



**INSTITUTIONAL AND  
REGULATORY FRAMEWORK  
for  
FAECAL SLUDGE  
MANAGEMENT (FSM)**

**RURAL AREAS**



**OCTOBER 2017**

# **Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM)**

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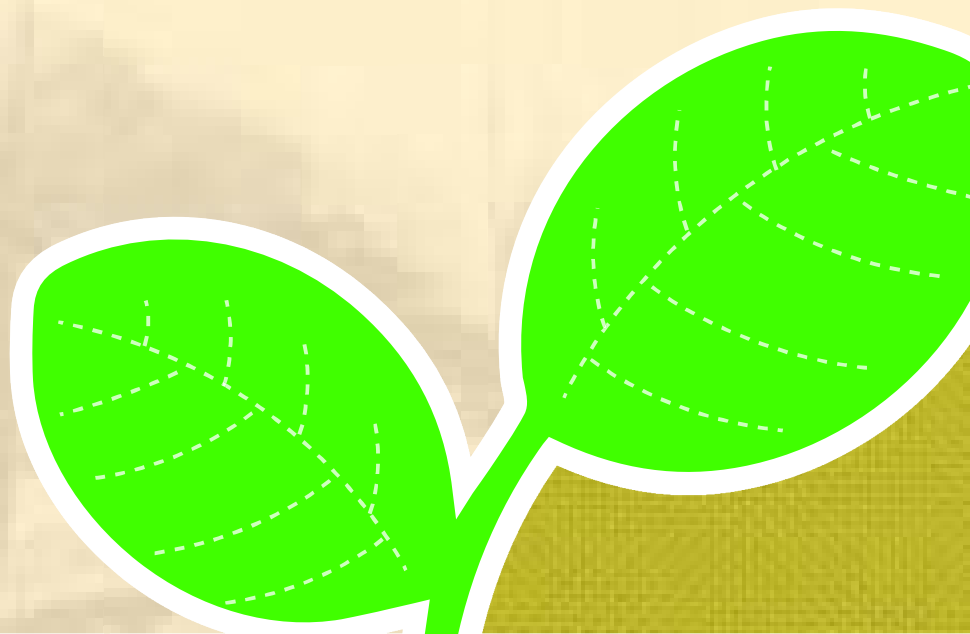
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**Secretary**  
**Local Government Division**  
**Ministry of Local Government, Rural Development and Co-operatives**  
**Government of the People's Republic of Bangladesh**

## Message

Bangladesh is truly a land of marvels. Despite our challenges as a developing country, we have made great progress on many social and economic fronts. We have been globally recognised for our success in improving health and education, reducing poverty, and building a vibrant economy. We have recently attained the status of a lower middle-income country, a testament to our nation's resourcefulness and our government. All this has been possible because of a strong combination of visionary leadership and grassroots participation in national development.


This is most evident in our national success on tackling the sanitation crisis. Whereas in 1990, at least 34% of the country's population were defecating in the open, this figure now stands at less than 1%. This remarkable turnaround was possible because of the joint efforts of government, development partners and our people.

I believe the time has come again for such a united effort. We have almost ended open defecation in our country, but we now face the possibility of losing all our gains from unsafe dumping of faecal waste into the environment. This Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM) represents a timely and very necessary step by the Local Government Division of the Ministry of Local Government, Rural Development and Co-operatives, to guide our Department of Public Health Engineering (DPHE), Water and Sewerage Authorities (WASAs), local government institutions and city authorities to ensure proper treatment and disposal of waste.

We have already taken steps to attain the Sustainable Development Goals (SDGs) for Goal 6 - ensuring water and sanitation for all. The government's Vision 2021 also promises universal access to sanitation. I believe the IRF-FSM will play a pivotal role in achieving these milestones, and establish Bangladesh as a pioneer and leader in the area of faecal sludge management. This regulatory framework will be of utmost benefit to the local government institutions.

I thank my colleagues of the Local Government Division (LGD), especially the Additional Secretary (Water Supply) for their proactive roles and continued support. I also thank my colleagues working with the Policy Support Unit (PSU) for their relentless efforts at managing the uphill task of IRF preparation and presenting it to the nation. Project Director, Policy Support Unit (PSU) has demonstrated his valuable contribution and dedication in IRF preparation and its dissemination.

