



**IMPLEMENTATION OF  
INSTITUTIONAL AND REGULATORY FRAMEWORK  
FOR FECAL SLUDGE MANAGEMENT**

**NATIONAL  
ACTION PLAN**

**2021-2030**

**CITY CORPORATION**



**MAY 2021**

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Implementation of Institutional and Regulatory Framework  
for Fecal Sludge Management

**NATIONAL ACTION PLAN (NAP) 2021-2030**  
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**Published by**

Policy Support Branch  
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Government of the People's Republic of Bangladesh

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# IMPLEMENTATION OF INSTITUTIONAL AND REGULATORY FRAMEWORK FOR FECAL SLUDGE MANAGEMENT

## NATIONAL ACTION PLAN

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CITY CORPORATION



MAY 2021





**Minister**  
Ministry of Local Government, Rural Development & Cooperatives  
Government of the People's Republic of Bangladesh

## MESSAGE

I am delighted that the Policy Support Branch (PSB) of the Local Government Division has prepared the National Action Plan for implementation of Institutional and Regulatory Framework for Fecal Sludge Management for the water supply and sanitation sector in Bangladesh separately for Rural areas, Paurashava, City Corporation and Megacity Dhaka.

The achievement of sustainable development goals (SDGs) is a priority function of our government. In line with this objective, this initiative of Local Government Division is undoubtedly a commendable initiative.

The document "Institutional and Regulatory Framework for Fecal Sludge Management" provides a guideline for implementing Fecal Sludge Management. It builds upon a comprehensive framework for consistent and harmonized interventions maintaining pace towards Fecal Sludge Management. I believe, this will play a significant role in attaining sustainable development goal (SDG 6.2).

We have achieved a great success for last few decades to reduce the rate of open defecation. Now the need is to make Fecal Sludge Management more consolidated and effective through the National Action Plan. The National Action Plan provides guideline for local government institutions about their roles and responsibilities. I urge these LGIs for effective and timely implementation of these National Action Plans for implementing Institutional and Regulatory Framework of Fecal Sludge Management.

I am pleased that the development process of this document adopted a wide range of participation. Stakeholders from grassroots level up to policy planners have active involvement. Opinion at all levels were considered with due importance. It is encouraging that the development process of this document added a new dimension which emphasizes government's aspiration of establishing accountability and good governance and hopefully will carry forward the principle of transparency and accountability.

I convey my profound thanks to all those for their contributions in its preparation, particularly the members of working committee, various sub-committees, technical support committee, LCG sub-group, sector professionals, national forum for water supply and sanitation, and on top of all, the concerned officials of the Local Government Division.

We are entrusted with the responsibility to attain SDG-6 and concerned vision of honourable Prime Minister. I hope all including our LGIs, development partners, NGOs, civil societies and social media will work together with a concerted effort to implement Institutional and Regulatory Framework of Fecal Sludge Management and provide their overall support for progressing Bangladesh in hygienic management of Fecal sludge. We will be able to ensure sustainable FSM services through improved Fecal Sludge Management which will help to achieve SDG 6.2, I believe.

Joy Bangla, Joy Bangabandhu!

**Md. Tazul Islam, MP**





**Senior Secretary**  
Local Government Division  
Ministry of Local Government, Rural Development & Cooperatives  
Government of the People's Republic of Bangladesh

## MESSAGE

Despite multifarious challenges as developing country, the enormous progress in our social and economic sectors is well-acquainted and universally recognized. Specially, our achievement is envious in water and sanitation sector. Recently, we have attained to a glorious status of middle income country, which was possible for our national integrity, farsighted plan and candid leadership of our Prime Minister, the Head of the Government.

Our success in overcoming problems in sanitation is a good example. While 34% of population practiced open defecation in 1990, the reduction of the rate to almost zero is a unique example. It is because of the concerted effort of the government, development partner, NGOs and people in general this unique achievement was resulted.

Despite this success of reducing open defecation to zero, our achievement is now threatened by disposal of Fecal Sludge in environment. In order to ensure hygienic management of Fecal Sludge, the Local Government Division initiated preparation of "Institutional and Regulatory Framework for Fecal Sludge Management". The regulatory framework was prepared separately for Rural areas, Municipalities, City Corporations and Dhaka Megacity. Furthermore, several workshops were organized in favour of Local Government Division to orient all concerned about these regulatory frameworks. I think the preparation of National Action Plan for Institutional and Regulatory Framework of Fecal Sludge Management is a timely Initiative.

I firmly believe that this National Action Plan will bring us one step forward towards achievement of SDG-6. This action plan will play a key role for achieving safely managed sanitation towards pathway to attain middle income country to developed country according to vision 2021 and vision 2041 of the government. This national action plan will help local government institutions to perform effectively.

I convey my sincere thanks to Additional Secretary (Water Supply Wing), Joint Secretary (Policy Support) and all other concerned officials of Local Government Division for their pioneering and proactive role and continuous support towards the preparation of National Action Plan for Institutional and Regulatory Framework of Fecal Sludge Management.

At the end, I would like to present this 'National Action Plan' for Institutional and Regulatory Framework of Fecal Sludge Management to all stakeholders related to this National Action Plan so that they can undertake effective program for improved sanitation in the country. I am confident that this initiative will greatly help in achieving the SDG 6.2

**Helal Uddin Ahmed**







**Additional Secretary**  
Water Supply Wing  
Local Government Division

## FOREWORD

We have many successes in water supply and sanitation sector but the hygienic management of Fecal Sludge still remains as a big challenge for us. Local Government Division has already published Institutional and Regulatory Framework for Fecal Sludge Management, which is an important milestone to overcome this challenge. For proper implementation of this regulatory framework and ensuring safely managed sanitation for all, preparation of a National Action Plan is a very effective and timely step. I believe that this action plan will play a key role in achieving SDG 6.2.

I would like to express my sincere gratitude to Honorable Minister, Mr. Md. Tazul Islam, MP for his overall guidance in formulating this National Action Plan. I also express my gratitude to Mr. Helal Uddin Ahmed, Senior Secretary, Local Government Division for his advice and support at all times in developing and publishing this National Action Plan.

I am thankful to Professor Dr. Tanvir Ahmed, Director, ITN-BUET for his dedication and untiring efforts in accomplishing this specialized work. I would like to express my gratitude to Professor Dr. Md. Mujibur Rahman, the sector specialist for his advice and active support in successful implementation of this initiative.

I also express my heartfelt gratitude to the members of the working committee for their contribution in preparing this National Action Plan for Implementation of Institutional and Regulatory Framework for Fecal Sludge Management. Concerned Ministries, DPHE, WASAs, City Corporations, Unicef and other development partners, NGOs and sector professionals deserve my gratitude for their important contribution. I would like to take the opportunity to thank them as well.

I hope this National Action Plan for Implementation of Institutional and Regulatory Framework for Fecal Sludge Management will be able to play a vital role to achieve SDG 6.2 and the objective of improved sanitation for all in Bangladesh.

Muhammad Ibrahim



## **ACKNOWLEDGEMENT**

The Institutional and Regulatory Framework for Fecal Sludge Management in Bangladesh was approved on November 4, 2017 by the Ministry of Local Government, Rural Development and Cooperatives. Subsequently, a Working Committee was formed in June, 2018 by the Local Government Division, MoLGRD&C, comprising members from relevant government agencies, academia, I/NGOs, development partners and private organizations to develop a "National Action Plan" for implementation of the IRF-FSM.

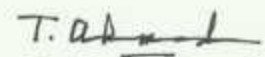
The NAP specifies the roles and responsibilities of stakeholders at different levels (e.g., national/local) for specific actions with set milestones to be achieved within a given period of time for the safe Management of fecal sludge in the country. The NAP also ensures coordination among the stakeholders for effective implementation of current and future FSM initiatives for long-term operational sustainability. Since there are four frameworks for four different Local Government Institutions, i.e., City Corporations, Paurashavas, Rural Areas and the Mega City Dhaka; there are also separate National Action Plans for these LGIs.

The NAPs have been developed with the objective of rapid implementation of FSM services throughout the country by 2030. The NAPs are based on the information of the current status of FSM implementation and infrastructure across the country. It has been a privilege of ITN-BUET to be able to play a leadership role in the development of both the IRF-FSM and the National Action Plans for implementation of IRF-FSM, in collaboration with the Policy Support Branch of the LGD and engaging with all the relevant actors and stakeholders in the country.

ITN-BUET acknowledges the leadership role of Mr. Helal Uddin Ahmed, Senior Secretary of Local Government Division of MoLGRD&C for his strong interest on this subject matter. A special thanks also goes to Mr. Muhammad Ibrahim, Additional Secretary (Water Supply Wing) of LGD who served as Chairperson of the Working Committee, for his valuable support and his strategic guidance to finalize the NAPs.

This endeavor would not have been successful without the strong support of the PSB of the LGD. ITN-BUET gratefully acknowledges the contribution and deep engagement of Dr. Md. Mujibur Rahman, the Co-chair of the Working Committee, in developing the NAPs. We are obliged to the representatives of academic and research institutions, development partners and Banks, national and international NGOs, private entrepreneurs and individual experts who have contributed immensely through their precious time, expertise, wisdom and insights in developing this framework.

We sincerely hope that the NAPs would help implementation of safely managed sanitation services throughout the country by 2030, and thus contribute to fulfilling Bangladesh Government's strong commitment in achieving SDG Target 6.2 by 2030.

