

SFD Report

Saidpur Bangladesh

Final Report

This Intermediate SFD Report was prepared by
WaterAid Bangladesh

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SFD Report Saidpur, Bangladesh, 2018

Produced by:

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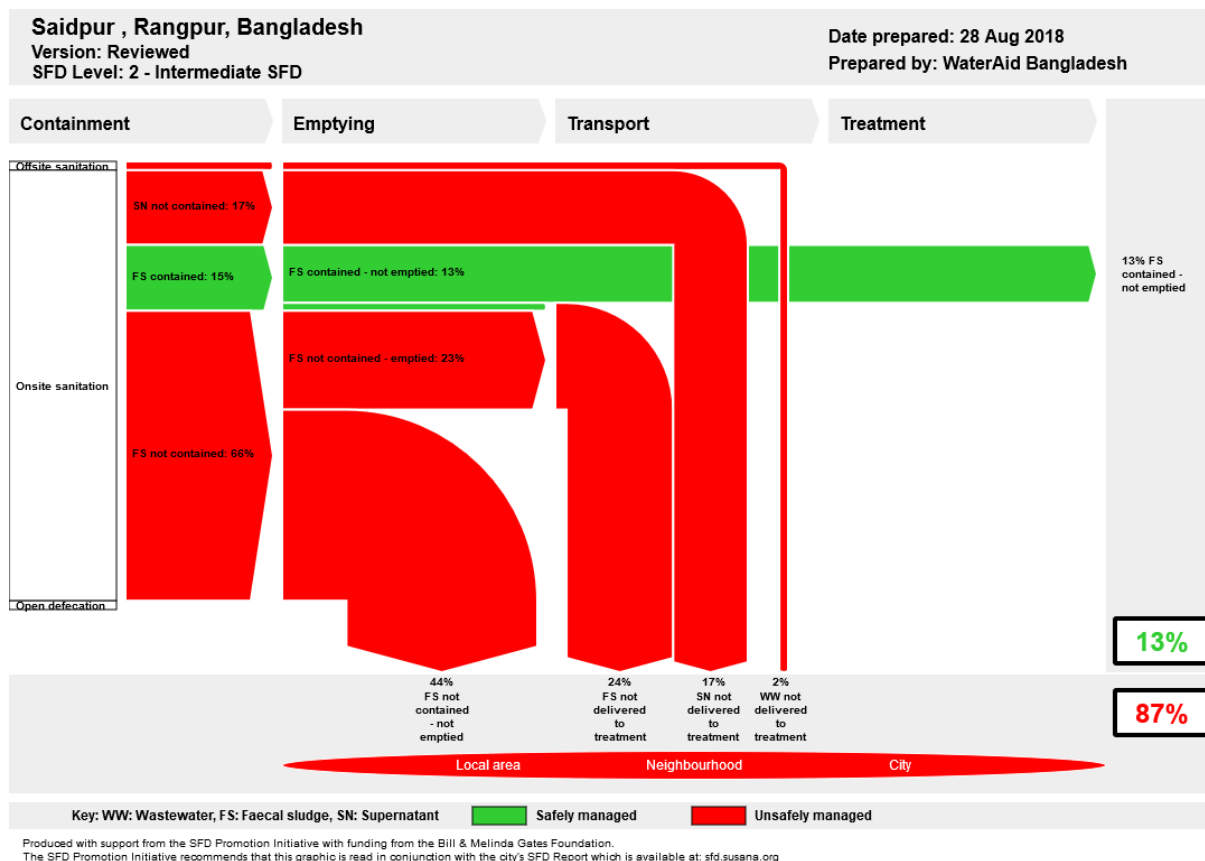
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Md. Samiul Basar

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1. The SFD Graphic



2. Diagram information

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Saidpur is a city of historical importance in Bangladesh, and is a commercial hub for the surrounding districts. The main occupation of the population is business of many kinds. It generates at least 90 percent of the total revenue of the Nilphamari District and is a major contributor to the country's tax revenue. Most people use groundwater for drinking purposes. The soil is comprised primarily of medium sand.

The municipality has a total population of 127,104 (of which 65,060 are male and 62,044 are females), and a population density of 4,442 people per km². The literacy rate (for the population aged seven years and above) is 63.9 percent. The total number of households in the city is 26,311 (BBS, 2011).