Finally, I take the privilege of introducing the IRF to all stakeholders, hoping that all our endeavours will succeed in effective implementation of the Framework.

  
**Abdul Malek**  
Secretary



**Additional Secretary (WS)  
Local Government Division  
Ministry of Local Government, Rural Development and Co-operatives  
Government of the People's Republic of Bangladesh**

## FOREWORD

It gives me immense pleasure to know that the Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM) is being published by the Local Government Division (LGD) under the Ministry of Local Government, Rural Development and Co-operatives. Recent achievement of Bangladesh attaining almost open defecation-free status came in the context of coordinated drives by the Government of Bangladesh, local government institutes, development partners and communities. However, as the Sustainable Development Goal (SDG) 6.2 captures, we are no longer in a world where sanitation is a matter of providing access to toilets only. It is imperative that we go beyond.

Faecal Sludge Management (FSM) is often highlighted as an affordable, sustainable and viable technical solution for safe and proper management of excreta. In meeting the global sanitation challenge, particularly the SDG 6.2 targets, safely managed excreta will emerge as a key area of work for us.

This Institutional and Regulatory Framework covers on-site sanitation facilities and areas served by such facilities, as well as areas to be served by sewer networks and FSM services jointly. The framework has four distinct parts: Mega-city Dhaka, City Corporations, Paurashavas and Rural areas. In each part, the framework identifies the functional ways and means of implementing FSM services, and the related roles and responsibilities specified in this framework are aligned with existing acts and policies of the country, and therefore provides relevant authorities with clear guidance on how to address FSM as part of their ongoing work.

I would like to express my gratitude to the stakeholders of the sector, including the national and international NGOs, DPHE, WASAs, UNICEF and other development partners, who have rendered valuable inputs and support in the process of the regulatory framework for Faecal Sludge Management. I also thank my colleagues in the Local Government Division for making important contributions. I also extend my thanks to ITN-BUET for contributing their knowledge and expertise, and to UNICEF for their support in its publication.

Finally, I greatly appreciate the tremendous efforts of the Policy Support Unit (PSU) of LGD for their enthusiasm in finalising this Institutional and Regulatory Framework for Faecal Sludge Management. I am very optimistic that the IRF-FSM will drive our progress on FSM and play a dynamic role in achieving SDG 6.2.

**Nasreen Akhter**

## ACKNOWLEDGMENTS

The National Forum for Water Supply and Sanitation in its 16th Meeting took the decision to develop the Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM) in Bangladesh, under the leadership of ITN-BUET with necessary policy level support from the Policy Support Unit (PSU) (renamed as Policy Support Branch) of Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Co-operatives (MoLGRD&C). Subsequently, a Working Committee was formed by the LGD, MoLGRD&C comprising members of all relevant stakeholders to support development of the IRF-FSM. Since then, ITN-BUET has engaged with all the relevant actors and stakeholders in the country's sanitation sector to incorporate knowledge, expert opinions and to identify functional ways of providing FSM services to people.

The Institutional and Regulatory Framework has been developed with the central notion of ensuring safe sanitation service in our country, aligned with SDG Target 6.2. The IRF-FSM has been developed separately for city corporations, municipalities, rural areas, and the mega-city of Dhaka – laying out the institutional roles and responsibilities to implement FSM services in these different contexts. This endeavour would not have been completed without the initiative of the Policy Support Unit (PSU) of LGD. We are thankful to Mr. Md. Mohsin, Project Director and Md. Abdur Rauf, Assistant Project Director, Policy Support Unit, LGD for their heartfelt enthusiasm and support. ITN-BUET gratefully acknowledges the contribution and deep engagement of Dr. Md. Mujibur Rahman, Professor of Civil Engineering of Bangladesh University of Engineering and Technology (BUET) and Co-chair (Focal Person) of the Working Committee, in developing this framework. ITN-BUET also acknowledges the contribution of Wing Chief, WS Wing, Local Government Division who served as Chairperson of the Working Committee. We are also indebted to Mr Abdul Malek, Secretary of Local Government, Rural Development and Co-operatives, for his benevolent and keen interest on this subject matter, and his strategic guidance from the very beginning. A special thanks also goes to Ms Nasreen Akhter, Additional Secretary of LGD, for her kind support.