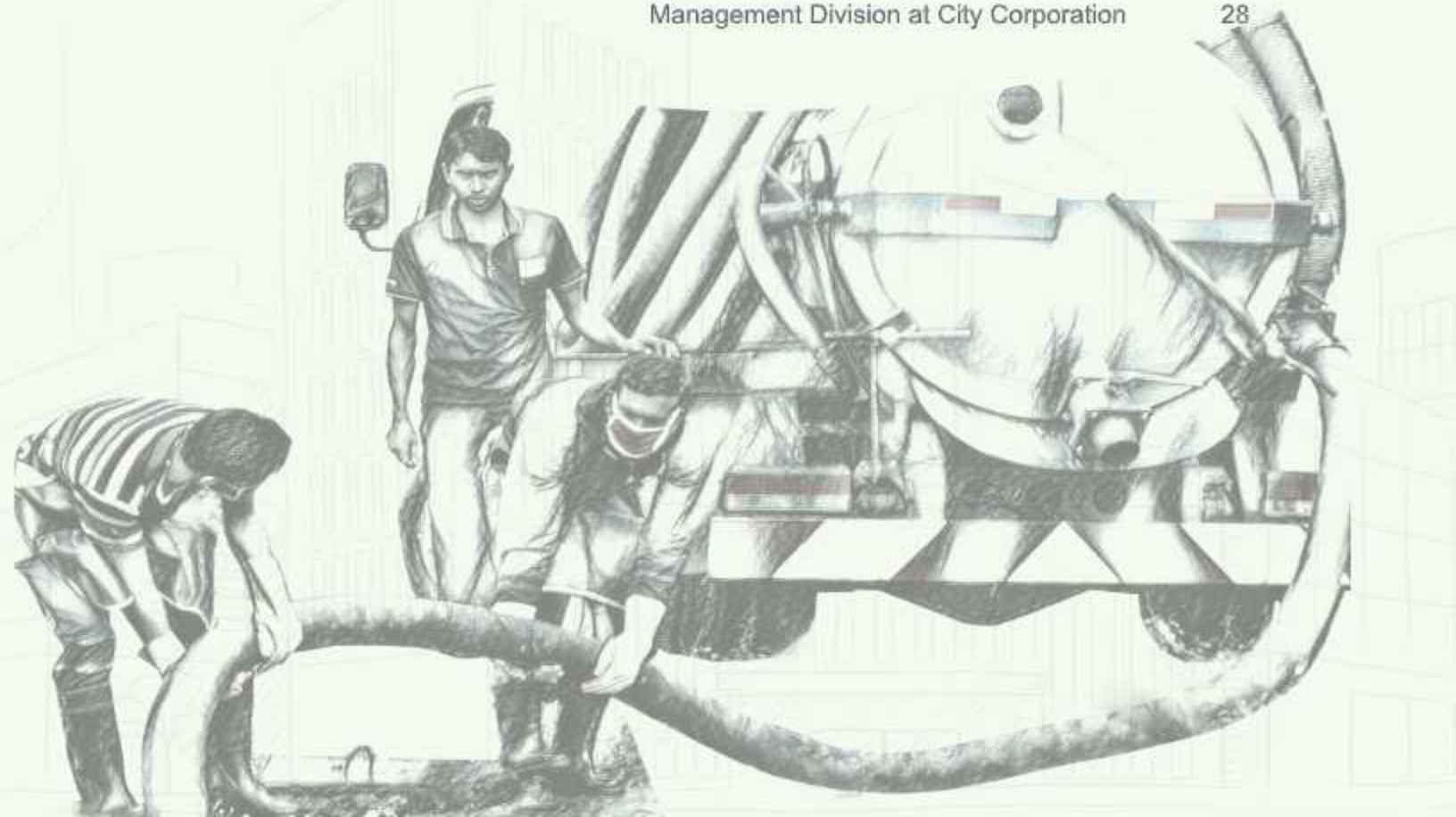


**Dr. Tanvir Ahmed**  
Professor, Civil Engineering, BUET



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## ABBREVIATIONS AND ACRONYMS

BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BCC	Behavior Change Communication
BNBC	Bangladesh National Building Code
BRI	Bangladesh Rice Research Institute
BRTA	Bangladesh Road Transport Authority
BUET	Bangladesh University of Engineering and Technology
CBO	Community Based Organization
CDA	Chattogram Development Authority
CWIS	City Wide Inclusive Sanitation
DAE	Department of Agricultural Extension
DoE	Department of Environment
DPHE	Department of Public Health Engineering
ECR, 1997	The Environment Conservation Rules, 1997
FS	Fecal Sludge
FSM	Fecal Sludge Management
FSTP	Fecal Sludge Treatment Plant
GoB	Government of Bangladesh
ICDDR,B	International Centre for Diarrhoeal Disease and Research, Bangladesh
IEC	Information, Education and Communication
IEDCR	Institute of Epidemiology, Disease Control and Research
I/NGO	International and National NGO
IRF	Institutional and Regulatory Framework
ITN	International Training Network
IWMI	International Water Management Institute
KDA	Khulna Development Authority
LGD	Local Government Division
LGED	Local Government Engineering Department
LGI	Local Government Institute
LIC	Low Income Community
MoA	Ministry of Agriculture
MoEFCC	Ministry of Environment, Forest, and Climate Change
MoLGRD&C	Ministry of Local Government, Rural Development and Co-operatives
NAP	National Action Plan
NBR	National Board of Revenue
NFWSS	National Forum for Water Supply and Sanitation
NGO	Non-Government Organization
NILG	National Institute of Local Government
OHS	Occupational Health and Safety
PSB	Policy Support Branch
RDA	Rajshahi Development Authority
SDG	Sustainable Development Goals
SME	Small and Medium-sized Enterprises
SRDI	Soil Resource Development Institute
SREDA	Sustainable and Renewable Energy Development Authority
UGIIP-III	Urban Governance and Infrastructure Improvement Project - III
WASH	Water, Sanitation and Hygiene
WB	World Bank
WC	Working Committee

# EXECUTIVE SUMMARY

The National Forum for Water Supply and Sanitation, in its 16th meeting, took a decision to develop the Institutional and Regulatory Framework for Fecal Sludge Management (IRF-FSM) in Bangladesh. This framework was approved on November 4, 2017 by the MoLGRD&C. The IRF-FSM has been developed separately for City Corporations, Municipalities (Paurashavas), Rural Areas, and the Mega City: Dhaka – laying out the institutional roles and responsibilities to implement FSM services in these different contexts.

Subsequently, a Working Committee was formed in June, 2018 by the LGD, MoLGRD&C, comprising members from relevant government agencies, academia, I/NGOs, development partners and private organizations to develop a “National Action Plan” for implementation of the IRF-FSM.

The National Action Plan for City Corporations has been developed for planning and implementation of IRF-FSM in ten (10) City Corporations except Dhaka North and Dhaka South City Corporations these are addressed separately under IRF for Mega City, Dhaka. All new City Corporations will follow this NAP for sustainably managing fecal sludge.

The National Action Plan for City Corporations includes specific actions for relevant stakeholders both at national and City Corporation levels, where the institutional roles and responsibilities are assigned based primarily on current roles played by different Ministries and Departments, City Corporations and relevant local authorities (WASA and City Development Authorities) of Government, as well as by the development partners/banks, I/NGOs and other stakeholders.

The national level action plan includes the responsibilities of national level institutions, with special focus on facilitating the City Corporations to undertake all required actions at field level to ensure that FSM infrastructures and continuity of services are in place within specified time according to the IRF-FSM. The Action Plan also includes specific responsibilities of City Corporations for implementation of FSM services. The NAP also suggests to establish linkages with Water Supply and Sewerage Authority and City Development Authority, (if present) to ensure city-wide safely managed sanitation services, where the City Corporation will be primarily responsible for overall management and supervision of FSM implementation.

Considering current situation of available FSM infrastructure and implementation status in the City Corporations, the milestones for the NAP for City Corporations are set for timeline 2021-2023, 2024-2027 and 2028-2030, targeting achievement of SDG 6.2 by 2030. The time lines of the NAP could be reviewed and revised as per the milestone achievement and available support.

The current situation of FSM infrastructure and implementation status in the City Corporations has been analyzed following a national level survey, which was considered to set actions for these 10 City Corporations. Both national and City Corporation level activities included in the NAP need substantial support from the Government and the development partners to implement city wide FSM by the City Corporations by 2030. Implementation of the NAP would also require funding support both at City Corporation and national levels. The requirements will depend on progress of implementation and may have to be adjusted considering the overall progress of the proposed actions. In the NAP, a tentative budget for three years (2021-2023) for national level actions, and a template of budget for City Corporations level actions up to 2030 has been included.

The Local Government Division, with support from national level committees, would review the progress of the NAP regularly and revise the NAP as required to achieve the overarching goal of IRF-FSM. The budget should also be appraised by national level committees in consultation with national and City Corporation level stakeholders to ensure successful implementation of the IRF-FSM.

# 1. INTRODUCTION

The National Forum for Water Supply and Sanitation, in its 16th meeting, took a decision to develop the Institutional and Regulatory Framework for Fecal Sludge Management in Bangladesh. The Policy Support Branch of Local Government Division of the Ministry of Local Government, Rural Development and Cooperatives (MoLGRD&C) in partnership with the International Training Network of the Bangladesh University of Engineering and Technology led the initiative with the support from sector stakeholders. This framework was approved on 04 November 2017 by the MoLGRD&C. The Institutional and Regulatory Framework for FSM, which focuses on ensuring safe sanitation services in Bangladesh, aligned with SDG target 6.2, has been developed separately for City Corporations, Paurashavas, Rural Areas and the Mega City of Dhaka – laying out the institutional roles and responsibilities to implement FSM services in these different contexts.