3. General city information

Saidpur is a populous city in Nilphamari District, Bangladesh. It came into existence on 30 April 1958 as a municipality, and has 15 wards. It is an 'A' category municipality, which means it has had an annual income of BDT 6 million over the past three years. It covers an area of 34.42 km².

4. Service outcomes

Thirteen percent (13%) of the excreta flow is classified as safely managed, and the remaining eighty-seven (87%) percent is classified as unsafely managed.

Almost all the households in the city have their own latrine. However, very few of the latrines are environmentally safe. Most of those who do

not have latrines use community latrines. Very few people use their neighbour's latrine.

Thirty-nine percent of the toilets have septic tanks as the containment system, and 43 percent have pits (FGD, 2018a; FGD, 2018d). Two percent of toilets discharge directly into open drains. Among the others, some are single chamber septic tanks, which for the purpose of developing the SFD are considered to be lined tanks.

Of the city's total faecal waste, non-contained supernatant makes up 17 percent, and non-contained faecal sludge represents 66 percent (FGD, 2018a; FGD, 2018c). Only 15 percent of faecal waste is contained. Groundwater pollution risk calculated using the decision matrix in the SFD calculation tool was found to be significant.

Around 60 percent of households have emptied their septic tanks or pits at least once in their lifetime. There are two types of emptying services in the municipality. The municipality operates vacu-tugs (FGD, 2018a), but customers have to apply to the municipality for this service, and waiting times are long due to high demand for the service. Unfortunately, only a small percentage of the population use this service. There are also some private sweepers, who empty pits and septic tanks manually using a bucket and rope. In practice, septic tanks are not emptied regularly, but only when a tank malfunctions. Forty percent of people claim that they have not emptied their tank in its lifetime (FGD, 2018b; FGD, 2018d). This can be attributed to the fact that some tanks are large and connected to an open drain or water body. Some tanks have an open bottom. When building houses, local masons advise house owners to adopt these measures to prevent their septic tanks getting full.

The city has several types of sludge transport system. A large proportion of the sludge is transported through open drains (FGD, 2018a; FGD, 2018c). Since the introduction of vacu-tugs, some sludge is now transported by trucks. However, private sweepers transport sludge at night in buckets and dump it into holes dug on open ground or simply into open drains or ditches or by the railway line.

The municipality has no treatment plant. Therefore, there is no option for treatment or end-use and disposal of the faecal sludge.

5. Service delivery context

The 2009 Paurashava Act states that, "A municipality shall make adequate arrangements

for the removal of refuse from all public streets, public latrines, urinals, drains, and all buildings and land vested in the municipality and for the collection and proper disposal of such refuse." Although the term 'faecal sludge' is not specifically mentioned in the act, it is clear that the responsibility of management of faecal sludge lies with the municipality.

The institutional and regulatory framework (IRF) for faecal sludge management (FSM) states that the municipality shall execute these responsibilities in accordance with the provisions of the 2009 Paurashava Act. However, if a municipality deems necessary, it may formulate rules, regulations and by-laws according to the provisions of the act. The municipality (known as 'paurashava' in Bangladesh) may collaborate with the Department of Public Health Engineering (DPHE), Local Government Engineering Department (LGED) and private sector to plan and implement FSM infrastructure and services (IRF, 2017). The municipality is required to take steps to include provision of infrastructure for the implementation of FSM services in its master plan.

6. Overview of stakeholders

The municipal authority is the lead government institution in delivery of WASH facilities in the city. However, the authority is unable to deliver WASH effectively for several reasons, including insufficient allocation of human resources and funding for improving and establishing adequate infrastructure in this sector. However, the municipal authority is eager to engage private stakeholders in this sector, through a GO-NGO partnership approach.

Private sector investment in sanitation is an indication of the favourable institutional arrangement that exists in Saidpur. Two sanitation hardware manufacturing companies in the city, producing modern toilet and sanitation fittings and materials. In addition, a good number of local entrepreneurs are producing rings, slabs and other products to meet local demand.

Key Stakeholders	Institutions / Organisations
Public Institutions	Local Government, Municipality
Local NGOs	SKS Foundation, BRAC
Private Sector	Private sweepers
Development Partners, I/NGOs	WaterAid Bangladesh
Other	ITN-BUET

Table 1: Stakeholders in Saidpur

7. Process of SFD development

A first draft of the SFD was made based on available secondary data. Focus group discussions were conducted with stakeholders and key informants in the municipality. Discussions were held with conservancy staff, town level coordination committee members, sweepers and two ward committees. Data from secondary sources were cross-checked with these informants, and some of the figures were revised as a result.