We are obliged to the representatives of development partners, academic and research institutions, 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 are also grateful to the mayors and chairmen from various cities and Paurashavas who joined in many meetings from remote areas of the country to share their experiences. We are also beholden to all who supported us to translate the framework into Bengali.

Finally, we would like to extend our wholehearted thanks to the sanitation workers who shared their practical knowledge and experiences with us, which have been invaluable in finalising this framework.

It is our sincere hope that this framework contributes to improving Bangladesh's sanitation scenario, and establishing our country as a leader in faecal sludge management in our region.



**Dr. Muhammad Ashraf Ali**

Professor of Civil Engineering, and  
Director, ITN-BUET

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## Abbreviations and Acronyms

AIT	Asian Institute of Technology
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BUET	Bangladesh University of Engineering and Technology
CBO	Community Based Organization
CTO	Collection and Transportation Operator
DAE	Department of Agriculture Extension
DoE	Department of Environment
DPHE	Department of Public Health Engineering
FSM	Faecal Sludge Management
GoB	Government of Bangladesh
ICDDR	International Centre for Diarrhoeal Disease and Research, Bangladesh
IEDCR	Institute of Epidemiology, Disease Control and Research
I/NGO	International and National NGO
ITN	International Training Network Center
IWMI	International Water Management Institute
JMP	Joint Monitoring Program
LGD	Local Government Division
LGED	Local Government Engineering Department
MoA	Ministry of Agriculture
MoEF	Ministry of Environment and Forest
MoHA	Ministry of Home Affairs
MoLGRDC	Ministry of Local Government Rural Development and Co-operatives
NFWSS	National Forum for Water Supply and Sanitation
NGO	Non-Government Organization
RAJUK	Rajdhani Unnayan Kartripakkha
SAAO	Sub Assistant Agriculture Officer
TFO	Treatment Facilities Operator
UP	Union Parishad
WASH	Water Supply Sanitation and Hygiene
WATSAN	Water Supply and Sanitation
WEDC	Water, Engineering and Development Centre, Loughborough University

## Terms and Definitions

**Faecal sludge:** Sludge removed from all kinds of on-site sanitation systems such as septic tanks, aqua privies, pit latrines, community multiple pit system, etc.

**Septage:** Faecal sludge (settled solids, scum and liquid) that accumulates in septic tanks.

**Sewage Sludge:** Sludge generated at the sewage treatment plants as a result of sewage digestion process is termed as sewage sludge. Sewage sludge is often more problematic than faecal sludge from household toilet facilities because it contains contaminants from industrial wastewaters.

**Septic Tank:** A watertight, multi-compartment, usually sub-surface receptacle that receives sewage from houses or other buildings and is designed to separate and store the solids and partially digest the organic matter in the sewage.

**Onsite Sanitation System:** Sanitation infrastructures that are designed to collect, store and dispose of human excreta at the household premises and include septic tank system and various types of pit latrines.

**Desludging:** This refers to the process of cleaning or removing the accumulated sludge/ septage from a septic tank, pit latrine or wastewater treatment facility.

**Domestic Sewage:** Wastewater composed of untreated human waste coming from residential and commercial sources. Domestic sewage does not include industrial and/or hazardous wastes.

**Sewerage system:** A system of sewers that collects and conveys wastewater to a treatment plant for treatment prior to disposal point. It includes all infrastructures for collecting, transporting, and pumping sewage.

**Faecal Sludge Management:** Also known as septage management, FSM includes the various technologies and mechanisms for collection, transportation, treatment and disposal of sludge produced by septic tanks, pit latrines, and wastewater treatment plants.