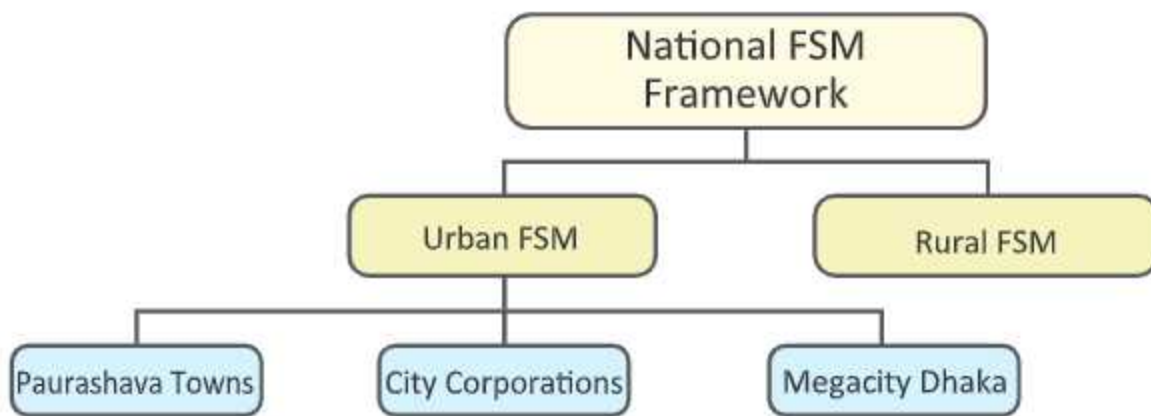


Figure 1: National FSM framework for different types of areas in Bangladesh

Subsequently, a Working Committee was formed in June, 2018 by the LGD, MoLGRD&C, comprising members from relevant government agencies, academia, I/NGOs, development partners and private organizations to develop a "National Action Plan (NAP)" for implementation of the IRF-FSM.

It is very important to develop the NAP that would clearly specify the roles and responsibilities of stakeholders at different levels (e.g., national/local) for specific actions with set milestones to be achieved within a given period of time. NAP also ensures coordination among the stakeholders for effective implementation of current and future FSM initiatives for long-term operational sustainability. Since there are different frameworks for different Local Government Institutions, there is also need for separate National Action Plans for these institutions. This document presents the NAP for implementation of the IRF-FSM for City Corporations (other than Dhaka North and Dhaka South City Corporations).



The NAP for City Corporations has been developed with an objective of rapid implementation of FSM in all City Corporations (excluding DNCC and DSCC of Mega City, Dhaka), which covers the entire sanitation service chain and will be implemented by 2030. Among the City Corporations that are under purview of this NAP, City Development Authorities and Water Supply and Sewerage Authorities are functional in three City Corporations (Chattogram, Rajshahi and Khulna); seven City Corporations (Sylhet, Rangpur, Barishal, Mymensingh, Gazipur, Narayanganj and Cumilla) are yet to have City Development Authorities and WASAs. All newly formed City Corporations will also follow this NAP for sustainably managing fecal sludge.

Information on current status of FSM implementation and infrastructure at City Corporations, gathered through a national level survey, led by ITN-BUET with support from Policy Support Branch of Local Government Division of MoLGRD&C, were considered for developing this NAP. According to the findings from the survey,

- Six City Corporations namely, Cumilla, Chattogram, Khulna, Rangpur, Rajshahi and Mymensingh have been practicing mechanical desludging with limited capacity. However, manual desludging is still practiced in these and in the other City Corporations as well.
- There are functional Fecal Sludge Treatment Plants in Chattogram, Khulna, Rangpur and Mymensingh City Corporations, although these FSTPs cover only a very small percentage of total fecal waste generated in the secities.

The NAP includes specific actions for relevant stakeholders both at national and City Corporation levels (elaborated in following Chapters) The institutional roles and responsibilities specified to carry out the actions in this NAP are based primarily on current roles played by different Ministries and Departments, City Corporations and relevant local authorities (WASA and City Development Authority) of Government, as well as by the development partners/banks, I/NGOs and other stakeholders following IRF-FSM.

With the objective of FSM implementation gradually in City Corporations by 2030, the milestones for the NAP for City Corporation is set for timeline 2021-2023, 2024-2027 and 2028-2030 targeting achievement of SDG 6.2 by 2030. The timeline of the NAP could be reviewed and revised as per the milestone achievement and available support. Based on the suggestions, LGD can review the progress bi-yearly with the City Corporations and can suggest necessary adjustment. The proposed milestones for City Corporations for different timelines is presented in Table 1.

Table 1: Target milestones for City Corporations

Milestones		
(2021-2023)	(2024-2027)	(2028-2030)
<ul style="list-style-type: none"> <li>▪ Capacity building</li> <li>▪ Awareness campaign</li> <li>▪ Plan for citywide inclusive safely managed sanitation service</li> <li>▪ Introduce and ensure mechanical desludging confirming OHS</li> <li>▪ Ensure appropriate and safe burial of emptied sludge until FSTP is constructed for the whole city</li> <li>▪ Continue use of existing facilities and infrastructures for FSM service delivery (mechanical desludging, FSTP, etc.) and extend the services</li> <li>▪ Land procurement, if needed, for FS treatment facility</li> </ul>	<ul style="list-style-type: none"> <li>▪ Capacity building and awareness campaign continued</li> <li>▪ Ensure safe treatment and disposal of fecal sludge</li> <li>▪ Develop and implement service/business continuity plan</li> <li>▪ City-wide safely managed sanitation service implementation:               <ul style="list-style-type: none"> <li>• City-wide FSM service implementation mainly by CC</li> <li>• Sewerage service mainly by WASA (where exist)</li> <li>• However, both City Corporation and WASA (where exist) can implement both sewerage system and FSM services, with coordination by LGD (However, the requirement for sewerage system is beyond the purview of this NAP).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Capacity building and awareness campaign continued</li> <li>▪ City-wide safely managed sanitation service achieved, FSM service continued and continually updated by CC</li> </ul>

## 2.

# IRF-FSM IMPLEMENTATION

The primary objective of the National Action Plan for City Corporations is to facilitate implementation of FSM services in City Corporations in phases.

Currently, all City Corporation areas under the purview of this NAP completely depend on on-site sanitation system, which primarily include septic tank system, and different forms of pit latrines. Therefore, only on-site sanitation facilities and areas served by such facilities would fall under the purview of the NAP. If “small bore sewerage (SBS)” system (a system with septic tank as a component) or decentralized wastewater treatment system is introduced in a City Corporation, areas under such systems would continue to be within the purview of this NAP.

In this chapter, the major actions needed at national and City Corporation levels for implementation of NAP for IRF-FSM in the City Corporations are listed.

## 2.1 Responsibilities

According to the Local Government (City Corporation) Act 2009, the City Corporations are responsible for FSM services. However, involvement and support of all stakeholders (including the government, non-government organizations, development partners/banks, academia, technical and research organizations, civil society, private sector and the media) are needed for raising awareness, development of FSM infrastructures, and effective delivery of FSM services.

The institutional roles and responsibilities specified in the IRF-FSM for City Corporations are primarily based on the provisions of the City Corporation Act 2009, which guides and regulates the roles and responsibilities of all City Corporations. The City Corporations/LGD may formulate necessary rules, regulations or by-laws including fixing of sanitation/FSM tax (within framework of the City Corporation Act 2009), if needed, for carrying out the specific roles and responsibilities outlined in the IRF-FSM for City Corporations.

The Water Supply and Sewerage Authority Act 1996 (hereinafter referred to as WASA Act 1996), in its sub-clause (2) of clause 17 clearly describes the major responsibilities vested on the authority: (a) construction, development and maintenance of water supply system for abstraction/collection, treatment, pumping, storage and distribution of potable drinking water; (b) construction, development and maintenance of sewerage system for collection, pumping treatment and disposal of sanitary sewage and industrial liquid waste; (c) closing or abandoning of the drains that are, in the opinion of the authority, not necessary or are dysfunctional; (d) construction and maintenance of storm water drainage system. However, the WASA Act 1996 does not specifically mention about the responsibility of the authority with regard to on-site sanitation system or any activity related to emptying of pits/septic tanks, collection, transportation, treatment and disposal and/or reuse of fecal sludge from on-site facilities.

As per the Khulna Development Authority Ordinance 2018 (Chapter 3, 11.b); Rajshahi Development Authority (RDA) Ordinance 2018 (Chapter 3, 12b) & Chattogram Development Authority (CDA) Ordinance 2018 (Chapter-3, 11b) : a master plan for the city will be developed by the authority which should include water supply, conservation, sewerage and sanitation management.

Moreover, the KDA & CDA Ordinance mention (Chapter 3, 17.1, 17.2.f and 17.2.k) that the authority, based on the city master plan, should prepare development project and submit to the government for approval which could include sanitation system development, redesign and revision.

To implement the entire FSM system in City Corporations, primary responsibility lies with the City Corporations. In this regard, the City Corporation should collaborate with City Development Authorities, WASAs, the Department of Public Health Engineering, the Local Government and Engineering Department, IFIs, Development Partners/banks, private sector, I/NGOs, as appropriate, in planning and implementation of FSM infrastructure and services in accordance with the provision of the Act.