8. Credibility of data

The availability of quantitative data on sanitation services in Saidpur is limited. There was no quantitative data on the private emptying and transport of faecal sludge, as significant discharge is carried out illegally. Also, detailed data about sanitation containment systems did not exist. For this reason, the SFD relied on a combination of high to low/middle credibility data sources including internet websites and focus group discussions. Numbers from different sources were triangulated to develop the diagram, which increased the confidence level of the data.

9. List of data sources

- BBS, 2011. Census of Bangladesh Bureau of Statistics.
- FGD, 2018a. Focus group discussion with conservancy staff, 14 August 2018
- FGD, 2018b. Focus group discussion with town level coordination committee members, 14 August 2018.
- FGD, 2018c. Focus group discussion with sweepers, 14 August 2018.
- FGD, 2018d. Focus group discussion with ward committee, 14 August 2018.
- KII1, 2018. Interview with Mr. Shahin Akter, 02 Panel mayor and councillors.
- KII2, 2018. Interview with Kazi Jahanara Parvin, 03 Panel Mayor.
- IRF, 2017. Institutional and Regulatory Framework for FSM: Section on municipalities.
- Paurashava Act, 2009.

Saidpur, Bangladesh, 2018

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This Executive Summary and the SFD Report are available from: www.sfd.susana.org

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Abbreviations

BBS	Bangladesh Bureau of Statistics
BTD	Bangladeshi taka
DPHE	Department of Public Health Engineering
FGD	Focus group discussion
IRF	Institutional and regulatory framework
LGED	Local government engineering department
SFD	Shit Flow Diagram

1 City context

Saidpur is a populous city in Nilphamari District, Bangladesh. The city occupies an area of 34.42 km². It is located at a latitude of 25°44' - 25°52'N and a longitude of 88°51' - 89°01'E. The city is recognised as municipality with 15 wards and 42 'mahalla' or communities, and one other adjoining urban area consisting of a single 'mauza' or a small territory.

This railway town and a commercial hub is situated near Parbatipur in the Nilphamari District of the Rangpur division of Bangladesh (Figure 1). In 1870, the Assam-Bengal railway set up its largest workshop in the town and many Biharis or Urdu-speakers came to work there.

One of the city's major business communities is made up of Marwaris, who were first attracted by the prospect of trade and commerce in this area and settled in the town of Saidpur, long before the partition of India. The Marwaris became a part of the local population and contributed to the society. After the partition, the Marwaris chose to stay back in East Pakistan, rather than migrate to India. Thousands of Urdu-speaking Muslims from Bihar and the United Provinces settled in Saidpur. In 1971, Urdu-speaking Muslims constituted 75 percent of the city's population. Today, they make up roughly 40 percent of the population, therefore, Urdu continues to be one of the major languages in Saidpur.

After Dhaka and Chittagong, Saidpur is the third largest city in Bangladesh. The standard of living in Saidpur is good, and the city offers all the modern amenities one would expect in a major city. It generates at least 90 percent of the total revenue of the Nilphamari District and is one the largest contributors to the country's tax revenue. Most people rely on groundwater for drinking purposes. The soil is comprised primarily of medium sand.

The municipality has a total population of 127,104 (of which 65,060 are male and 62,044 are female), and a population density of 4,442 people per km². The literacy rate (for the population aged seven years and above) is 63.9 percent. The total number of households in the city is 26,311 (BBS, 2011).