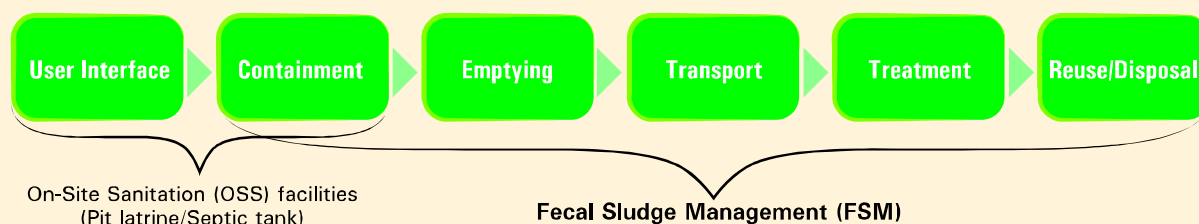
**Biosolids:** This usually refers to treated faecal sludge or byproduct of the treatment of domestic sewage in a sewage treatment plant. Biosolids consist primarily of digested organic matter and dead microbes and can be used as organic fertilizer or soil conditioner.

## Context

Except for a small portion of Dhaka city, all urban and rural areas of Bangladesh are served by onsite sanitation facilities, and the huge quantity of faecal sludge generated in pits (of pit/pour-flush latrines) and septic tanks are inaptly managed. In rural areas, single-pit (both direct and offset pit) pour flush latrine is the predominant sanitation option; in some areas, twin-pit latrines are being promoted by LGIs and I/NGOs. In water-scarce areas, pit latrines (i.e., direct pit latrines without water seal pans) are used; septic tank system is seldom used in rural areas.

When pits of single pit-toilets or septic tanks become full, these are emptied manually; mechanical desludging using mud pumps is practiced in few areas. The unhygienic traditional emptying practice is a major health and safety concern, particularly for the pit emptier community. The emptied faecal sludge is often disposed in nearby water bodies and low-lying areas, causing environmental pollution and endangering public health; burying of emptied sludge (by digging a hole in the ground) is also practiced. On the other hand, desludging of raw faecal matter is not needed for a properly designed twin-pit latrines; when one pit becomes full, it is covered with soil and its contents are left to digest (preferably for at least 1.5 to 2 years) and the second pit is used. By the time the second pit becomes full, the contents of the first pit could be emptied without safety concern, and used as a resource (soil conditioner); thus the two pits could be used alternately.

In the present context of typical rural areas, the most immediate needs are: (a) promoting safe emptying practices (e.g., use of safety gear by emptiers and use of mechanical means, such as pumps); (b) promoting safe disposal (e.g., burying) of emptied faecal sludge; and (c) promoting technologies (e.g., twin pit toilets and other emerging options) that could eliminate/ reduce the need of unsafe pit emptying. While it may take some time to introduce FSM services (including organized collection, transportation and treatment of faecal sludge; as described in Fig. 1) in most rural areas, certain components of FSM services including safe emptying and disposal is urgently needed.



**Figure 1: Components of fecal sludge management system**

There is lack of awareness among concerned stakeholders regarding the adverse impacts of unsafe pit emptying practices, indiscriminate disposal of emptied faecal sludge, and availability of technological options (e.g., twin pit latrines) that could eliminate/reduce problems associated with faecal sludge. Union Parishads (UPs) have limited capacity, both in terms of resources and trained manpower, for creating awareness about faecal sludge management and supporting/ promoting safe emptying and disposal of faecal sludge. Nevertheless, as a continuation of their leading roles in achieving ODF status, Union Parishads together with NGOs and other stakeholders could play key role in ensuring proper management of faecal sludge in rural areas.

# Objectives and Scope of FSM Framework

The primary objective of this FSM framework is to facilitate proper faecal sludge management (FSM) in rural areas, and set the stage for implementation of entire FSM service chain in the future. Specifically, this framework:

- (a) Identifies of ways and means of safe management of faecal sludge; and
- (b) Defines specific roles and responsibilities of various institutions and stakeholders, particularly the Union Parishads and Upazila Parishads, for effective management of faecal sludge.