Besides, for a particular City Corporation, both City Corporation and WASA could take projects under revenue or development budget to develop and implement sewerage and FSM systems, under the coordination of the LGD.

The City Corporations will take steps to include the provisions of the FSM infrastructures (i.e., treatment facility) within its "master plan" (prepared or being prepared in accordance with the provision of Schedule 3 of City Corporation Act 2009) or "City Sanitation Plan" or "relevant City Development Plan" (prepared or being prepared by City Development Authority, if available) for implementation of City Wide Inclusive Sanitation and/or FSM services. FSM at City Corporation level should be harmonized with the sewerage master plan (prepared or being prepared by WASA or City Corporation). The master plan must include (if already not included) the phasing of sewer and non-sewer sanitation services in the city, which will be followed by the implementing organizations (City Corporations, City Development Authorities and WASA) during design and implementation of sanitation projects. To expand city-wide sanitation services, the City Corporation will also collaborate with WASA (if present) and City Development Authority (if present), as appropriate on fecal sludge treatment, small bore sewerage system and Decentralized Wastewater Treatment System.

The City Corporation must form a Standing Committee (if one does not exist) on Waste Management including Sanitation and FSM, in accordance to Sub-clause (2) of Clause 50 of the Local Government (City Corporation) Act 2009, to oversee the activities related to planning and implementation of FSM services. Further the Corporation will form a City Level Coordination Committee under the leadership of Mayor and having representatives from WASA (where exist), City Development Authority (where exists), District Administration, Department of Education, Information, Health, Religion, Department of Public Health Engineering, Local Government Engineering Department, Public Works Department, Department of Environment and other relevant departments/ stakeholders, to ensure coordinated sanitation services in the city. In addition, an "FSM Monitoring Cell" should be formed for regular monitoring of FSM services in the City Corporation. The role may also be performed by FSM Section of City Corporation when formed (see Annexure-I).

At the national level, the Local Government Division, through its line agencies [Department of Public Health Engineering, Local Government Engineering Department, National Institute of Local Government], would support the City Corporations for their capacity building. In addition, the National Forum for Water Supply and Sanitation, and relevant ministries would support the City Corporations to secure fund, provide technical support through line agencies (DPHE and LGED),

ensure enforcement of laws, policies, strategies and guidelines for ensuring city-wide FSM implementation by 2030 (Figure-2).

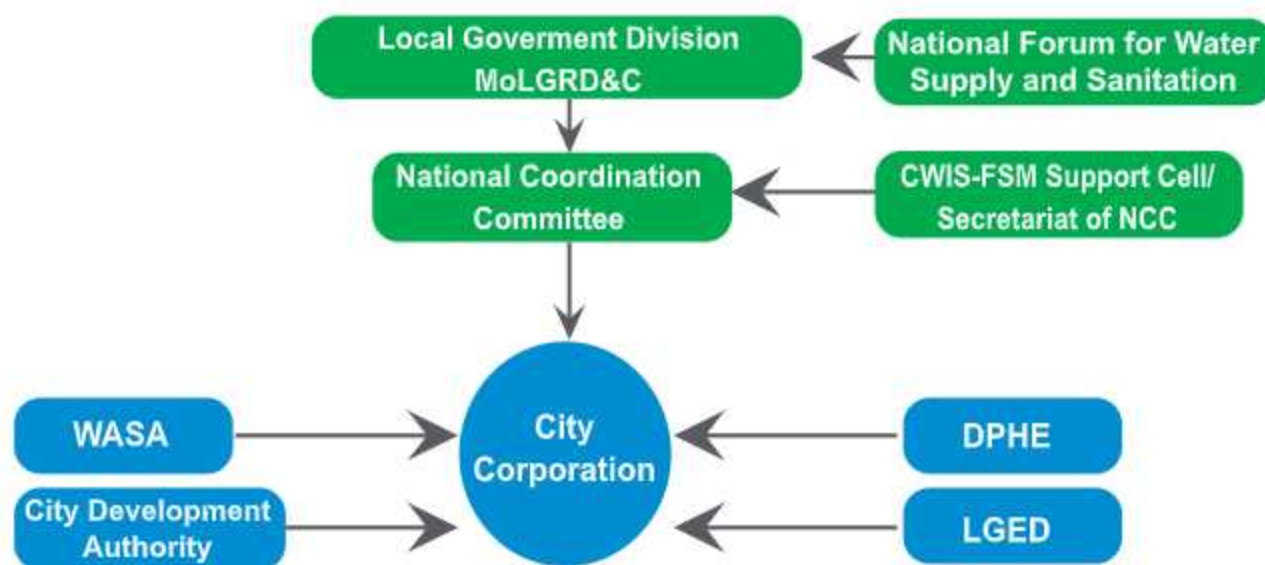


Figure 2: Operational Mode of different committees and agencies for implementation of IRF for FSM at City Corporation

A National Coordination Committee will be formed with the responsibility to coordinate the implementation of the NAP for FSM, support the City Corporations to implement the entire FSM system, capacity building, awareness raising and regular monitoring. Female participation at all levels should be encouraged and ensured.

The CWIS-FSM Support Cell will be responsible for supporting the National Coordination Committee and implementation and monitoring of FSM at the City Corporation level. Maintaining liaison with different relevant Ministries, exploring financial support from Government as well as its development partners and IFIs, supporting FSM Coordination Committee to arrange national and local level programs are also within the purview of CWIS-FSM Support Cell. It will also provide technical support to FSM implementers (City Corporations).

The Coordination Committee will also act, with support from LGD, to establish linkages among City Corporation, City Development Authority and WASAs, and elaborate the role of each institution in implementation of citywide inclusive safely managed sanitation service at City Corporation level. The LGD will take steps to establish an organogram, with a clear indication of human resources, for waste management unit at City Corporation level. Annexure-I presents a tentative organizational set up for waste management at City Corporation.

During the implementation of city-wide FSM in City Corporations, Local Government Division office the Ministry of Local Government, Rural Development and Co-operatives will lead the process with support from the following Ministries:

1. Ministry of Local Government, Rural Development and Cooperatives (MoLGRD&C): Lead Ministry
2. Ministry of Environment, Forest and Climate Change
3. Ministry of Health and Family Welfare
4. Ministry of Agriculture
5. Ministry of Fisheries and Livestock
6. Ministry of Housing and Public Works
7. Ministry of Water Resources
8. Ministry of Education
9. Ministry of Information and Broadcasting
10. Ministry of Industries
11. Ministry of Shipping
12. Ministry of Railways
13. Ministry of Energy and Mineral Resources
14. Ministry of Land
15. Ministry of Home Affairs
16. Ministry of Law, Justice and Parliamentary Affairs
17. Ministry of Women and Child Affairs
18. Ministry of Labour & Employment
19. Finance Division, Ministry of Finance
20. Ministry of Primary and Mass Education
21. Ministry of Road Transport and Bridges
22. Ministry of Religious Affairs

At the national level, representatives from following institutions would participate in capacity building to provide support to fill the knowledge gaps, technical assistance, training, quality assurance of process and products (e.g., compost, biogas) in the FSM service chain:

- Relevant ministries and line agencies
- ITN-BUET, relevant universities, research organizations
- DoE, DAE, BARI, BRRI, BARC, SRDI, IEDCR, ICDDR, SREDA
- DPHE, LGED, WASAs (as appropriate)
- City Development Authorities (as appropriate)
- International research/ training organizations
- Development partners & banks
- I/NGOs
- Private Sector
- National and International Networks

In addition, representatives from the following institutions would participate in awareness building to support awareness campaign, promote private sector participation, demonstration of FSM business models, performance monitoring, technical assistance, R&D support, and funding:

- Relevant Ministries and line agencies
- Development partners & banks
- I/NGOs
- Civil Society Organizations, CBOs
- Research organizations/universities
- Print, electronic, and social media
- Private sector
- National level knowledge and advocacy platforms

The specific roles of different ministries, departments and agencies will be identified and coordinated by NCC, CWIS-FSM Support Cell and City Corporations.

## 2.2 Containment

As per the national standards/guidelines for containment (e.g., septic tanks, pit latrines), the City Corporation and/or City Development Authorities (e.g., CDA, RDA, KDA) will check and approve location, layout and design for all new/existing constructions with provision of renovation, if needed, and will put in place sanctions/punishments for unsafe containments. In case of existing facilities, the City Corporation (in coordination with City Development Authority, where present) will serve notice to the owners of houses/premises with inadequate sanitation facility for removing inappropriate sanitation facilities and constructing appropriate sanitation facilities. City Corporation will take actions to build capacity of masons, contractors, and others for ensuring design and construction of appropriate containment. City Corporations may engage experts for this purpose.

## 2.3 Collection and transport

The City Corporation, with support from MoLGRD&C, development partners and banks, I/NGOs, private sector, and/or its own revenue budget or any other funding source will purchase and maintain mechanical emptying and transportation equipment to provide city-wide emptying and transportation service. The City Corporation will carry out and/or oversee the collection (emptying) and transportation, making sure that these operations are carried out following appropriate occupational health and safety procedures without adversely affecting health and safety of emptiers, the public and the environment.

