater results in widespread disposal of untreated waste into the environment, exacerbating health and environmental risks.

Inadequate Fecal Sludge Treatment: There is no Fecal Sludge Treatment Plant (FSTP) in Barishal City Corporation, leading to the unsafe disposal of fecal sludge. Most of the sludge emptied from septic tanks or pits is discharged into open drains, canals, or water bodies. This practice significantly contributes to water contamination and environmental degradation.

Insufficient Mechanical Collection: The city has limited capacity for the mechanical collection of faecal sludge, relying on a few vacuum trucks. Many households continue to use manual methods for pit emptying, which poses serious health and safety risks to sanitation workers and does not adhere to safe management practices.

Limited Coverage and Infrastructure: Although some areas have septic tanks, a large portion of the population still uses direct pit latrines or septic tanks with no proper disposal facilities. Many sanitation facilities discharge untreated waste into nearby water bodies or the open environment. The distribution of sanitation services is uneven, with poorer areas often lacking adequate facilities.

Lack of Long-term Planning and Investment: Barishal City Corporation faces challenges in planning and financing sustainable sanitation solutions. There is insufficient funding allocated to expanding the sanitation infrastructure, such as building treatment plants or improving drainage networks. This limits the city's ability to meet its sanitation needs, especially in underserved regions.

Inadequate Manpower: The city corporation is poorly staffed, with only 205 personnel available in the sanitation sector. This limited workfor ce, combined with inadequate equipment, hinders regular maintenance, monitoring, and enforcement of sanitation practices across the city corporation.

CWIS Action Plan for Barishal City Corporation

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

The 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 3: CWIS Action Plan for Barishal City Corporation

Short-term: By **2024-2026,** 70% population of Barishal City Corporation will gain sustainable access to city-wide inclusive sanitation services through public engagement and awareness raising, institutional reform and 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. Upgrade / Retrofit/ new development of 70% containments (From field survey: 2% no container, 20.3% single pit latrines, 27% offset pit, 40.5% septic tanks but not connected to soak pits) of BCC into safe, climate resilient options by increasing containment capacity: building new pits or converting single pits into twin offset pits or proper septic tank system by following technical guideline through motivation/ enforcement. **2. BCC** will conduct **City wide on-site sanitation compliance assessment** to develop a database and update/ prepare **Fecal waste Flow Diagram (SFD)** and City Sanitation Road map.	**1. BCC will conduct public hearing** events to gain insight on the various aspects of CWIS. **2. Develop communication and campaign** strategy to make people understand the meaning of 'Safely Managed Sanitation Services' and 'city-wide inclusive sanitation'.	**1. Promote mechanical emptying and safe** transportation of 70% containments (From field survey: 38% are emptied mechanically). **2. Develop scheduled desludging** of 70% containments of BCC. **3. Review and inclusion of sanitation tax** considering desludging charges.	**1. Treat/safe disposal** of fecal sludge of 70% containments of all the wards in BCC preferably through engaging private sector (From SFD: 13% of FS is safely managed or contained but not treated). **2. Conduct Feasibility study** on technological solutions options focusing less land intensive, climate resilient FSTP options. **3. Secure land** for FSTPs construction. Initially, BCC may require approximately 6 Acre of land. The city corporation is suggested to go for 3 or 4 decentralised treatment plants preferably located in less densely populated Wards. The size, number and location of FSTPs is subjected to change based on detailed study. Typical components of the FSTPs will be drying beds, storage sheds, composting facilities, liquid treatment & other ancillary facilities.

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*
3. BCC with assistance from PSB/ DPHE, will develop technical **(climate resilient design, operational & monitoring)** guidelines 4. BCC will facilitate and conduct **coordination meetings** with DPHE, DoE and other concerned agencies to review progress, technical advice and suggestions. 5. BCC with technical design support from DPHE, will **construct public toilets** in densely populated areas and public spaces, with a focus on making these facilities accessible, inclusive, and safe for women, children, and people with disabilities.	**3. Enhance capacity of BCC** officials, technical and management staffs through training and orientation programs for successful CWIS implementation. **4. Sharing best practices** through exchange visits.	**4. Develop and design Apps/ hotlines-based** services for ensuring desludging services. **5. Develop and procure appropriate transportation equipment** giving due attention to narrow access areas (Slum/LICs). **6. Procure additional motorized FS collection and transportation** equipment (e.g. vacuum tankers of 500L, 1000L, 2000L capacity) to promote 70% mechanical emptying and transportation.	**4. Develop guideline/ protocol/** business model to involve private sector for scaling up CWIS services. **5. Establish linkages between BCC** and other concern organizations for CWIS services. **6. Dislodging illegal connections** of toilets within the FSTPs/ STPs served areas by the city authorities **7. Inclusion of FSM in the Annual Development** Plan with a separate budget line with adequate fund allocation. 8. Form/ reform a standing committee on Water and Sanitation to oversee FSM activities. 9. Conduct a feasibility study on technological solutions for co-composting, provision of incentives/ subsidy, and **private sector participation.** 1**0. Analyse trend of compost (use & demand) and process of standardization, branding and certification** of compost by the respective government authorities (i.e., BARC, DAE, BSTI) for potential use and