The institutional roles and responsibilities specified in this framework are based primarily on the provisions of the Local Government (Union Parishad) Act, 2009 and Upazila Parishad Act, 1998 (amended in 2009 and 2011), which guide and regulate the roles and responsibilities of all Union Parishads and Upazilas. In addition, Government Circular on formation of Upazila/ Union/ Ward WATSAN Committees and their activities have also been considered in the development of this framework. Only on-site sanitation facilities and areas served by such facilities would fall under the purview of the FSM framework.

# Participating Institutions

An appropriate institutional arrangement is a prerequisite for effective Faecal Sludge management. It is important that institutions are identified for specific roles and responsibilities depending on existing local conditions, skill, strength and commitment of institutions for effective, safe and sustainable faecal sludge management.

The following institutions have been identified for playing effective roles in the overall planning, development, implementation, practice, and monitoring and evaluation of Faecal Sludge Management (FSM) in rural areas.

(a) **Ministries**– to endorse this FSM framework; secure funding; technical support through respective line agencies (in this case DPHE and LGED); ensure enforcement of laws, policies, strategies and guidelines; and monitoring through the National Forum for Water Supply and Sanitation (NFWSS).

- Local Government Division, Ministry of Local Government, Rural Development and Co-operatives : **Lead Ministry**
- Ministry of Environment and Forest
- Ministry of Health and Family Planning
- Ministry of Agriculture
- Ministry of Fisheries and Livestock
- Ministry of Housing and Works
- Ministry of Water Resources
- Ministry of Education
- Ministry of Information
- Ministry of Energy and Mineral Resources
- Ministry of Industries
- Ministry of Land
- Ministry of Home Affairs
- Ministry of Law, Justice and Parliamentary Affairs

(b) **Local Government Institutions and Line Agencies**– to implement the entire FSM system.

- Union Parishad– **main responsibility of FSM**
- Upazila Parishad– supporting role
- DPHE– supporting (technical) role
- LGED– supporting (technical) role

**(c) Institutions participating in capacity building** – to provide research support to fill the knowledge gaps, technical assistance, training, quality assurance of process and products (e.g., compost) in the FSM service chain.

- Ministries and relevant line agencies
- ITN-BUET, relevant universities, research organizations
- BARI, BRRI, BARC, IEDCR, ICDDR,B
- International research/ training organizations (e.g., Sandec, EAWAG, WEDC, AIT, IHE, IWMI)
- Development partners
- I/NGOs
- Private Sector

**(d) Institutions participating 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.

- Ministries and relevant line agencies
- Development partners
- I/NGOs
- Civil Society Organizations, CBOs
- Research organizations/universities
- Print, electronic and social media
- Private sector

# Distribution of Institutional Roles and Responsibilities

## Section 4.1: Overview of Existing Rules and Regulations

According to existing rules, regulations and GoB circulars, Upazila Parishads, Union Parishads (UPs), and Ward Committees of UPs have been given important responsibilities with regard to water supply and sanitation. According to Sub-section (1) of Section 47 of the Local Government (Union Parishad) Act, 2009 (amended in 2010) (hereinafter referred to as “UP Act, 2009”), Union Parishads are responsible for implementation of services for public welfare. According to Schedule 2 of UP Act, 2009 (which describes activities of Union Parishads), Union Parishads are responsible for taking actions for improvement and preservation of the environment. According to Section 45 of the UP Act, Union Parishads shall form a number of Standing Committees including one on “Sanitation, Water Supply and Drainage”, to effectively perform its responsibilities. Besides, Union-level WATSAN Committees (formed through a GoB Circular in 2007) has been given the responsibility of performing a range of activities in the WASH (water supply, sanitation and hygiene) sector, including participating as well as supporting DPHE in raising awareness on WASH; coordinating the activities of Union Parishad, Ward Committees, NGOs and others; implementing water supply and sanitation related components of projects being implemented under LGD; and formulation and implementation of water supply and sanitation related projects.

