

Assessment of Faecal Sludge Management

SFD factsheets for 30 Cities in Uttar Pradesh



Research Director and Co-ordinator: Dr Suresh Kumar Rohilla

Writers: Bhitush Luthra, Rahul Mankotia, Shantanu Kumar Padhi, Bhavik Gupta, Anil Yadav and Amrita Bhatnagar

Research Support: Abhinay Saxena, Arjun Sharma, Harsh Yadav, Hemant Arora, Manish Mishra, Naveen Kumar, Neha Gupta, Nirdesh Joshi, Rajeev Prajapati, Sachin Sahani, Sarim Ansari, Sonam Gupta, Sanpreet Kaur and Vandana Bharti

Creative Director: Ajit Bajaj

Design & Infographics: Ritika Bohra and Anil Yadav

Production: Rakesh Srivastava and Surender Singh

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AGRA

CITY PROFILE

Population: 1,874,542

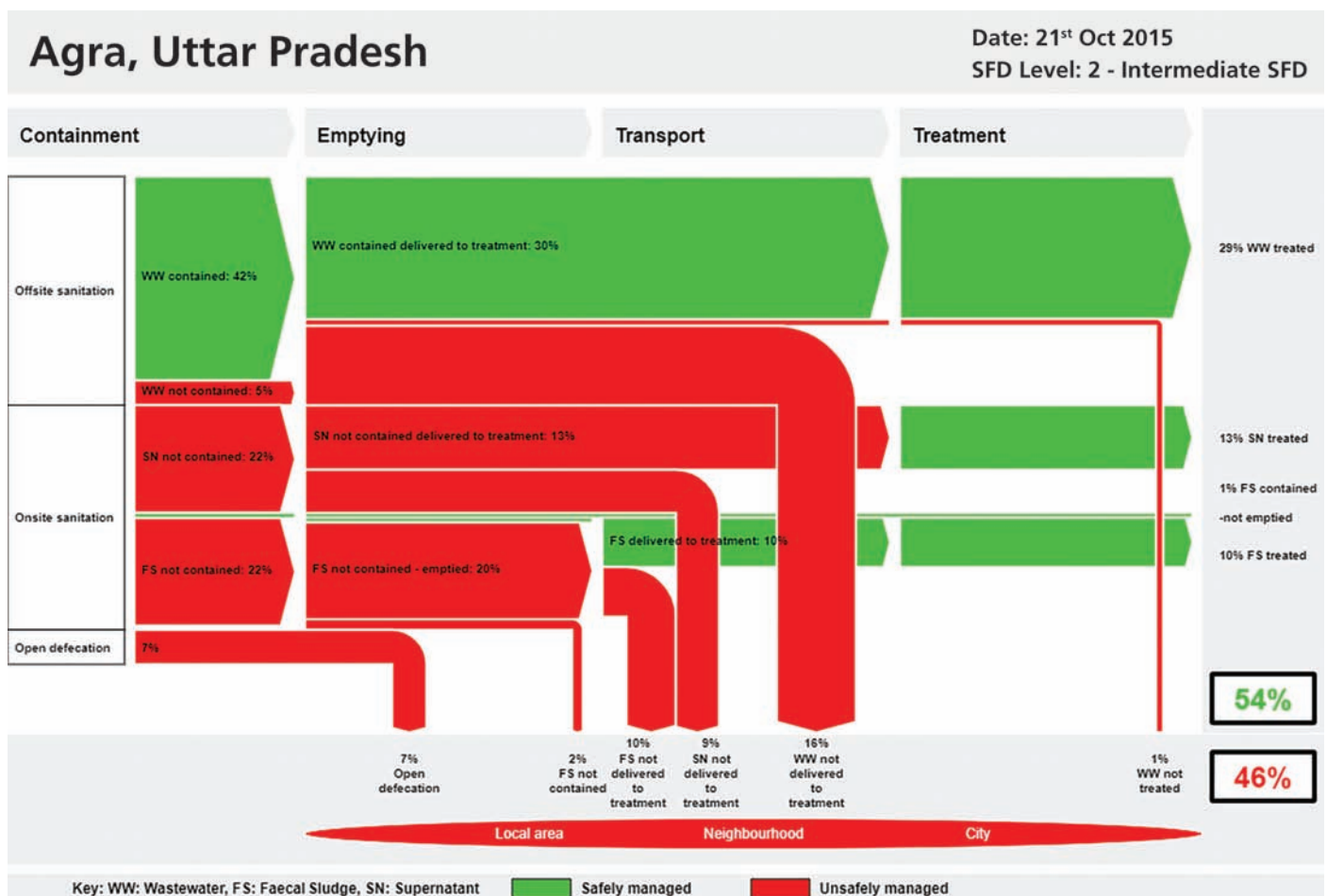
Municipal area: 141 sq.km.