The City Corporation will create a pool of mechanical emptiers comprising members of traditional pit emptier groups or any other interested individuals/groups (e.g., SME) by building their capacity (knowledge, skills) for improved service delivery. The City Corporation will establish sanctions/punishment mechanism for illegal disposal of collected fecal sludge (e.g., in open space, water bodies, storm sewers/drains). The City Corporation will initiate the process for providing license to private emptying service providers, individual/company/association against fees. The City Corporation will make sure that the manual emptier (traditional pit emptier/cleaner) communities are integrated into the modern FSM services through proper training and support, without adversely affecting their income by generating diversified livelihood options.

The City Corporation will make sure that the collected fecal sludge is transported to the designated site(s) for treatment and disposal, and that the collected fecal sludge is never disposed in open space or water bodies or storm drains or sewers. The City Corporation will introduce contextualized or localized collection, transportation, and disposal mechanism for inaccessible and

isolated areas (like river embankment, slope, narrow streets, lanes) where low income/poor people/slum dwellers live. Arrangements may be made whereby a City Corporation may extend its emptying and transportation services to nearby Paurashavas, Upazila or Union Parishad(s) at mutually agreed fees. The CWIS-FSM Support Cell, with approval from the National Coordination Committee, can facilitate such arrangements.

In order to ensure proper and timely emptying of onsite sanitation facilities, the City Corporations, as an effort to introduce the scheduled emptying among others, will gradually develop a database of all sanitation facilities within areas of its jurisdiction, along with probable emptying frequency of these facilities. City Corporations may seek support from NCC/CWIS-FSM Support Cell in this regard. At the same time, the City Corporation shall keep records of households/institutions availing/practicing safe emptying and disposal of fecal sludge. The City Corporations may for public-private partnership (PPP) for collection and transportation of the fecal sludge.

## **2.4 Treatment Facility**

In City Corporations, where land for construction of Fecal Sludge Treatment Plant (FSTP) is available, the authority will construct FSTP (considering resilience to climate change) with support from MoLGRD&C, DPHE, LGED, development partners, private sector, IFIs and I/NGOs. The City Corporations may seek assistance from relevant government agencies such as DoE, IEDCR, or any competent/accredited institutions in fulfilling compliance with the existing rules and regulations with regard to installation and operation of fecal sludge treatment facilities. The City Corporations without land available for FSTP will procure land for treatment plant with highest priority. The City Corporations may take support (financial and technical) from the MoLGRD&C and/or development partners for this purpose or could allocate fund from revenue budget. City Corporations may keep the provision of mobile or fixed transfer station based on local context particularly for those cities requiring long travel to reach FSTP for disposal of collected sludge. For design and construction of FSTP, City Corporation should consider extension/modular extension of the capacity of FSTP considering population growth and future extension of city. A City Corporation without an FSTP at present, may be allowed to use the nearby FSTP (if available) by paying fees. The fees may be fixed based on mutual understanding. A City Corporation with an operational FSTP may extend this support to the nearby Paurashava(s), Upazila and Union Parishad(s), if they receive request from them. Until treatment facilities for fecal sludge are built, City Corporations will ensure that the collected fecal sludge is disposed in a land/area designated by the City Corporation following safe disposal or burial.

The LGD, MoLGRD&C will inform the City Corporations on the role of DoE and other relevant institutions and build capacity of the officials to meet the compliance requirements to establish, operate, and maintain the FSTPs. The City Corporation can opt for public-private partnership for FSTP construction and its operation.

## **2.5 Disposal/End-use**

Where treatment facilities (FSTPs) are in operation, the City Corporation will ensure the safe disposal of liquid effluent and solids/sludge, and end-use of treated product. Until treatment facilities for fecal sludge are built, City Corporations will ensure that the collected fecal sludge is safely disposed in a land/area designated by the City Corporation following safe disposal or burial. Testing of treated solid sludge and effluent for pathogen and nutrient quality is important for ensuring safe end use and disposal. The City Corporation may seek support from appropriate institutions in this regard.



They will work with the Ministry of Agriculture, Ministry of Environment, Ministry of Forest and Climate Change, Ministry of Power, Energy and Mineral Resources to ensure safe use of treated end products (compost, soil conditioner, etc.) in agriculture, landscaping and other purposes (e.g. biogas, briquette for cooking). The City Corporation may engage interested private sector for marketing/business with the treated end product. It may seek assistance of the Bangladesh Agriculture Research Council, Soil Research and Development Institute (SRDI) and Department of Agricultural Extension under the Ministry of Agriculture and any other appropriate institutions with regard to simplifying the procedure for securing license for using/ marketing of compost/ organic fertilizer produced (if any) at fecal sludge treatment facilities, with support from NCC. It may also explore other safe uses of treated sludge and seek assistance from relevant authorities.

The City Corporation might support the private operator to secure license for public-private partnership model of FSM services.

## **2.6 Capacity Building**

### **2.6.1 National Level**

At the national level, as part of building capacity of sector professionals, following actions should be taken:

- I. Develop a national standard/guideline for implementation of FSM at field level which will be led by the FSM Coordination Committee. These standards/guidelines will cover full FSM service chain and refer to different policies, acts (e.g., ECR 1997) and codes (e.g., Bangladesh National Building Code) that can be used as guidance for proper design and construction of sanitation facilities in buildings (both in new constructions and existing buildings), emptying, transportation and disposal of sewage/wastewater/garbage, construction, operation and maintenance of fecal sludge treatment facilities, quality control/standardization of treated products/by-products, and protocol for securing license for emptying and transportation, using/marketing of compost/organic fertilizers or other treatment products.
- II. Develop training modules on FSM implementation considering each aspect of FSM service chain and the national standards/guidelines. To develop the training modules, relevant national/international research/training organizations/institutions/universities, development partners, I/NGOs and the private sector may collaborate and share information.
- III. Arrange training programs for all City Corporation Councillors, officials and staffs, and local level experts/representatives from different stakeholder organizations including WASA, City Development Authority, etc. These training programs could be organized by specialized training institutions/experts.
- IV. The MoLGRD&C will initiate setting up Unit/Division for FSM in the City Corporation organogram, for effective delivery and monitoring of FSM services. Some of the City Corporations have already developed organogram for waste management including sanitation section, which could be considered by other City Corporations. Annexure-I presents a tentative organizational set up for waste management at City Corporation. For the interim period, City Corporations will use its existing relevant divisions/departments (with appropriate rearrangement) for implementation of sanitation/FSM services under the leadership of Mayor.

- V. The MoLGRD&C will devise a plan (if required, rules/regulations/by-laws can be adopted) to establish effective linkages between City Development Authorities, WASAs (where appropriate), DPHE, LGED and City Corporation so that major stakeholders could understand their roles and scope of works in order to deliver city-wide safely managed sanitation services effectively.
- VI. LGD will support City Corporations in establishing linkages with the Department of Environment (DoE), IEDCR or any other competent national/International Institution In fulfilling compliance with the existing rules and regulations with regard to installation and operation of fecal sludge treatment facilities at City Corporation level.
- VII. LGD will support development and capacity building of FSM labs for effluent and sludge testing with support from DPHE and DoE.
- VIII. LGD will support the City Corporations to strengthen relationship with DAE, BARC, SRDI, SREDA, DoE and other relevant authorities and institutions for testing and ensuring the quality of treated products for end use and to simplify the procedure for securing license for using/marketing of compost/organic fertilizer and other products produced at fecal sludge treatment facilities. LGD would work with DAE for provisioning of subsidy for organic fertilizer from treated fecal sludge.
- IX. LGD will provide necessary support to relevant research organizations (e.g., ITN-BUET, technical and relevant universities) to identify the research needs and conduct research on different technological options for FSM.
- X. Conduct "Research on Behavior Change Communication and Demand Creation for Fecal Sludge Management Service" in selected City Corporations with support from research organizations. The research will be supported by GoB, I/NGOs and development partners, and will be supervised by FSM Coordination Committee. Existing good example on behavior change communication in this regard (if any) could be reviewed and suggested for scaling (if found appropriate).
- XI. Conduct "Research on Effective Marketing Strategy for Promotion and Use of end-products from FSM in City Corporations" in selected City Corporations with support from research organizations. The research will be supported by GoB, I/NGOs and development partners, and will be supervised by FSM Coordination Committee.
- XII. Conduct "Study on Service Delivery Model/Tariff Setting for Mechanical Emptying Service at City Corporation Level" to support different City Corporations to set pro-poor tariff structure for emptying services. The research will be supported by GoB, I/NGOs and development partners, and will be supervised by FSM Coordination Committee.
- XIII. Conduct "Research on Development of Business Model for Delivering FSM Services in City Corporations". The research will be supported by GoB, I/NGOs and development partners, and will be supervised by FSM Coordination Committee.
- XIV. Conduct "Research on Innovative Technologies in City Corporations". The research will be supported by GoB, I/NGOs and development partners, and will be supervised by FSM Coordination Committee.

- XV. Develop, approve and incorporate appropriate curricula for students at different levels on FSM practice, its functionalities and implementation, design of relevant technologies, its operation and maintenance, and health and safety. Technical and relevant universities/ institutions would lead the activity.
- XVI. Incorporate FSM related behavior change items along with regular hygiene behavior practice change topics at educational and religious institutes.
- XVII. Offer fellowship/scholarship at postgraduate level at universities/academic and research institutes to conduct advance research on FSM and relevant issues.
- XVIII. Adopt gender transformative approach to encourage the participation of female, disadvantaged groups in planning, design, implementation and monitoring of FSM policy dialogues and investment programs as well as service and value chain.
- XIX. Document best practices and disseminate among policy makers and practitioners with support from City Development Authorities, PSB, DPHE, LGED, relevant government agencies, ITN-BUET, FSM Network and other stakeholders.