According to Sub-section (1) of Section 6 of UP Act 2009, the Ward Committees of Union Parishads are responsible for supporting officials and employees involved with sanitation programs, and creating awareness regarding environmental preservation and cleanliness. Besides, Ward-level WATSAN Committees (formed through a GoB Circular in 2007) has been given the responsibility of performing a range of activities in the WASH sector, including supporting surveys related to water supply and sanitation; participating in awareness raising activities on safe water supply, sanitation and hygiene practices; supporting implementation of water supply and sanitation related components of projects being implemented under LGD; identifying problems related to water supply and sanitation, prepare recommendations for remediation, and assist in the related project formulation and implementation.

Upazila-level WATSAN Committees are responsible for reviewing activities of Union-level WATSAN Committees and providing them advice and support; supporting DPHE in collecting WASH related data and information; and undertaking and executing water supply and sanitation projects.

Thus, although the term “faecal sludge” is not specifically mentioned in the UP Act 2009, it is clear that the responsibility of overall management of sanitation system including “faecal sludge” generated in sanitation facilities lies with the UPs and its Ward Committees, Upazila Parishads, and the respective WATSAN Committees.

## **Section 4.2: Institutional Roles and Responsibilities**

### ***Sub-section 4.2.1: Overall responsibility of Faecal Sludge Management (FSM)***

1. The Union Parishad (UP), with support from its Ward Committees, shall be responsible for management of faecal sludge generated in households and institutions (e.g., schools, offices, mosques, markets) in areas within its jurisdiction; while the Upazila Parishad shall be responsible for planning, coordination and review of related activities. The UP shall collaborate with the Department of Public Health Engineering (DPHE), the private sector/ non-government sector in planning and implementation of activities related to faecal sludge management.
2. The UP shall form a Standing Committee on “Sanitation, Water Supply and Drainage” (if it has not been formed already) in accordance to Sub-section (1) of Section 45 of the UP Act 2009. This Standing Committee shall, among others, oversee the activities related to faecal sludge management (FSM). The Committee shall also interact with NGOs working in the area on sanitation/FSM for proper coordination of FSM related activities. Depending on need and availability, the Committee would co-opt a relevant expert in the Committee [in accordance with Sub-section (4) of Section 45 or the UP Act 2009].
3. When an UP introduces entire FSM service chain (including collection, transportation and treatment of faecal sludge), it may form “joint committee” with a nearby Paurashava(s) where such services are in place [in accordance to Section 87 of UP Ordinance], in order to facilitate planning and implementation of FSM services based on the experience of the Paurashava(s).
4. The UP shall initiate inclusive FSM planning and implementation modality among the government agencies, I/NGOs, community groups and the private sector

### ***Subsection 4.2.2: Sanitation Facilities and Disposal of Faecal Sludge/Sewage***

#### **Sanitation Facilities:**

1. Under the leadership of the UP, the Ward Committees, and UP, and Ward-level WATSAN Committees shall carry out public awareness campaigns on availability of different sanitation options (e.g., twin-pit latrines and other emerging technologies that reduce/ eliminate handling of faecal sludge). With support from Upazila Parishad, the UP shall collaborate with DPHE (primarily for technical assistance, e.g., involving the Upazila tubewell mechanics), I/NGOs and the private sector in taking up awareness campaigns.
2. Where conditions (e.g., availability of adequate land) permit, the UP and Ward Committees shall encourage use of twin off-set pit pour-flush toilets (or other technologies) that provide a long-term solution to the faecal sludge management problem (in line with its responsibility of “controlling construction and re-construction of houses”, as stated in Schedule 2 of UP Act 2009).
3. With support from Upazila Parishad, the UP shall collaborate with DPHE (for technical assistance, e.g., involving the Upazila tubewell mechanics), I/NGOs and the private sector for organizing training of local masons on design and construction of toilets.

#### **Disposal of Faecal Sludge/Sewage:**

1. The UP, with support from Ward Committees and WATSAN Committees and Upazila Sanitary Inspector (under Ministry of Health and Family Welfare), shall carry out inspection and make sure that faecal matter/urine/domestic sewage are not stored (or allowed to flow) on street or open place, and are not discharged in drain/ canal/ sewer; these activities are treated as punishable offence according to the provisions of Schedule 5 (Sections 6, 19) of UP Act 2009.