Name of local government:

Nagar Nigam Agra

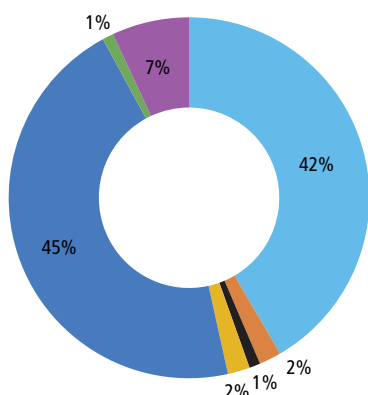
Agra lies in Indo-Gangetic plain, 363 km west of state capital, Lucknow and 200 kilometres south from national capital, Delhi. Agra is a major tourist destination because of its impressive Mughalera monuments, specially the Taj Mahal.

SFD graphic



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to 'don't know where'
- Toilet discharges directly to open ground
- Septic tank connected to open drain or storm sewer
- Lined pit with semi-permeable walls and open bottom, no outlet or overflow
- Open defecation



Figure 1: Septic tank having outlet connected to open drain

↘ Emptying

Service provided by	Government	Private operator
No of vehicles	6	20-25
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	500	800 - 4,000
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Emptying of septic tank

↘ Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	20-25 (Avg.- 22)	6
No of trips per tanker per day	3	1
Capacity of vehicle	5,000 litres	5,000-6,000 litres



Figure 3: Tractor mounted vacuum tanker

↘ Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	UASBR	NA
Generated	221.25 MLD	260 KLD
Treated	135.75 MLD	0 KLD
Designated disposal site	No	No