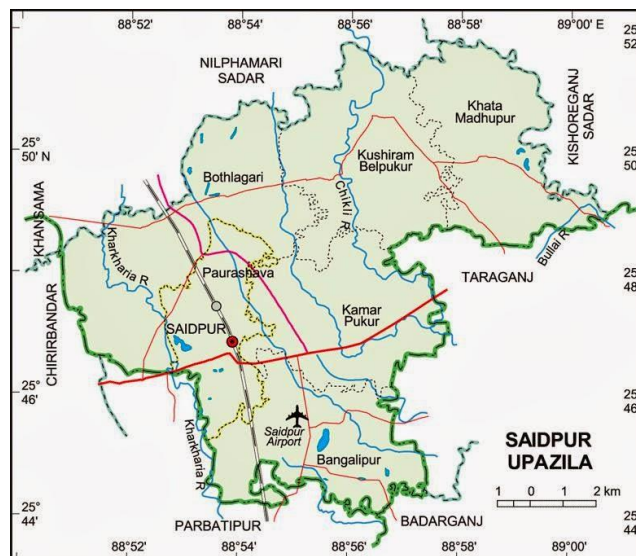


Figure 1: Saidpur Upazilla

2 Service Outcomes

2.1 Overview

List A: Where does the toilet discharge to? (i.e. what type of containment technology, if any?)	List B: What is the containment technology connected to? (i.e. where does the outlet or overflow discharge to, if anything?)									
	to centralised combined sewer	to centralised foul/separate sewer	to decentralised combined sewer	to decentralised foul/separate sewer	to soakpit	to open drain or storm sewer	to water body	to open ground	to 'don't know where'	no outlet or overflow
No onsite container. Toilet discharges directly to destination given in List B					Significant risk of GW pollution Low risk of GW pollution	T1A1C6				Not Applicable
Septic tank					T2A2C5 Low risk of GW pollution	T1A2C6	T1A2C7			
Fully lined tank (sealed)					T2A3C5 Low risk of GW pollution	T1A3C6	T1A3C7			
Lined tank with impermeable walls and open bottom	Significant risk of GW pollution Low risk of GW pollution	Significant risk of GW pollution Low risk of GW pollution	Significant risk of GW pollution Low risk of GW pollution	Significant risk of GW pollution Low risk of GW pollution	Significant risk of GW pollution Low risk of GW pollution					Significant risk of GW pollution T1A4C10
Lined pit with semi-permeable walls and open bottom	Not Applicable									T2A5C10 Low risk of GW pollution
Unlined pit										T2A6C10 Low risk of GW pollution
Pit (all types), never emptied but abandoned when full and covered with soil										T1B7C10 Significant risk of GW pollution
Pit (all types), never emptied, abandoned when full but NOT adequately covered with soil										T1B8C10
Toilet failed, damaged, collapsed or flooded										
Containment (septic tank or tank or pit latrine) failed, damaged, collapsed or flooded										
No toilet. Open defecation	Not Applicable									Not Applicable

Figure 2: SFD selection grid

There is no centralised sewer in Saidpur. The most common on-site containment system in Saidpur households of Saidpur. However, in recent years, it has become common practice to build septic tanks when constructing new buildings. So, at present, the ratio of pit latrines to septic tanks is almost equal. The number of septic tanks is likely to outstrip the number of pit latrines in the near future. A small portion of the population use community latrines, which use septic tank technology.

Most commercial enterprises have septic tanks in their buildings. A large number of single chamber septic tanks are also found in this municipality, which for the purpose of developing the SFD are categorised as lined tanks.

Most people claim that they have not emptied their septic tanks in their lifetime. This can be attributed to the fact that many of the tanks are over-sized. Also, because most of the tanks are connected to open drains, the liquid portion of the sludge drains out and the tank takes a long time to fill. About one-third of the septic tanks are connected to a soak pit. During our discussions, some informants said that some septic tanks are open at the bottom to allow liquid infiltration. For the purpose of developing this SFD, these are categorised as open bottom lined tanks (Figure 2).

The city has two types of emptying service providers. The municipality owns two vacu-tugs, one with a capacity of 1,000 litres and the other with a capacity of 500 litres. These vacu-tugs dispose of sludge into open water bodies. Customers have to fill in a form to apply for this service, and wait for their number to come up before they receive the service. There is a charge for this service. There are also some private sweepers, who empty pits and septic tanks manually using a bucket and rope, with little support and no safety protocol.

The sludge is transported by vacu-tugs, open drains and water bodies, and manually in buckets. The sweepers usually ditch the sludge in open fields, drains, by the railway line or sometimes into holes dug on open ground. The municipality disposes of the sludge in two dumping ditches.

Currently, there is no treatment plant in Saidpur municipality. As a result, there is no option for treatment of faecal sludge. However, a plant is now under construction by the municipality, with support from WaterAid and SKS Foundation.