2. The UP, with support from Ward Committees and WATSAN Committees and Upazila Sanitary Inspector (under Ministry of Health and Family Welfare), shall carry out inspection and make sure that faecal matter emptied from sanitation facilities are properly disposed (e.g., buried in soil) so that these do not pollute environment and endanger public health; failure to do so could be treated as a punishable offence according to the provisions of Schedule 5 (Sections 14, 15) of UP Act 2009. In the absence of faecal sludge treatment facility, faecal sludge emptied from onsite sanitation facilities shall be disposed by burying it in soil within household premises or in a land/area designated by the UP.
3. The UP shall execute punishment for such offences (as stated above in accordance to Schedule 5) according to Sections 89, 90, and 91 of the UP Act 2009.
4. The UP may engage the private sector/non-government sector for monitoring of pit emptying and faecal sludge disposal practices.

#### ***Sub-section 4.2.3: Faecal Sludge Collection and Transportation***

1. Under the leadership of the UP and support from Upazila Sanitary Inspector (under Ministry of Health and Family Welfare), the Ward Committees, and UP and Ward-level WATSAN Committees shall carry out public awareness campaigns (particularly targeting pit emptying community) on **individual responsibility** for proper management of sanitation facilities, adverse impacts of unhygienic manual pit emptying practices, and availability of options (e.g., safety gear, pumps) for safe emptying of sanitation facilities. With support from Upazila Parishad, the UP may collaborate with DPHE (primarily for technical assistance), I/NGOs and the private sector in taking up such awareness campaigns.
2. The UP shall encourage and promote use of safety/protective gear (personal protective equipment, PPE) and mechanical emptying (e.g., using pumps) of faecal sludge from sanitation facilities for ensuring health and safety of emptiers, and protection of the public health and environment. The UP shall collect and disseminate appropriate health and safety guidelines for emptying services.
3. The UP shall make sure that the manual emptier (traditional pit emptier/cleaner) communities are integrated into mechanical emptying and other FSM services through proper training and support, without adversely affecting their income.
4. The UP shall facilitate availability of safety gear/PPE (e.g., boots, masks) and equipment (e.g., suitable pumps) for safe emptying of pits/septic tanks.
5. The UP, in consultation with Upazila Parishad, DPHE/LGED, and relevant stakeholders, may fix fees/charges for pit emptying, transportation, and disposal, as appropriate.
6. The UP shall encourage and facilitate participation of private entrepreneurs in mechanical pit emptying services, while making sure that the manual emptier (traditional pit emptier/cleaner) community is integrated in the mechanical emptying services.
7. The UP, through its Ward and WATSAN Committees, shall make sure that if emptied faecal sludge is to be transported for disposal/ burying, the transportation is carried out in close containers, and that the emptied faecal sludge is never disposed in open space or water bodies or storm drains or sewers (which is a punishable offence according to the UP Act 2009).
8. In order to ensure proper and timely emptying of onsite sanitation facilities, the UP through its Ward/WATSAN Committees shall gradually develop a database of all sanitation facilities within areas of its jurisdiction, along with probable emptying frequency of these facilities. This database could be used to facilitate efficient and timely emptying of sanitation facilities. At the same time, these Committees shall keep records of households/ institutions availing/ practicing safe emptying and disposal of faecal sludge.