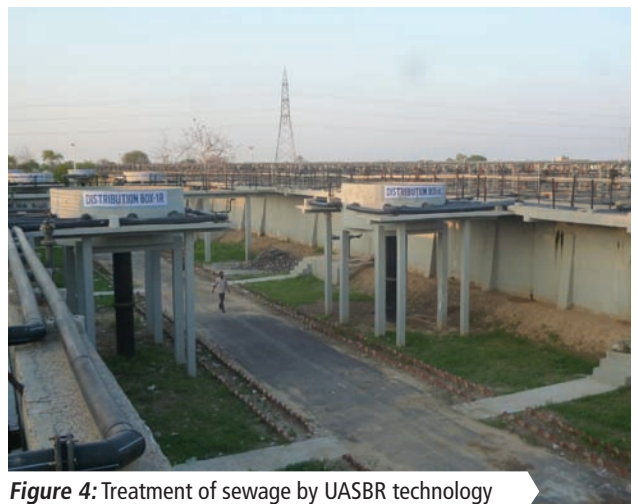


Figure 4: Treatment of sewage by UASBR technology



Figure 5: Sludge drying bed unit



ALIGARH

CITY PROFILE

Population: 889,408

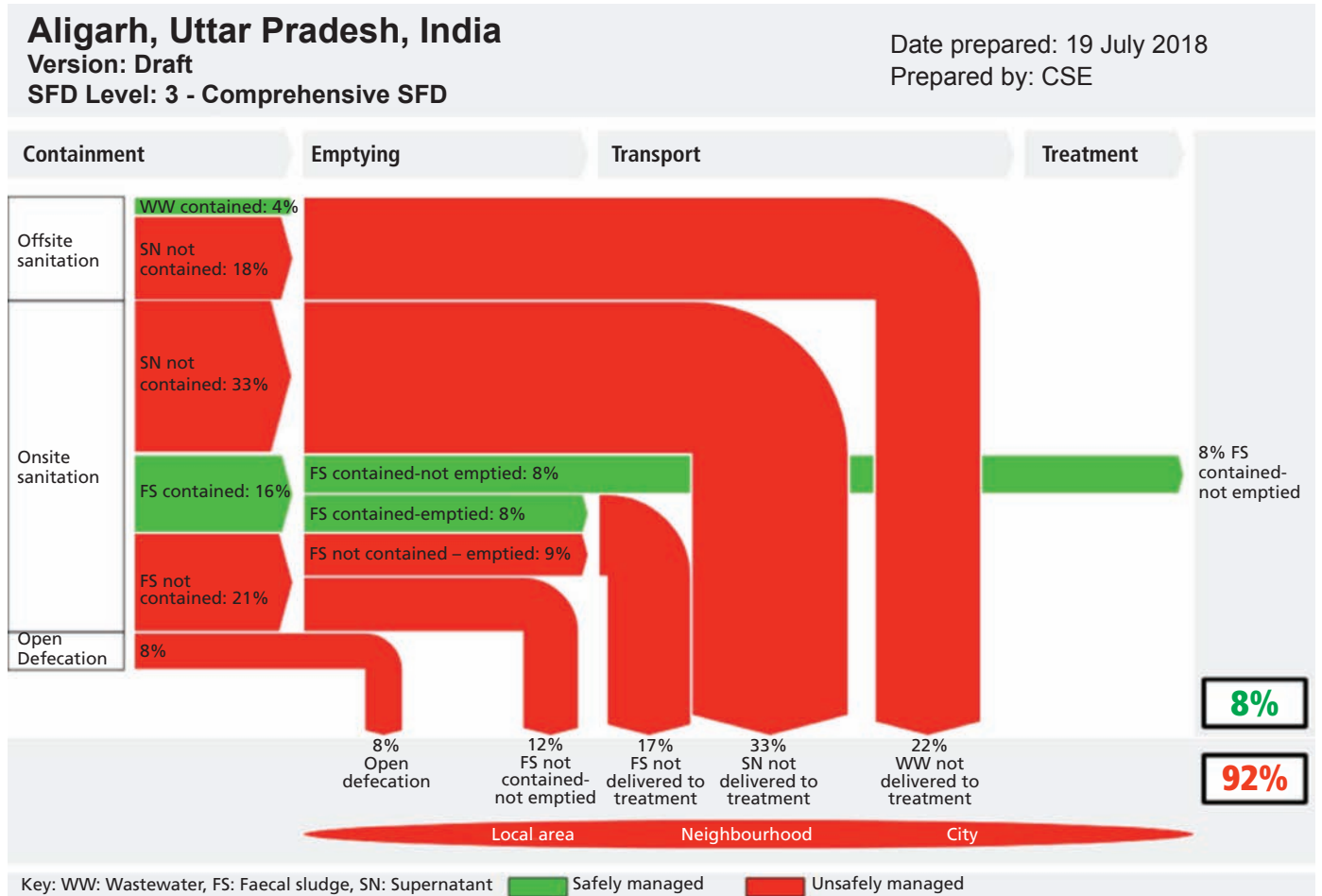
Municipal area: 40 sq.km.

Name of local government:

Aligarh Municipal Corporation

Aligarh formerly Allygurh & Koil) is a city in the Northern Indian state of Uttar Pradesh that is famous for lock industries and the administrative headquarters of the Aligarh district. Aligarh is one of the largest cities in Uttar Pradesh, and is the 55th largest city in India.