2.2 SFD Matrix

Saidpur, Rangpur, Bangladesh, 28 Aug 2018. SFD Level: 2 - Intermediate SFD

Population: 127100

Proportion of tanks: septic tanks: 50%, fully lined tanks: 50%, lined, open bottom tanks: 100%

System label	Pop	W4c	W5c	F3	F4	F5	S4e	S5e
System description	Proportion of population using this type of system	Proportion of wastewater in open sewer or storm drain system, which is delivered to treatment plants	Proportion of wastewater delivered to treatment plants, which is treated	Proportion of this type of system from which faecal sludge is emptied	Proportion of faecal sludge emptied, which is delivered to treatment plants	Proportion of faecal sludge delivered to treatment plants, which is treated	Proportion of supernatant in open drain or storm sewer system, which is delivered to treatment plants	Proportion of supernatant in open drain or storm sewer system that is delivered to treatment plants, which is treated
T1A1C6 Toilet discharges directly to open drain or storm sewer	2.0	0.0	0.0					
T1A2C6 Septic tank connected to open drain or storm sewer	27.0			60.0	0.0	0.0	0.0	0.0
T1A2C7 Septic tank connected to open water body	2.0			60.0	0.0	0.0		
T1A3C6 Fully lined tank (sealed) connected to an open drain or storm sewer	7.0			60.0	0.0	0.0	0.0	0.0
T1A3C7 Fully lined tank (sealed) connected to a water body	1.0			60.0	0.0	0.0		
T1A4C10 Lined tank with impermeable walls and open bottom, no outlet or overflow	3.0			60.0	0.0	0.0		
T1B7C10 Pit (all types), never emptied but abandoned when full and covered with soil, no outlet or overflow	12.0							
T1B8C10 Pit (all types), never emptied, abandoned when full but NOT adequately covered with soil, no outlet or overflow	18.0							
T2A2C5 Septic tank connected to soak pit, where there is a 'significant risk' of groundwater pollution	13.0			60.0	0.0	0.0		
T2A3C5 Fully lined tank (sealed) connected to a soak pit, where there is a 'significant risk' of groundwater pollution	5.0			60.0	0.0	0.0		
T2A5C10 Lined pit with semi-permeable walls and open bottom, no outlet or overflow, where there is a 'significant risk' of groundwater pollution	5.0			60.0	0.0	0.0		
T2A6C10 Unlined pit, no outlet or overflow, where there is a 'significant risk' of groundwater pollution	5.0			60.0	0.0	0.0		

Figure 3: SFD Matrix

2.2.1 Technologies and methods used

The percentages presented in Figure 3 and discussed in this section are based on data collected through focus group discussions (FGD, 2018a; 2018b; 2018c; 2018d).

Containment

The entire population of Saidpur uses a toilet of some sort. These toilets are connected to a range of containment systems, including:

- Septic tank connected to a soak pit.
- Septic tank connected to a drain or water body.
- Fully lined tank connected to a soak pit.
- Lined tanks with impermeable walls and open bottom, no outlet or overflow.
- Lined pits with semi-permeable walls and open bottoms, no outlet or overflow.
- Unlined pits, no outlet or overflow.
- No containment, toilet waste drains directly into open drains.

As Figure 3 shows, 39 percent of people use septic tanks. Effluent from 69 percent of these tanks is discharged into drains, 33 percent into soak pits and five percent directly into water bodies. Around 16 percent of people use single chamber septic tanks. Nineteen percent of these tanks have an open bottom, 31 percent drain to a soak pit, 44 percent into a drain and six percent to a water body. Two percent of toilets are directly connected to a drain.

Forty-three percent of people use pit latrines. Of all the pits, 28 percent have never been emptied and are not covered with soil, 42 percent have never been emptied and are not adequately covered with soil, 12 percent are lined pits with an open bottom and 12 percent are unlined pits with an open bottom.

Emptying

Containment systems in Saidpur are emptied only when they are overflowing. Around 60 percent of households have emptied their septic tanks or pits at least once in its lifetime. There is no practice of emptying on a regular basis. Most people are unaware of the standard time gap between emptying. Usually people empty their tanks only when there is no alternative. There are two types of emptying services: municipal vacuum trucks and private sweepers. The procedure for obtaining the service from municipality is troublesome. A customer has to apply by filling in an application form for which they have to take to the municipality office. They have to pay the service charge in advance through a named bank, before returning to the municipality office with the receipt for the payment. In general, this process takes 3-4 days. Even then, the municipality does not have the capacity to keep up with demand for the service.