#### ***Sub-section 4.2.4: Faecal Sludge Treatment, Disposal and End-use***

1. Under the leadership of the UP and support from Upazila Sanitary Inspector (under Ministry of Health and Family Welfare), the Ward Committees, and UP and Ward-level WATSAN Committees shall carry out public awareness campaigns on resource recovery potentials (e.g., compost, biogas) of faecal sludge and possible resource recovery options/protocols. With support from Upazila Parishad, the UP may collaborate with DPHE (primarily for technical assistance), I/NGOs and the private sector in taking up such awareness campaigns.
2. In the absence of faecal sludge treatment facility, faecal sludge emptied from onsite sanitation facilities shall be disposed by burying it in soil within household premises or in a land/area designated by the UP for production of “compost”; emptied faecal sludge may also be transported to the nearest treatment facility (e.g., in Paurashava/City Corporation) if such facilities are available and such transport is feasible, or utilized in other resource recovery facilities (e.g., biogas plants). The UP shall seek assistance of Sub-Assistant Agriculture Officer (SAAO) of the Department of Agriculture Extension (DAE) on proper production of compost/organic fertilizer from faecal sludge.
3. When an UP introduces entire FSM service chain (including collection, transportation and treatment of faecal sludge), it may seek assistance from DPHE, I/NGOs, and nearby Paurashava(s) (where FSM services are in place, e.g., through formation of “joint committee”) for establishment of faecal sludge treatment facility and other FSM infrastructure.
4. Considering scarcity of land, the Upazila Parishads, with support from UPs, shall take immediate steps for securing land for establishing faecal sludge treatment and related facilities in the future.
5. The UP, with support from Upazila Parishad, shall seek assistance of the Institute of Epidemiology, Disease and Research (IEDCR) (or any competent/ accredited national/ international institution) in ensuring quality/safety of compost from faecal sludge.
6. The UP, with support from Upazila Parishad, shall seek assistance of the Department of Agriculture Extension (DAE) under the Ministry of Agriculture with regard to simplifying the procedure for securing license for using/marketing of compost/organic fertilizer produced (if any) at faecal sludge treatment facilities.
7. With support from Sub-Assistant Agriculture Officer (SAAO) of DAE, the UP shall promote proper and safe use of compost/organic fertilizer produced from faecal sludge.

#### **Section 4.3: Capacity Building, Training and Research**

1. The institutions identified in Chapter 3 (as participating institutions for capacity building) would provide support to fill the knowledge gaps, technical assistance, training, quality assurance of process and products (e.g., compost) related to faecal sludge management.
2. The MoLGRD&C would take steps for setting up **Unit for FSM** in the Union Parishads for effective delivery of FSM related services.
3. The Ministries (listed in Chapter 3) and line organizations, research and training institutions, development partners, and I/NGOs would provide support to develop/enhance skills of personnel of UP, Upazila Parishad, and other stakeholders, and to fill the knowledge gaps with regard to FSM.
4. National level research and training organizations (e.g., ITN-BUET, technical and agricultural universities/institutes/centers) would collaborate with relevant international research/ training organizations/institutions/universities, I/NGOs and the private sector in capacity building, training and research on FSM. The Ministries of the GoB and the development partners shall support such initiatives.
5. The LGD of the MoLGRD&C shall coordinate, and develop guidelines for capacity building, research and training initiatives on FSM, and facilitate sharing and dissemination of knowledge/ information on FSM among UPs.

#### **Section 4.4: Awareness Building**

1. The institutions identified in Chapter 3 (as participating institutions for awareness building) to support awareness campaign, promote private sector participation, demonstration of FSM business. The relevant Ministries (listed in Chapter 3) and line organizations would support awareness building campaigns on FSM.
2. National and international NGOs/CBOs, with support from the Government Ministries (e.g., MLGRD&C, Ministry of Health and Family Planning, Ministry of Environment and Forests), research organizations and development partners (e.g., WB, ADB, JICA, BMGF, and others), shall play the key role in raising public awareness on FSM and facilitating partnership among key stakeholders including the private sector.
3. The civil society organizations would also work with I/NGOs and research organizations (for support on technical issues) in sensitizing the public on FSM through use of print, electronic and social media.

#### **Section 4.5: Technical Assistance and Funding Support**

1. The GoB will increase funding support and provide other assistance for FSM related activities including procurement of safety gear/PPE, raising awareness and capacity building at UPs.
2. Development partners, multilateral or bilateral, may provide technical assistance and funding support to the UPs for FSM related activities through the MoLGRD&C.
3. The MoLGRD&C through its line organization (DPHE) shall provide technical support in planning and implementation of FSM related activities.
4. The LGD shall take initiative to develop standards/guidelines for emptying, transportation, and treatment of faecal sludge; operation and maintenance (O&M) of faecal sludge treatment plant; disposal of effluent from faecal sludge treatment facilities; quality control/ standardization of treated products/by-products; and protocol for securing license for using/ marketing of compost/organic fertilizer.