SFD graphic



Service outcomes

Containment

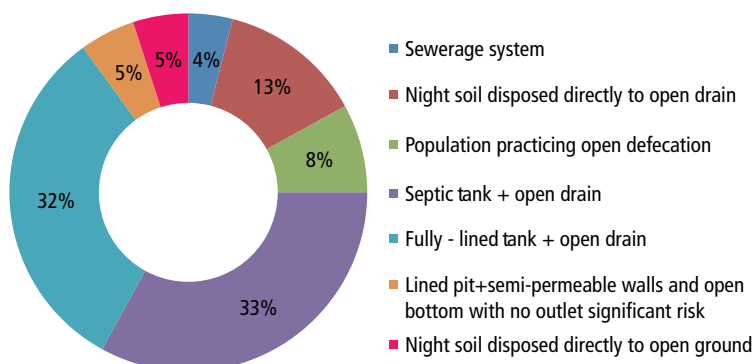


Figure 1: Drums used as containment

Emptying

Service provided by	Government	Private operator
No of vehicles	4	3
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 800-2,000	INR 800-2,000
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Toilets directly connected to open drain

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	7	0
No of trips per tanker per day	4 - 6	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	88.94 MLD	84 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Waste water flowing into the river



Figure 5: Waste water used for agriculture

Source: Data collected by CSE team, July 2018



ALLAHABAD

CITY PROFILE

Population: 1,112,544

Municipal area: 350 sq.km.

Name of local government:

Allahabad Municipal Corporation

Allahabad, also known as Prayag is one of the largest commercial centres in Uttar Pradesh. It lies in Indo-Gangetic plain, 200 km from the state capital, Lucknow. The city is situated at the confluence of three rivers – Ganga, Yamuna and the invisible Saraswati. The meeting point is known as Triveni (or Sangam) and is very sacred to Hindus.

SFD graphic

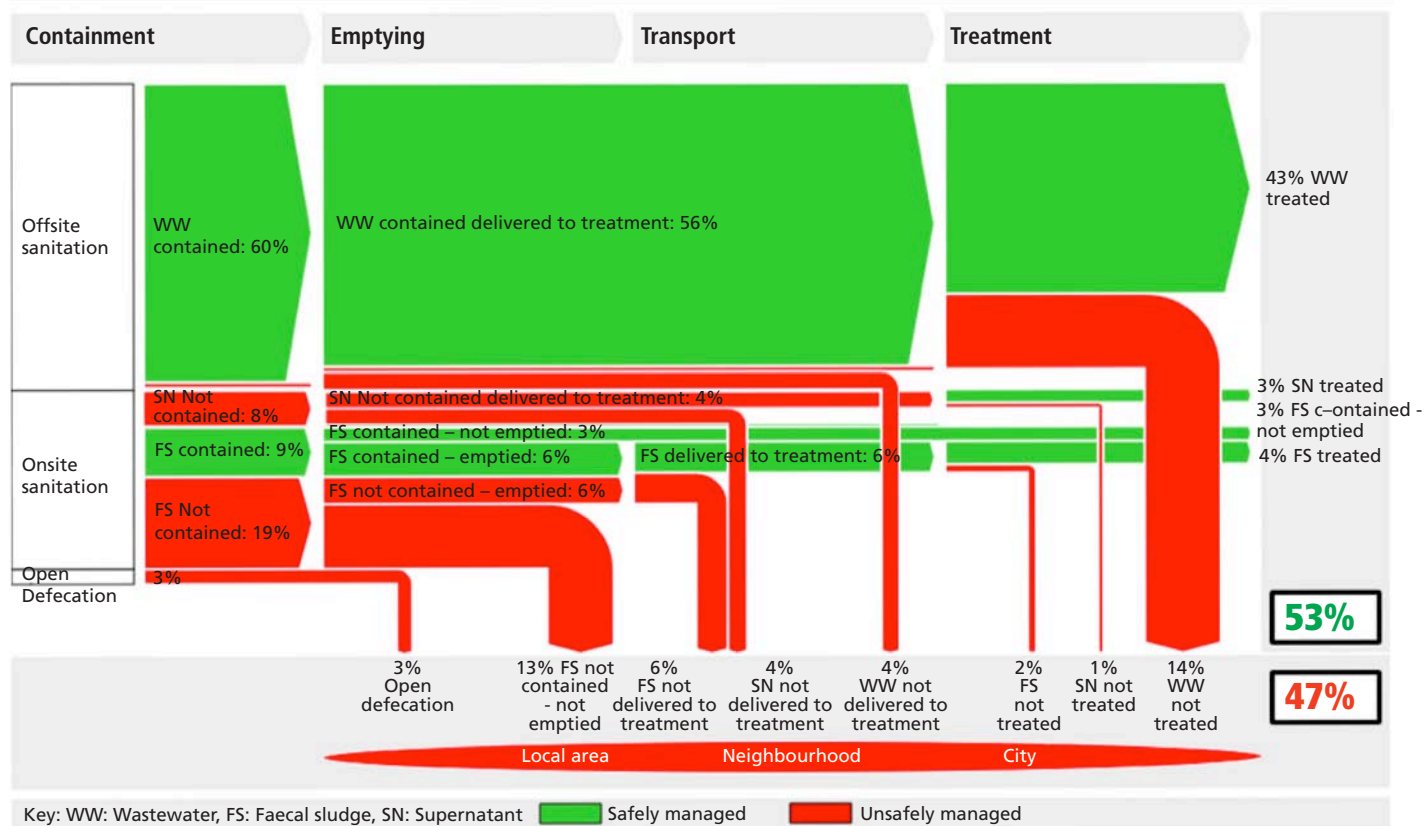
Allahabad, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