## 2.6.2 City Corporation Level

At City Corporations, capacity building training programs for officials of City Corporation, WASAs, City Development Authorities (where present), mechanical emptying and transport service providers, treatment plant operators, end-use producers would be conducted. The City Corporation will follow/enforce bylaws, appropriate health, and safety guidelines for emptying and transportation service. The City Corporations will set a tariff structure for emptying and transportation service for consumers following the recommendations of the national level study. In addition, the City Corporation will develop an “inclusive business model” for FSM service in the City Corporation including LIC/slums following the recommendations of the national level study. For effective delivery and monitoring of FSM services, City Corporation should initiate the process for setting up Unit/Division for FSM in the City Corporation organogram with the support from LGD. For the interim period, City Corporations will use its existing relevant divisions/departments (with appropriate rearrangement) for implementation of sanitation/FSM services under the leadership of Mayor.

## 2.7 Awareness Building

Local/national/international NGOs, Community Based Organizations (CBOs), Media (Print, electronic and social), Civil Society Organization (CSO), private sector with support from the Government Ministries and agencies (DPHE, LGED, NILG), research organizations and development partners, can play key role in raising public awareness on FSM and facilitate partnership among key stakeholders including the private sector. Following activities at the national level can be undertaken for awareness raising and public sensitization on FSM:

- Prioritize and focus on FSM in public health, environment and WASH related national events.
- Create awareness on FSM along with hygiene education at educational, religious institutes and among CBOs and housing communities/societies.

- Develop and disseminate audio-visuals for awareness raising on FSM and its importance. The MoLGRD&C will lead the process with support from Ministry of Information and Broadcasting and Communication Technology, and print and electronic media. The social media platform will also be utilized for this purpose.
- Develop and disseminate knowledge, BCC and IEC materials on best practices on FSM implementation in Bangladesh for policy makers, practitioners, service providers and relevant stakeholders.
- The City Corporation will carry out awareness raising programs following the recommendation of the study conducted at national level to change behavior of consumers and increase demand of FSM service and its end-products.

## **2.8 Technical Assistance**

Where FSM is in operation, the City Corporation will establish linkages between national/ local level sanitation experts and the FSM service providers to address the technical issues related to FSM. LGD, through City Development Authorities, WASAs (where appropriate) and supporting agencies like DPHE, LGED and other organizations (e.g., I/NGOs, development partners & banks), may facilitate City Corporations for building this sort of linkages. LGD will provide direct or project-based technical support in developing standards/guidelines and planning of FSM service, and implementation of infrastructures for city-wide safely managed sanitation services through its line organizations (DPHE, LGED, WASA) and other facilitating organizations.

At national level, standards/guideline for FSM implementation at field level will be developed and research works on technological and business options could be conducted. The City Corporations will adapt and follow standards/guidelines based on the recommendations of these studies.

## **2.9 Funding support**

At the national level, the FSM Coordination Committee may secure funding through CWIS-FSM Support Cell, Ministries and development partners/banks where the City Corporations will provide necessary information and other support. The City Corporations will also introduce allocation of fund in their yearly budget for implementation of FSM.

### 3.

## NATIONAL LEVEL ACTION

The national level action plan includes the responsibilities that lie with institutions operating at national level with special focus on facilitating the City Corporations to undertake all required actions at field level to ensure that FSM infrastructure and service delivery mechanisms are in place within the time frame, according to the IRF-FSM. Table 2 below illustrates the proposed actions at national level for implementation of IRF-FSM in City Corporations. Tentative budget to implement National level activities is mentioned in Table 4.

Table 2: National level action plan for implementation of IRF-FSM

Sl. No.	Activity	Implementing organization(s)	Timeline																	
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030								
1.	Form the national level FSM Coordination Committee.	Lead: LGD, MoLGRD&C  Support: relevant stakeholders																		
2.	The FSM Coordination Committee will coordinate the responsibilities for proper implementation of the NAP engaging different entities who will be responsible for: (a) supporting the City Corporations to implement the entire FSM system, (b) capacity building, and (c) awareness raising  This committee can opt to have Difference Sub committes to focus on different responsibilities.	Lead: LGD, MoLGRD&C  Support: relevant ministries and stakeholders																		
3.	Quarterly meeting of FSM Coordination Committee.	Lead: LGD, MoLGRD&C  Support: DPHE, LGED, City Corporation relevant stakeholders																		

Sl. No.	Activity	Implementing organization(s)	Timeline																		
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030									
4.	Operationalization of the "CWIS-FSM Support Cell" and regular meeting for overall planning, development, implementation, practice, and monitoring and evaluation of Fecal Sludge Management in City Corporations.	Lead: DPHE  Support: LGD, LGED, and relevant stakeholders																			
5.	Establish an organogram, with a clear indication of human resource, for sanitation unit including FSM/waste management unit at Corporation level.	Lead: LGD, MoLGRD&C  Support: City Corporations																			
6.	Regularly coordinate, update monitoring mechanism, and conduct periodic evaluation of FSM implementation at City Corporation level.	Lead: National level Monitoring cell of CWIS-FSM Support cell  Support: City Corporation, WASAs																			
7.	Develop and approve a plan (if required, rules/regulations/by-laws can be adopted) to establish effective linkages between City Development Authorities, WASAs (as appropriate), DPHE, LGED and the City Corporation with clear delineation of the roles and scope of works of City Corporation and WASA in order to deliver city-wide safely managed sanitation services, where City Corporation will be responsible for implementation of FSM services.	Lead: LGD, MoLGRD&C  Support: City Corporations, City Development Authorities, WASAs, DPHE, LGED, LGIs, FSM Network																			

Sl. No.	Activity	Implementing organization(s)	Timeline																	
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030								
8.	<p>Resource mobilization planning for capacity building, research, and training initiatives on FSM:</p> <p>The LGD of the MoLGRD&amp;C shall coordinate and develop guidelines for capacity building, research and training initiatives on FSM, and facilitate sharing and dissemination of knowledge and information among City Corporations and other stakeholders.</p>	<p>Lead: LGD, MoLGRD&amp;C</p> <p>Support: City Corporations, City Development authorities, DPHE, LGED ITN-BUET</p>																		
9.	<p>Develop national standards/guideline for FSM implementation:</p> <p>A national guideline for implementation of FSM at field level will be developed by the FSM Coordination Committee. MoLGRD&amp;C and MoEFCC, in consultation with all stakeholders will initiate development of the national standards/guideline for FSM implementation.</p>	<p>Lead: LGD, MoLGRD&amp;C/ MoEFCC</p> <p>Support: City Corporations, City Development Authorities, DPHE, DoE, ITN-BUET, FSM Network and relevant stakeholders</p>																		
10.	<p>Coordinate, develop and disseminate capacity building materials on FSM implementation.</p>	<p>Lead: ITN-BUET</p> <p>Support: LGD, CCs, DPHE, LGIs, and other stakeholders</p>																		
11.	<p>Build capacity of implementing agencies (Officials of City Corporation, City Development Authorities, WASAs, DPHE, LGED, pit-emptiers, masons, FSTP operators, FSM service providers, etc.) through training courses and other capacity building initiatives.</p>	<p>Lead: LGD, MoLGRD&amp;C</p> <p>Support: CCs, City Development Authorities, Dept. of Labour, ITN-BUET, DPHE, and other stakeholders</p>																		

Sl. No.	Activity	Implementing organization(s)	Timeline																			
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030										
12.	Strengthening relationship between City Corporations and DoE (any other relevant institution) for fulfilling compliance with existing rules and regulations with regard to installation and operation of fecal sludge treatment facilities.	Lead: LGD, MoLGRD&C  Support: DoE, CCS																				
13.	LGD through NCC will support capacity building of FSM labs for effluent and sludge testing with support from DPHE and DoE.	Lead: LGD, MoLGRD&C  Support: DPHE, DoE, Academic/research institutions																				
14.	Strengthening relationship with BARC, SRDI, DAE, SREDA regarding license of end-product use: LGD will support the City Corporation for simplifying the procedure for securing license for using/marketing of compost/organic fertilizer and other products (e.g. biogas, bio char) produced at fecal sludge treatment facilities.	Lead: LGD, MoLGRD&C Support: CCS, DAE, BARC, SRDI, SREDA and other relevant institutions																				
15.	Working with Ministry of Agriculture for provisioning of subsidy for organic fertilizer.	Lead: LGD, MoLGRD&C Support: Department of Finance																				
16.	Identifying research needs and conducting research works on different technological options of FSM.	Lead: LGD, MoLGRD&C Support: ITN-BUET/ CWIS-FSM Support cell/ Academia and research organization																				
17.	Strengthening relationship with NBR and BRTA for waiver of all kind of taxes and duties for importing desludging/dewatering vehicles and maintenance equipment.	LGD, MoLGRD&C																				



Sl. No.	Activity	Implementing organization(s)	Timeline																		
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030									
18.	Conducting “Research on Behavior Change Communication and Demand Creation for Fecal Sludge Management Service” in selected City Corporations with support from research organizations.	Lead: Academia and research organization/ ITN-BUET  Support: I/NGOs, Development partner																			
19.	Conducting “Research on Effective Marketing Strategy for Promotion and Use of End-products from FSM in City Corporations” in selected City Corporations with support from research organizations.	Lead: Academia and research organization/ ITN-BUET  Support: I/NGOs, Development partner																			
20.	Conducting “Study on Service Delivery Model/ Tariff Setting for Mechanical Emptying Service at City Corporation Level” to support different City Corporations to set their pro-poor tariff structure for emptying services.	Lead: Academia and research organization/ ITN-BUET Support: I/NGOs, Development partner																			
21.	Conducting “Research on Development of innovative technology and Business Model for Delivery of FSM services in City Corporations”.	Lead: Academia and research organization/ ITN-BUET Support: I/NGOs, Development partner																			