Private sweepers provide a manual emptying service, using a bucket and rope. Unfortunately, health and safety are not a consideration when they are on the job, which is typically done in the dead of night. They ditch the sludge in nearby open drains or fields, or on railway lines or into holes.

Septic tanks are not emptied regularly, but only when a tank malfunctions. However, according to a focus group discussion (FGD, 2018b), almost no households abandon septic tanks after they malfunction. Instead, they have them emptied so they can continue using them. Therefore, this study assumed that 60 percent of all the containment systems are emptied at least once. Because the proportion of the content of each septic tank / lined tank / unlined tank that is faecal sludge could not be determined, this report used the default value of 50 percent.

The exception is lined tanks with impermeable walls and open bottoms with no outlet or overflow, for which the recommended value of 100 percent is used as the proportion of the content that is faecal sludge.

Transport

There are two types of transport system in Saidpur.

- Open drains.
- Municipal vacuum trucks.

Open drains transport effluent from septic tanks and greywater. They carry both the solid and liquid portion of the sludge because some septic tanks are connected directly to a soak pit.

Faecal sludge collected by vacu-tugs is transported to a dumping ground.

Treatment

There is no treatment plant in Saidpur. A plant is currently under construction.

End-use and disposal

End-use of faecal sludge was not identified during our study. In practice, all the sludge emptied is discharged improperly into the environment.