Medium-term: By **2027-2030,** 100% population of BCC will gain sustainable access to city-wide inclusive sanitation services through public engagement and awareness raising, institutional reform and 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. Upgrade / Retrofit 100% containments of all households of BCC by increasing containment capacity: by constructing septic tanks and soak pits, building new pits, or converting single pits into alternating twin offset pits by following technical guidelines and ensuring enforcement. **2. Conduct city-wide (100%) on-site sanitation compliance assessment to develop a database, SFD** and City Sanitation Road map. **3. Facilitate and conduct coordination meetings with DPHE,** DoE and other concerned agencies to review the progress and provide technical support and suggestions.	1. BCC will continue to conduct **public hearing events** to gain insight on the various aspects of CWIS and assess progress. 2. Review and revise/ update **communication and campaign strategy** to understand and practice of 'Safely Managed Sanitation Services' and 'City-wide Inclusive Sanitation'. **3. Continue strengthening capacity** of the City Corporation and other concerned organizations on CWIS. **4. Conduct Impact study** on the capacity building & campaign program including revision, recommendation and way forward. **5. Continue sharing best practices through exchange visits**	1. Promote mechanical emptying and safe transportation of 100% containments in BCC. 2. Develop scheduled desludging of 100% containments. 3. Review and revise sanitation tax considering desludging charges, treatment costs etc. 4. Review and revise Apps/ hotlines-based services. 5. Procure additional equipment to ensure 100% mechanical emptying and transportation.	**1. Treat/safe disposal of** faecal sludge of 100% containments of BCC at designated FSTPs. **2. Construct and operate** FSTPs and secure land for extension as required. **3. Establish linkages between BCC and the concerned Organizations including private sector** for city-wide inclusive sanitation services. **4. Dislodging illegal connections** of toilets within the FSTPs/STPs served areas by the city corporation. **5. Inclusion of FSM in the Annual Development Plan** with a separate budget line with adequate fund allocation. 6. Build linkages between private sectors and Ministry of Agriculture for market promotion and expansion of compost use. **7. Ensure packaging and marketing** of compost including standardization, branding and certification.

Long-term: By 2031 and beyond, Barishal City Corporations will take the lead to ensure city-wide inclusive sanitation services through public engagement and awareness raising, sector coordination and collaboration, ***to develop a clean, green and smart city.***

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, resilient technologies that may be available. 2. Continue standard design checks of the containment by the city authority and enforce changes as required. 3. Private sectors to provide quality and sustainable services to the consumers maintaining high standard of containment system.	1. Implementation of campaign strategy focusing on continued use of safe sanitation services and application of advanced technologies for maximum resource recovery. 2. Evaluation of CWIS implementation in BCC. 3. Continue capacity /refresher training program for the relevant stakeholders.	1. Consumers use apps/ hotlines-based services for emptying of containment as required. 2. Use of advanced, smart mechanical equipment for safe emptying and transportation to designated disposal and /or treatment locations.	1. Private sector to manage all FSTPs 2. Continue dislodging illegal connections to storm drainage networks or to open water bodies by the city authorities/ monitoring unit. 3. Create a private sector-led compost hub/ network to continue production, demand creation and supply of compost. 4. Continue packaging and marketing of compost by engaging the Ministry of Agriculture and other agencies.

CWIS Plan Implementation Monitoring:

It would be crucially important to develop an appropriate system to monitor fecal sludge safe containment on a regular basis and monitor all other activities along the entire sanitation chain to ensure 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. Tania Akhter	Volunteer, Ward-10
2. Mr. Rinku	Councilor, Ward-9
3. Shirin Sultana	Councilor, Ward-22
4. Barsha Akhter	Councilor, Ward-25
5. Adnan Ali	Councilor, Ward-5
6. Md Mamun Ahmed	Councilor, Ward-6
7. Mojibur Rahman	Councilor, Ward-11
8. Md. Awal Molla	Councilor, Ward-1
9. Md. Zainal Abedin Howlader	Councilor, Ward-10
10. Nasima Akter	Pouroshova worker
11. Maksumul Hakim Reza	Executive Engineer, Barishal City Corporation
12. Mr. Prodip	Focal from AVAS

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