Date prepared: 26 July 2018

Prepared by: CSE



Service outcomes

Containment

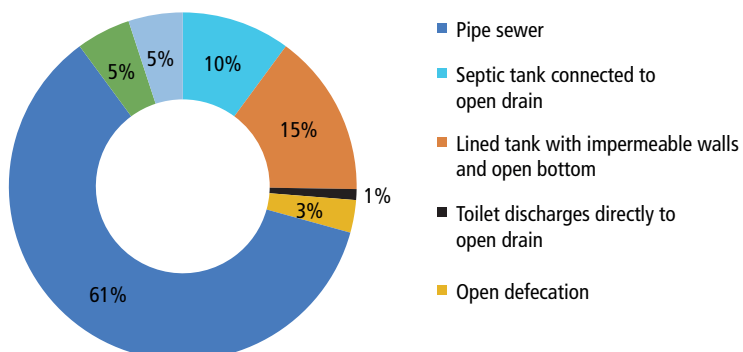


Figure 1: Septic tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	3	5-6
Licensed / registered	Yes	2
Record maintained	Yes	Yes
Fee charged	INR 1,500-2,000	INR 800-4,000
No of manual emptiers	50-60	
Fee charged by manual emptiers	INR 5,000	



Figure 2: Tractor mounted tanker for emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	5-6	3
No of trips per tanker per day	1-2	0-1
Capacity of vehicle	4,000-6,000 litres	5,000-6,000 litres



Figure 3: ULB owned truck mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	Yes
Type of facility	STP	STP
Generated	288 MLD	72 KLD
Treated	265 MLD	111 KLD
Designated disposal site	River Ganga and Yamuna	SPS and manhole