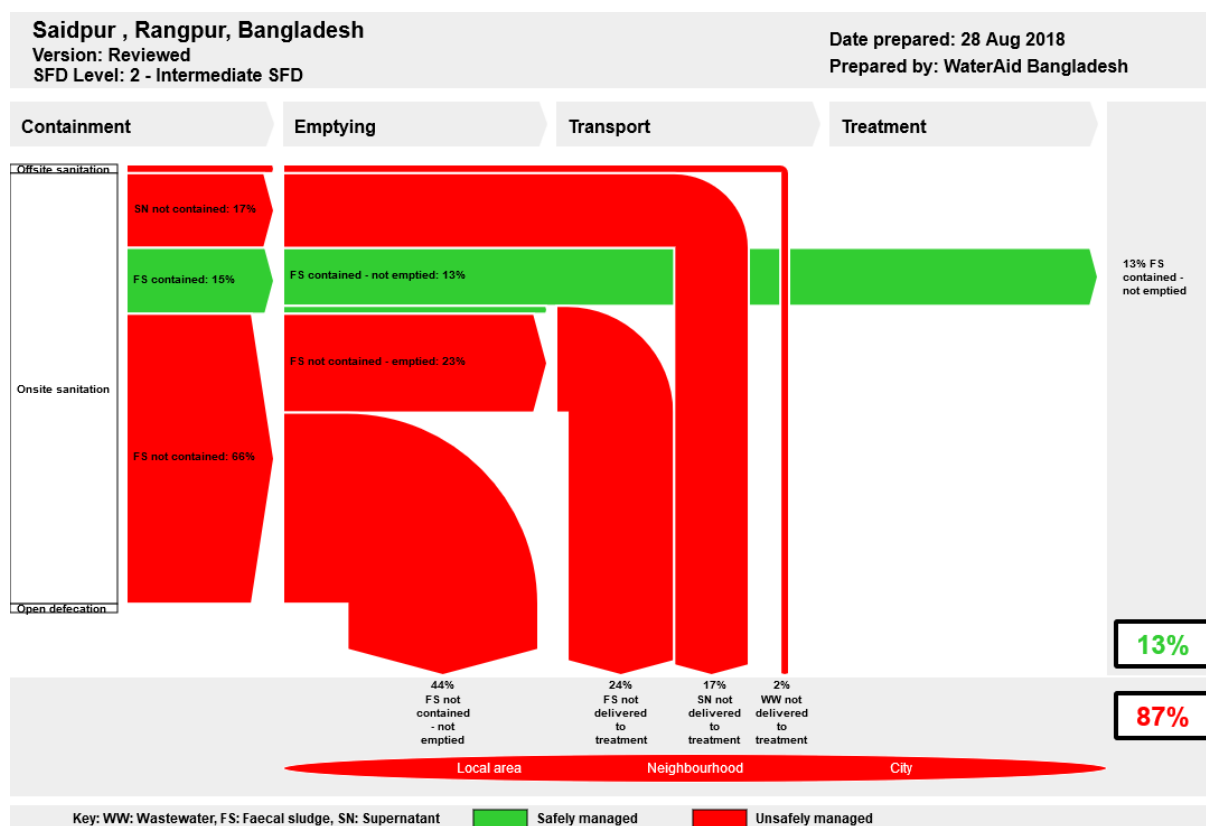
2.2.2 Risk of groundwater contamination

People in Saidpur municipality get their water either from the municipal supply or from their own source. The municipal water supply is not available for most of the population, so most people rely on their own sources. More than one quarter of the population use groundwater sources, typically extracted from a depth of 30-40 feet. Tube wells provided by NGOs are 150-200 feet deep. The depth to groundwater in the city is more than ten metres. The most common water production technology is protected wells. Lateral separation between sanitation facilities and water source varies from one area to another. Considering all these factors, it is estimated that there is significant risk of groundwater pollution in the city.

2.2.3 Credibility of data

The availability of quantitative data on sanitation services in Saidpur is limited. Specifically, there is no quantitative data on the private emptying and transport of faecal sludge. For this reason, the SFD relied on data from focus group discussions with stakeholders. Focus group discussions confirmed that the availability of quantitative data on faecal sludge management in Saidpur was limited. Data was collected from several groups and then some assumptions were made to convert that data into a usable format for input into the SFD calculation tool.

2.2.4 SFD Outcomes



Produced with support from the SFD Promotion Initiative with funding from the Bill & Melinda Gates Foundation. The SFD Promotion Initiative recommends that this graphic is read in conjunction with the city's SFD Report which is available at: sfd.susana.org

Figure 4: SFD graphic

From the focus group discussions, it was estimated that 13 percent of the excreta flow can be classified as safely managed, while the remaining 87 percent can be considered unsafely managed. The details along the sanitation service chain are discussed here.

At the containment level, only 15 percent of the excreta is safely managed, contained by pits that are safely abandoned and septic tanks connected to a soak pit. Eighty-five percent of excreta is unsafely managed at the containment level. This can be attributed to septic tanks connected to soak pits in places where there is significant risk of groundwater pollution; septic tanks connected to open drains, storm sewers or water bodies; lined tanks with impermeable walls and open bottoms; lined tanks with semi-permeable walls and open bottoms; and unlined pits. It should be mentioned here that there is no sewerage system in the area. The portion of faecal sludge that is contained and not emptied is the only part that is safely managed. This represents 13 percent of the total excreta flows. The SFD shows that faecal sludge not contained and not emptied accounts for 44 percent of the total excreta flow. The emptied portion of the sludge, which is disposed of untreated in dumping grounds, represents 23 percent of the excreta flow. There is a significant risk of groundwater pollution in the area due, for instance, to the dependence on groundwater for drinking, inadequate lateral separation between sanitation facility and source and soil type. These are also reasons that the large proportion of faecal sludge is not properly managed.

3 Service delivery context

3.1 Policy, legislation and regulation

3.1.1 Policy

According to the regulatory guidelines, it is a major responsibility of the municipality to manage all kind of wastes, specifically 'solid waste and 'liquid waste'. However, existing policy provides no specific instructions regarding 'faecal sludge'. Faecal sludge is considered a different type of waste. With the characteristics of both solid and liquid waste, faecal sludge needs to be managed using specific technologies and treatment options. Although the term 'faecal sludge' is not specifically mentioned in the policy, it is clear that the responsibility of management of faecal sludge lies with the municipality.

The institutional and regulatory framework for FSM states that the Department of Public Health Engineering (DPHE) and the local government engineering department (LGED) shall support implementation of the FSM system in the municipality. This is a clear indication that the DPHE and LGED should be included as the key institutions in developing the institutional framework on FSM in Saidpur municipality.

The 2009 Paurashava Act, requires each municipality to take step to include provision of infrastructure for the implementation of FSM services in its master plan. However, most municipalities have yet to even create a master plan, even though they may seek expert support from the external sources to assist with this complex process. Also, in the absence of a building code for septic tanks, it is not a requirement that development of multi-storey buildings include construction of septic tanks.