Sl. No.	Activity	Implementing organization(s)	Timeline																		
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030									
22.	Develop, approve, and incorporate curricula on FSM for students at different levels: Provide support to academic institutions for curricula development on FSM practice, its functionalities and implementation, design of relevant technologies, its operational maintenance, and health and safety.	Lead: Ministry of Education, Ministry of Primary and Mass Education, Concerned University																			
23.	Offer fellowship/scholarship in postgraduate level at universities/academic and research institutes to conduct advance research on FSM and relevant issues.	Lead: MoE MoPME, Technical and other relevant universities																			
24.	Observe different national events with focus on FSM.	Lead: LGD, MoLGRD&C and other relevant ministries																			
25.	National level awareness raising by utilizing audio-visuals on FSM and its importance.	Lead: LGD, MoLGRD&C, Ministry of Information and Broadcasting, print and electronic media																			

Sl. No.	Activity	Implementing organization(s)	Timeline																		
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030									
26.	Incorporate FSM related behavior change items along regular hygiene behavior practice change topics at educational and religious institutes.	Lead: Ministry of Education, Ministry of Primary and Mass Education Support: MoLGRD&C and relevant agencies																			
27.	Adopt gender transformative approach to encourage the participation and encouragement of female, disadvantaged group in planning, design, implementation and monitoring of FSM policy dialogues and investment programs as well as service and value chain.	Lead: LGD, MoLGRD&C  Support: Ministry of Women and Child Affairs																			
28.	Document best practices and disseminate among policy makers and practitioners.	CCs, City Development Authorities, LGD (PSB), DPHE, LGED, other relevant government agencies, ITN-BUET, FSM Network and other stakeholders																			

# 4.

# CITY CORPORATION LEVEL ACTION

The City Corporation level action plan includes the responsibilities that lie with City Corporations to ensure that FSM infrastructure and service delivery mechanisms are in place within the time frame, according to the IRF-FSM. Table 3 illustrates the proposed City Corporation level actions for implementation of IRF-FSM in City Corporations. Tentative budget for a single City Corporation to implement the activities (as a template) is mentioned in Table 5.

**Table 3: City Corporation level action plan**

Sl. No.	Activity	Timeline				
		2021	2022	2023	2024-27	2028-30
1.	Capacity building/refresher for City Corporation, City Development Authorities and WASA officials on FSM implementation with support from DPHE, LGED, ITN-BUET, Local University, Training Institute, I/NGOs, development partners/banks, etc.					
2.	Include FSM in City Corporation masterplan/city sanitation plan/City Wide Inclusive Sanitation plan: The City Corporations will take steps in association with City Development Authorities and WASAs (where appropriate) to include the provisions of the FSM infrastructure and services in relevant city “plan” taking into account current situation, social and gender perspective, community engagement in accordance with the provision of Schedule 3 of City Corporation Act 2009.					
3.	Form a City Level Coordination Committee under the leadership of Mayor and representatives from WASA (where exist), City Development Authority (where exist), District Administration, Department of Environment, Education, Information, Health, Religion, DPHE, LGED, PWD and other relevant departments/stakeholders, to ensure coordinated sanitation services in the city.  Form/reform “Standing Committee” on FSM: The City Corporation shall form a Standing Committee on “Fecal Sludge Management” (if it has not been formed already) in accordance to Sub-clause (2) of Clause 50 of the Local Government (City Corporation) Act 2009. This Standing Committee or relevant committee shall oversee the activities related to planning and implementation of FSM services. Depending on need and availability, the committee would co-opt a sanitation expert in the committee (in accordance with Sub-clause (9) of Clause 50 of the Local Government (City Corporation) Act 2009). The committee shall be responsible for establishing linkages with national and local level sanitation experts to address technical issues during operational maintenance.					

Sl. No.	Activity	Timeline				
		2021	2022	2023	2024-27	2028-30
4.	The City Corporation Standing Committee shall propose an “FSM Division/Unit” through City Corporation for approval of LGD for implementation, management, progress updates and regular monitoring of FSM service in the City Corporation. This will include monitoring of actions under sub-section 4.2.2 (proper design and construction of sanitation facilities and disposal of sewage/wastewater/garbage), sub-section 4.2.3 (fecal sludge collection and transportation), and sub-section 4.2.4 (fecal sludge treatment, disposal and end-use) of the Institutional and Regulatory Framework (2017) for City Corporations.					
5.	City Corporation will monitor the FSM implementation with a dashboard system connected at National Monitoring Cell for regular coordination, system update and evaluation.					
6.	Draft, approve and implement bylaws to ensure implementation of FSM services in the City Corporations.					
7.	Establish effective linkages among City Development Authority, WASA (where appropriate) and City Corporation as per recommendations from the national level plan (or laws/regulations/by-laws) in order to deliver city-wide safely managed sanitation service.					
8.	Develop and maintain database of all sanitation facilities within areas of City Corporation jurisdiction, along with probable emptying frequency of these facilities.					
9.	Approve and enforce sanctions/punishments for inappropriate containments and illegal disposal of fecal waste: As per the national standards/guidelines for containment (e.g., septic tanks, pit latrines), the City Corporation will check location, layout and design for all new/existing constructions, and will put in place sanctions/punishments for inappropriate containments). City Corporations should also take actions to build capacity of masons, contractors and others for design and construction of appropriate containment. City Corporations may engage experts for this purpose.					
10.	Introduce mechanical emptying and transportation of fecal sludge, establish FSTP (including land purchase, construction, where required) from City Corporation’s own fund/revenue budget and/or other sources of fund as required for city-wide coverage as per rules and regulations of the Ministry.					
11.	Secure funding from different sources for installation, scaling up and O&M of emptying and transportation equipment, land purchase, FSTP, etc.					

Sl. No.	Activity	Timeline				
		2021	2022	2023	2024-27	2028-30
12.	Procure emptying and transportation equipment, land, and construction for FSTP.					
13.	Provision of construction of small-bore network system or Decentralized Wastewater Treatment systems to support the low-income community, housing colony/complex.					
14.	Create a pool of mechanical emptiers comprising members of traditional pit emptier groups through capacity building programs with support from I/NGOs, development partners and other stakeholders.					
15.	Organize training programs/refresher trainings on technological and social issues, gender and social inclusion, community engagement, occupational health and safety (OHS), etc. The City Corporation will conduct training programs for mechanical emptying service providers, treatment plant operators, end-use product makers, and will follow/enforce appropriate health and safety guidelines for emptying service.					
16.	Set a tariff structure for emptying and transportation service for consumers following the recommendations in the national level study.					
17.	Develop/adopt a “business model” for FSM service in the City Corporation following the recommendations in the national level study.					
18.	The City Corporation will introduce and continue allocation of fund in their yearly budget for implementation of FSM.					
19.	Seek assistance of DAE, BARC, SRDI, SREDA and other relevant institutions for securing license for end-use product (Where treatment facilities are in operation, City Corporation shall work with the Ministry of Agriculture to ensure safe use of treatment end products in agriculture, landscaping and other purposes. The City Corporation could secure/support private company for simplifying the procedure for securing license for using/ marketing of compost/ organic fertilizer produced (if any) at fecal sludge treatment facilities.)					
20.	Utilize the end-product from treated sludge in different aspects (public-private partnership approach could be followed).					

Sl. No.	Activity	Timeline				
		2021	2022	2023	2024-27	2028-30
21.	Adopt the marketing strategy recommended in the study conducted at national level. City Corporation will take actions to execute the strategy to increase demand of end-use product.					
22.	Carry out awareness raising programs following the recommendation in the study conducted at national level to change behavior of consumers and increase demand of FSM service.					
23.	Monitor O&M of the FSTP and seek support from the Ministry and other stakeholders for modification or upgradation of the treatment process/technology, if required.					
24.	Operation of city-wide safely managed sanitation service in collaboration with other relevant agencies like City Development Authority and WASA, where appropriate.					

## 5.

# TENTATIVE BUDGET

Both national and City Corporation level action plans need substantial support from Government and development partners to achieve the target of implementing IRF for FSM by 2030, when all City Corporations will implement city-wide FSM service. The financial support needed to implement the IRF will be different for national level and City Corporations. The requirements will depend on course of action with time and may have to be adjusted keeping track of overall progress of the proposed actions. Here a tentative budget is proposed based on some rough assumptions that should be appraised and revised by a technical team before implementation of the proposed actions.

### 5.1 Tentative budget for national level action plan

For national level action plan, this tentative budget shown in Table 4 has been estimated for the first three years from 2021 to 2023. National level FSM coordination committee (NCC) can review and revise this budget as needed to make it justified and realistic and will take action for any change in activities that would influence this budget for the next years. In addition, NCC will also make necessary adjustment with the National Action Plans of Paurashava and Rural Areas to avoid duplication.