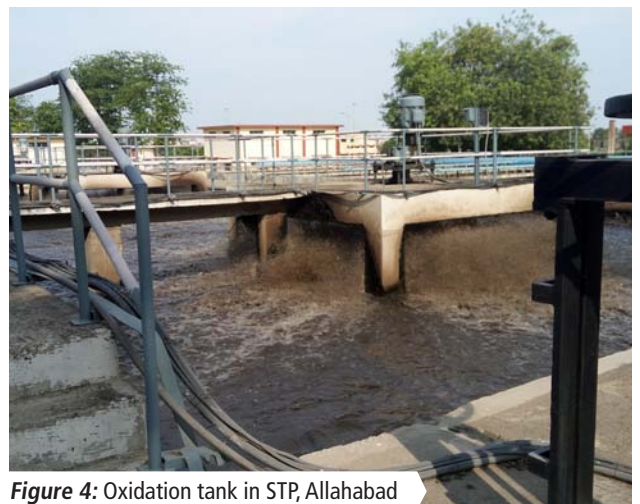


Figure 4: Oxidation tank in STP, Allahabad

Source: Data collected by CSE team, July 2018



Figure 5: Supernatant and WW discharged into river Ganga

AMROHA

CITY PROFILE

Population: 198,741

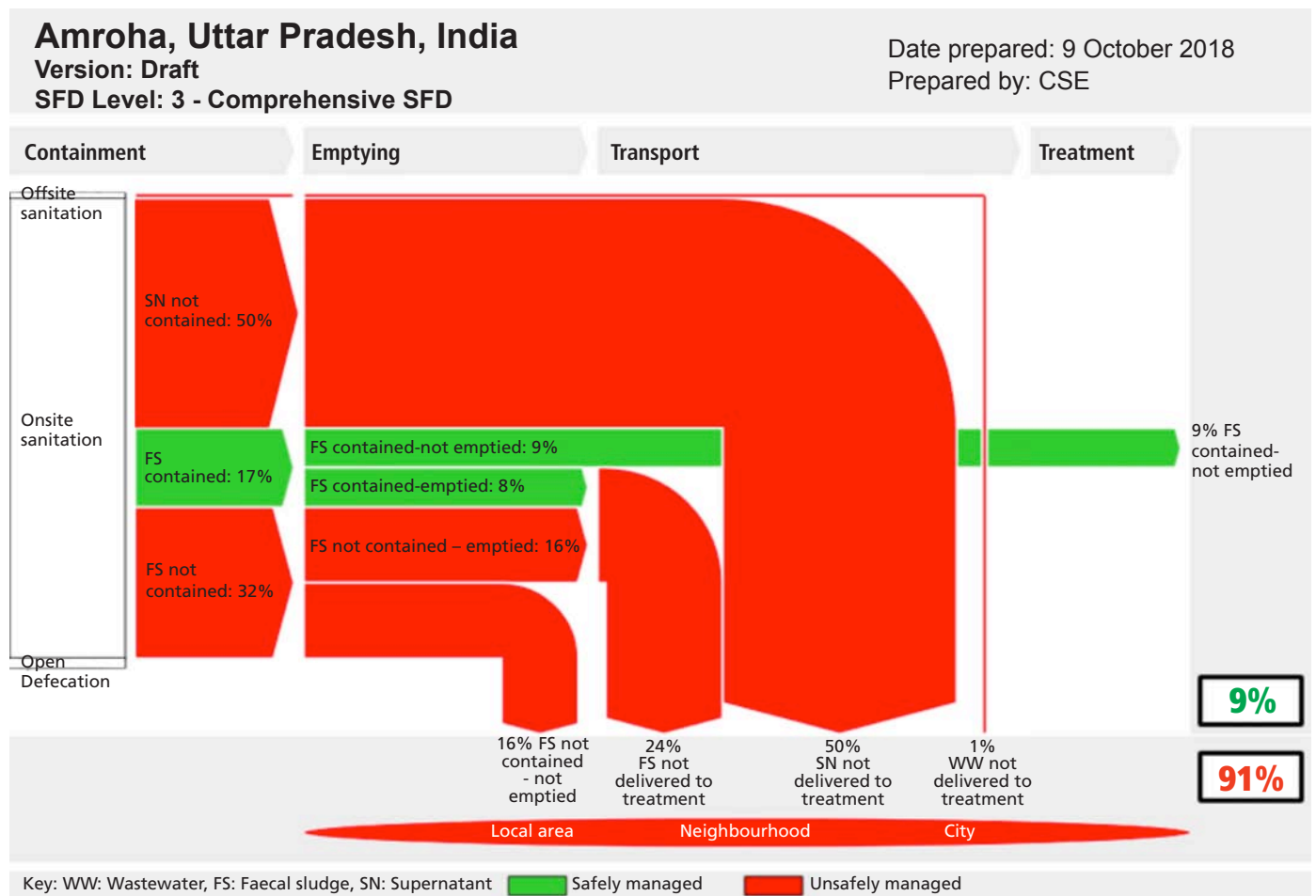
Municipal area: 9 sq.km.