3.1.2 Institutional roles

In general, the municipal authority is responsible for providing basic services to citizens. Chapter two of the 2009 Paurashava Act mentions the responsibility and function of municipalities with regard to WASH. According to clause (50) (2), the municipality is responsible for (a) Water supply for residential, industrial and commercial use, (b) Water and sanitation, (c) Waste management, and (d) Issuing plans that promote economic and social justice. Even though it is not mentioned explicitly, faecal sludge management is considered to be included in the Clause (50)(2)(b) on water and sanitation and therefore is the responsibility of the municipality.

Ministries are responsible for securing funding and formulating policy, strategy and amendments. The DPHE and LGED provide technical assistance, and the municipalities are responsible for FSM services, including engaging and supporting all stakeholders (the government, non-government organisations, development partners, research organisations, civil society and the media) in raising awareness, developing FSM infrastructure and effective delivery of FSM services.

3.1.3 Service provision

Saidpur municipality has trucks, vans, and pick-ups to collect solid waste, but they are insufficient to meet demand. They have two vacu-tugs for mechanical collection of faeces from septic tanks or pits (Table 1).

Table 1: Capacity of municipality

Name	Capacity	No. of Vehicles
Pick-up	2 ton	2
Pick-up	1.5 ton	2
Drum truck	3 ton	1
Vacu-tug		2
Tractor		1
Rickshaw van		16
Hand cart		20

3.1.4 Service standards

Under the 2009 Paurashava Act 2009, municipalities are responsible for the execution of the entire FSM service chain. They are also charge with ensure that this is carried out in compliance with existing rules and regulations on the disposal of liquid effluent and quality of end products such as compost, and without adversely affecting health and the environment. Until treatment facilities are built, faecal sludge will continue to be disposed of in pits or trenches dug on land designated by the municipality. The Ministry of the Environment and Forestry through the Department of Environment is responsible for ensuring that all relevant environmental laws, regulations and principles are followed to the letter by all concerned throughout the FSM service chain.

4 Stakeholder Engagement

4.1 Focus Group Discussions

Focus group discussions were held with five groups: members of the town level coordination committee, conservancy staff of the municipality, sweeper groups and the ward committees of two wards. A total of 89 people were involved in the FGDs, comprising 16 women and 73 men. We interviewed the 02 Panel Mayor Md. Shaheen Akter and 03 Panel Mayor Kazi Jahanara Parvin. The municipal authority and a local NGO (SKS Foundation) were involved throughout the whole process. The local NGO made all the arrangements for the meetings and discussions, keeping in constant contact with the municipality. The municipality extended us a helping hand whenever needed. They participated in our discussions and provided us with valuable information. The SFD was developed based on these discussions.

5 Acknowledgements

The authors are grateful to the mayors, councillors and Mr. Nazrul Islam Topader, project co-ordinator of SKS Foundation, for their help developing this report.

6 References

- BBS, 2011. Census of Bangladesh Bureau of Statistics.
- FGD, 2018a. Focus group discussion with conservancy staffs, 14 August 2018.
- FGD, 2018b. Focus group discussion with Town Level Coordination Committee members, 14 August 2018.
- FGD, 2018c. Focus group discussion with sweepers, 14 August 2018.
- FGD, 2018d. Focus group discussion with ward committee, 14 August 2018.
- KII1, 2018. Interview with Mr. Shahin Akter, 02 Panel Mayor and councillors.
- KII2, 2018. Interview with Kazi Jahanara Parvin, 03 Panel Mayor.
- IRF, 2017. Institutional and Regulatory Framework for FSM: Section on municipalities
- Paurashava Act, 2009.

7 Appendix

7.1 Appendix 1: Stakeholder identification

Stakeholder Group	Discussion Date
Town Level Coordination Committee members	14 August 2018
Conservancy Staffs	14 August 2018
Sweepers	14 August 2018
Ward No. 11 committee	14 August 2018
Ward No. 3 committee	14 August 2018

7.2 Appendix 2: Photos of focus group discussions



Figure 5: Focus group discussion with TLCC members



Figure 6: Focus group discussion with 03 no. ward committee



Figure 7: Focus group discussion with 11 no. ward committee



Figure 9: Focus group discussion with conservancy staffs



Figure 8: Focus group discussion with sweepers