**Table 4: Tentative budget for national level actions for the milestone period 2021-2023**

Sl. No.	Activity	Unit	Unite rate (BDT)	Quantity	Total Cost (BDT)
<b>A</b>	<b>Meetings and capacity building</b>				
1	Quarterly meeting of FSM Coordination Committee	Quarterly	100,000	12	12,00,000
2	Operationalization of the "CWIS-FSM Support Cell" and regular meeting	Bi-monthly	100,000	18	18,00,000
3	Upgradation of CWIS-FSM Support Cell logistics	Yearly	3,000,000	3	9,000,000
4	Facilitate operational monitoring of FSM services and capacity	L.S.	15,000,000	1	15,000,000
5	Develop national standards/guideline for FSM	L.S.	30,000,000	1	30,000,000
6	Develop and disseminate capacity building materials on FSM implementation	Yearly	10,000,000	3	30,000,000
7	Build capacity of implementing agencies (DPHE, LGED, City Corporation, City Development Authorities, WASA, pit-emptiers/FSM service providers, etc.) through training courses on FSM, sanitation and solid waste management	Per City Corporation	3,000,000	10	30,000,000
	<b>Sub-Total (Meetings and capacity building)</b>				<b>117,000,000</b>



Sl. No.	Activity	Unit	Unit rate (BDT)	Quantity	Total Cost (BDT)
<b>B</b>	<b>Research and curricula development</b>				
8	Research on "Behavior Change Communication and Demand Creation for Fecal Sludge Management Service" in selected City Corporations with support from research organizations	L.S.	50,000,000	1	50,000,000
9	R&D on containment upgradation and standardization	L.S.	30,000,000	1	30,000,000
10	Research on "Effective Marketing Strategy for Promotion of Use of End-products from FSM in City Corporations" in selected City Corporations with support from research organizations	L.S.	15,000,000	1	15,000,000
11	Study on "Service delivery model/ Tariff Setting for Mechanical Emptying Service at City Corporation Level" to support different City Corporations to set their tariff for emptying services	L.S.	15,000,000	1	15,000,000
12	Research on "Development of Business Model for Delivery of FSM services in City Corporations"	L.S.	15,000,000	1	15,000,000
13	Research for "Innovative Technologies (containment, emptying & transportation and treatment) in City Corporations".	Yearly	20,000,000	3	60,000,000
14	Develop, approve and incorporate curricula on FSM for university students	L.S.	15,000,000	1	15,000,000
15	Post graduate research fellowship	L.S.	1,000,000	10	10,000,000
	<b>Sub-total (Research and curricula development)</b>				<b>210,000,000</b>
<b>C</b>	<b>Awareness raising, knowledge dissemination and learning sharing</b>				
16	Observe different national events with focus on FSM	Yearly	10,000,000	3	30,000,000
17	Host FSM Conference in Bangladesh	L.S.	100,000,000	1	100,000,000
18	National level awareness raising by developing and utilizing audio-visuals on FSM and its importance	Yearly	30,000,000	3	90,000,000
19	Develop and incorporate FSM related behavior change items along with regular hygiene behavior practice change topics at educational and religious institutes	Yearly	15,000,000	3	45,000,000
20	Document best practices and disseminate among policy makers and practitioners	Yearly	10,000,000	3	30,000,000
21	Exposure visits for national experts/ policy makers/ decision makers/implementers	Yearly	30,000,000	3	90,000,000
22	Exposure visits for national level implementers (LGIs, government agencies, CBO etc)	Yearly	30,000,000	3	90,000,000
	<b>Sub-total (Awareness raising, knowledge dissemination and learning sharing)</b>				<b>475,000,000</b>
	<b>Total (for first three years: 2021-2023)</b>				<b>802,000,000</b>

## 5.2 Tentative budget for City Corporation level action plan

For City Corporation level action plan, a budget has been estimated for the period from 2021 to 2030 to achieve city-wide operational FSM in the City Corporations. Table 5 presents tentative budget for City Corporation level action plan for Khulna City Corporation. However, this should be considered as a sample for estimation of budget at City Corporation level and all City Corporations should develop their own budget for implementation of FSM at City Corporation level following this model.

To get idea the cost for required infrastructure to implement FSM service by City Corporations, cost of desludging vehicles, equipment, land (where land is not available for construction of new FSTP or its upgradation/expansion) and construction of FSTP have been estimated based on a number of criteria.

The assumptions and estimated costs for Khulna City Corporation are provided in Table 5. Total population and area for Khulna City Corporation are 15,00,000, and 46 square kilometers respectively, with population density 32,609 per square kilometers.

Table 5: Tentative budget estimated for soft and hardware components for implementation of the City Corporation level action plan in Khulna City Corporation

Sl. No	Activity details	Unit	Quantity	Unit rate (BDT)	Total Cost (BDT)
<b>1</b>	<b>Emptying and transportation equipment (500 L, 1,000 L and 2,000 L capacity) for City Corporation</b>				
	Assumptions: (5 trucks of 500 L, 5 trucks of 1,000 L and 15 trucks of 2,000 L capacity)				
	500 L capacity	No.	5	3,000,000	15,000,000
	1,000 L capacity	No.	5	5,000,000	25,000,000
	2,000 L capacity	No.	15	8,000,000	120,000,000
	<i>Sub-total</i>				<b>160,000,000</b>
<b>2</b>	<b>Land for construction/upgradation/expansion of FSTP</b>				
	Assumptions: Required land size 1.5 acre				
	Land procurement	Acre	1.5	50,000,000	75,000,000
	<i>Sub-total</i>				<b>75,000,000</b>
<b>3</b>	<b>Construction of new FSTP</b>				
	Assumptions: BDT 5 crore per City Corporation for Construction/future expansion of FSTP for city-wide coverage				
	FSTP for City Corporation	No.	1	50,000,000	50,000,000
	<b>Construction of decentralized fecal waste treatment facilities for areas with limited or no accessibility of desludging trucks</b>				
	Assumptions: BDT 3 million per system				
	Decentralized systems for City Corporation	No.	10	3,000,000	30,000,000
	<i>Sub-total</i>				<b>80,000,000</b>
<b>4</b>	<b>Containment standardization, upgradation, monitoring and additional equipment</b>				
	Capacity building of masons for constructing/upgrading containment based on standard design, and City Corporation/KDA officials for monitoring the construction of containment	L.S.	1	200,000,000	200,000,000
	<i>Sub-total</i>				<b>200,000,000</b>
<b>5</b>	<b>Capacity building, awareness raising, communication, and other soft components</b>				
	Capacity building of FSM implementers	L.S.	1	30,000,000	30,000,000
	<i>Sub-total</i>				<b>30,000,000</b>
	<b>Total for Khulna City Corporation (at City Corporation level)</b>				<b>545,000,000</b>

It should be noted that the tentative budget for national and City Corporation level does not consider inflation rate, which needs to be taken into account during development of projects in future while implementation of the actions proposed in the NAP.

## Annexure I: Tentative Organizational Setup for Waste Management Division at City Corporation

The Waste Management Division of a City Corporation will manage and regulate all types of wastes in the whole city. The organogram of the Waste Management Division will be formulated depending on the population, area, human resource, and financial capacity of the concerned City Corporation. The Waste Management Division of the City Corporation will be led by Chief Waste Management Officer, who will report directly to the Chief Executive Officer of the City Corporation. The Waste Management Division will be responsible for the following:

- a. Solid waste management of the entire city, including collection, processing, treatment, and disposal
- b. Fecal waste management of the entire city, including collection/emptying, transportation, treatment, disposal and end-use.
- c. Management of medical waste from hospitals, clinics, diagnostic centers, etc.
- d. Management of transportation for all types of wastes and operation and maintenance.
- e. Waste water and drainage management.

The Waste Management Division will be consisting of five Sections. Each Section will be led by respective Head of the Section, who would be responsible for reporting to the Chief of the Waste Management Division.

### Waste Management Division



The City Corporation will manage the fecal sludge of the entire City by Fecal Sludge Management Section under the Waste Management Division. The structure of the FSM Section will be decided according to the HR structure of the City Corporation. The major responsibility of the FSM Section is given below:

- o Collection of fecal sludge of the entire City Corporation area which will cover, but not limited to, households, different public and private institutions, hospitals and health care centres, public places, public toilets, etc. and transportation of the emptied sludge to the Fecal Sludge Treatment Plant.
- o Operation and management of Fecal Sludge Treatment Plan.
- o OHS of the emptiers/cleaners.

The following human resource are suggested for the Fecal Sludge Management Section of a City Corporation:

- a. Sanitation Officer (SO)** – S/he will lead the section, supervise activities including operation and management of FSTP, monitor work progress, ensure OHS of the workers/emptiers. The SO will report to the Chief of the Waste Management Division.
- b. Assistant Sanitation Officer (ASO)** – The ASO(s) will support the SO with administrative and regulatory services, oversee the day to day activities of the section.
- c. Sanitation Inspector (SI)** – The SI will be responsible for the management of emptying and transportation labors. S/he will be the contact person from the section for desludging service.
- d. Office Assistant cum Computer Typist** – S/he will be responsible for documentation and regular administrative support to the section.
- e. Support service** – Office Attendant for cleaning and maintaining support, driver and helper for transport operation,
- f. Emptiers** – The emptiers will be responsible for the collection, transportation and proper disposal of the fecal waste of the city. The City Corporation will appoint required number of emptiers according to their service demand and budget availability. The Emptiers may or may not be employees of the City Corporation.
- g. FSTP staffs** – FSTP worker, Cleaner and Night guard

Number of officer/employees of the proposed FSM section may vary in different City Corporation depending on the service demand and financial capability of the concerned City Corporation.