Name of local government:

Nagar Palika Parishad Amroha

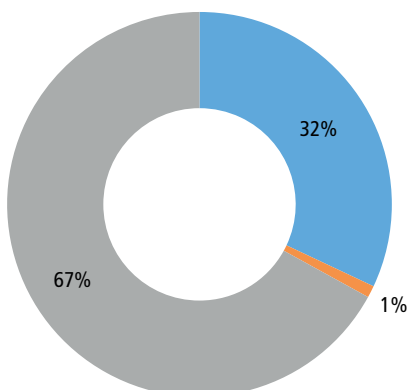
Amroha is located in the Moradabad district of Uttar Pradesh, India. The city was previously known as JP Nagar. Name of Amroha drove out from the word (Sanskrit) AmrMango and Vanam forest and also Rohu species of fish. The city of mangoes, is famous for some of its cotton textiles.

SFD graphic



Service outcomes

Containment



- Septic tank connected to open drain or storm sewer
- Toilet discharge directly to open drain or storm sewer
- Fully lined tank (sealed) connected to open drain or storm sewer



Figure 1: Fully lined tank of a house under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	2	15
Licensed / registered	No	No
Record maintained	No	No
Fee charged	INR 700	INR 800
No of manual emptiers	10	
Fee charged by manual emptiers	INR 1,000 - 1,500	



Figure 2: Government tanker used for emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	10	0
No of trips per tanker per day	2	NA
Capacity of vehicle	4,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	19.84 MLD	78 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: SN and WW disposed in open ground

Source: Data collected by CSE team, July 2018



Figure 5: Discharge of faecal sludge in agriculture land

AYODHYA-FAIZABAD

CITY PROFILE

Population: 2,21,118

Municipal area: 26.26 sq.km.

Name of local government:

Ayodhya Municipal Corporation

Ayodhya - Faizabad is in Faizabad division of district Faizabad, Uttar Pradesh, India. Ayodhya and Faizabad cities are the tourist places of historical and archaeological importance, which are located on the banks of Saryu River.

SFD graphic

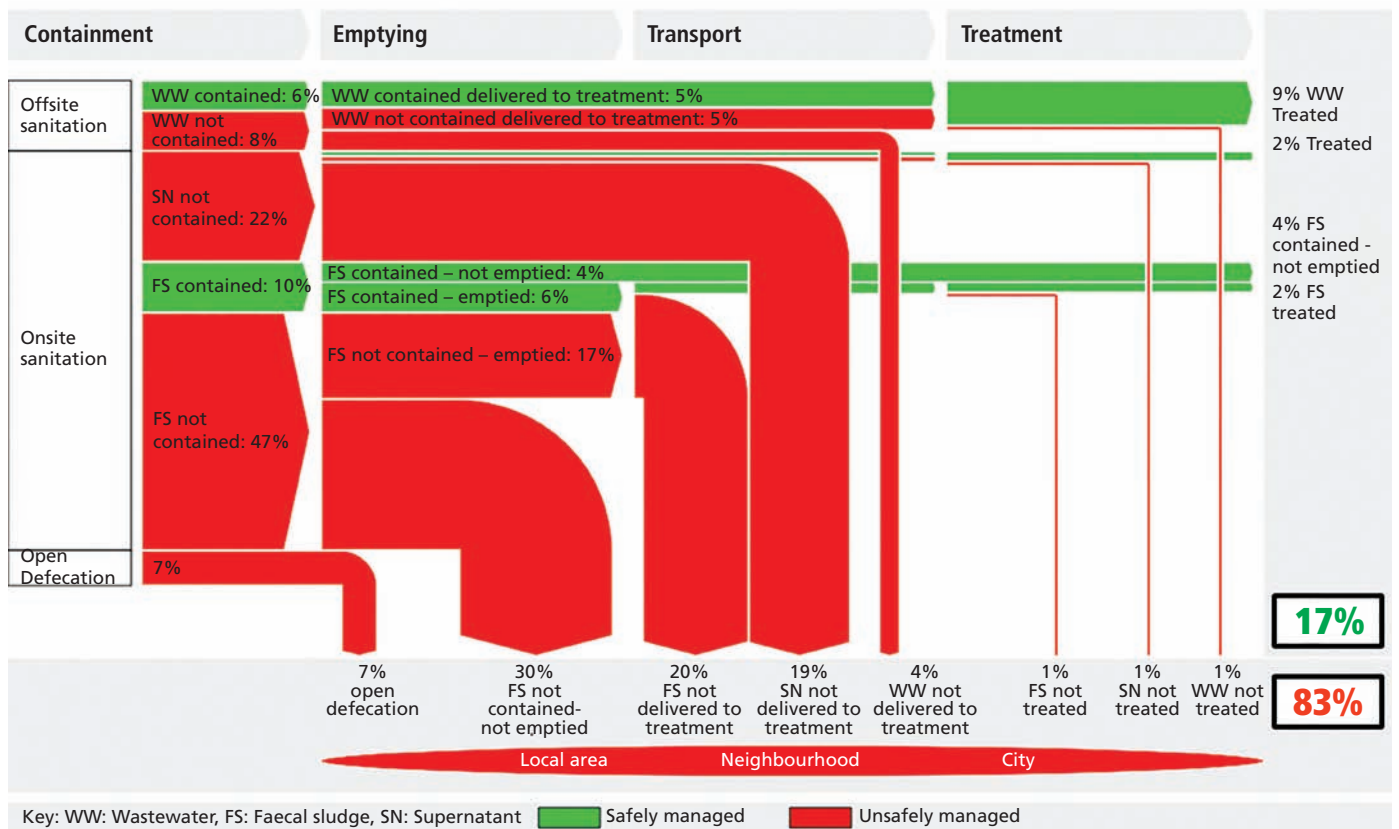
Ayodhya/Faizabad, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive

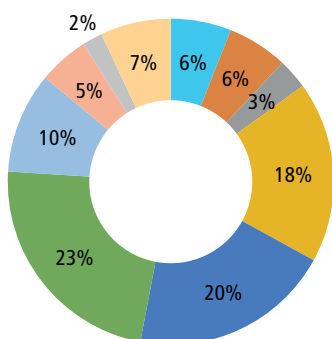
Date prepared: 4 Aug 2018

Prepared by: CSE



Service outcomes

Containment



- Piped sewer system
- Toilet discharges directly to open drain
- Toilet discharges directly to open ground
- Septic tank connected to soak pit
- Septic tank with outlet connected to open drain
- Fully lined tank with outlet connected to open drain
- Fully lined tank connected to open ground
- Lined tank with impermeable walls and open bottom
- Unlined pit
- Open defecation



Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,500 - 3,000	INR 1,500 - 2000
No of manual emptiers	100 - 120	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Emptying of FS

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	6	0
No of trips per tanker per day	1	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Transport of FS through nullah

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	23.17 MLD	40 KLD
Treated	7 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Sewage treatment plant



Figure 5: Disposal of FS in low lying areas

Source: Data collected by CSE team, September 2018



BALLIA

CITY PROFILE

Population: 104,424

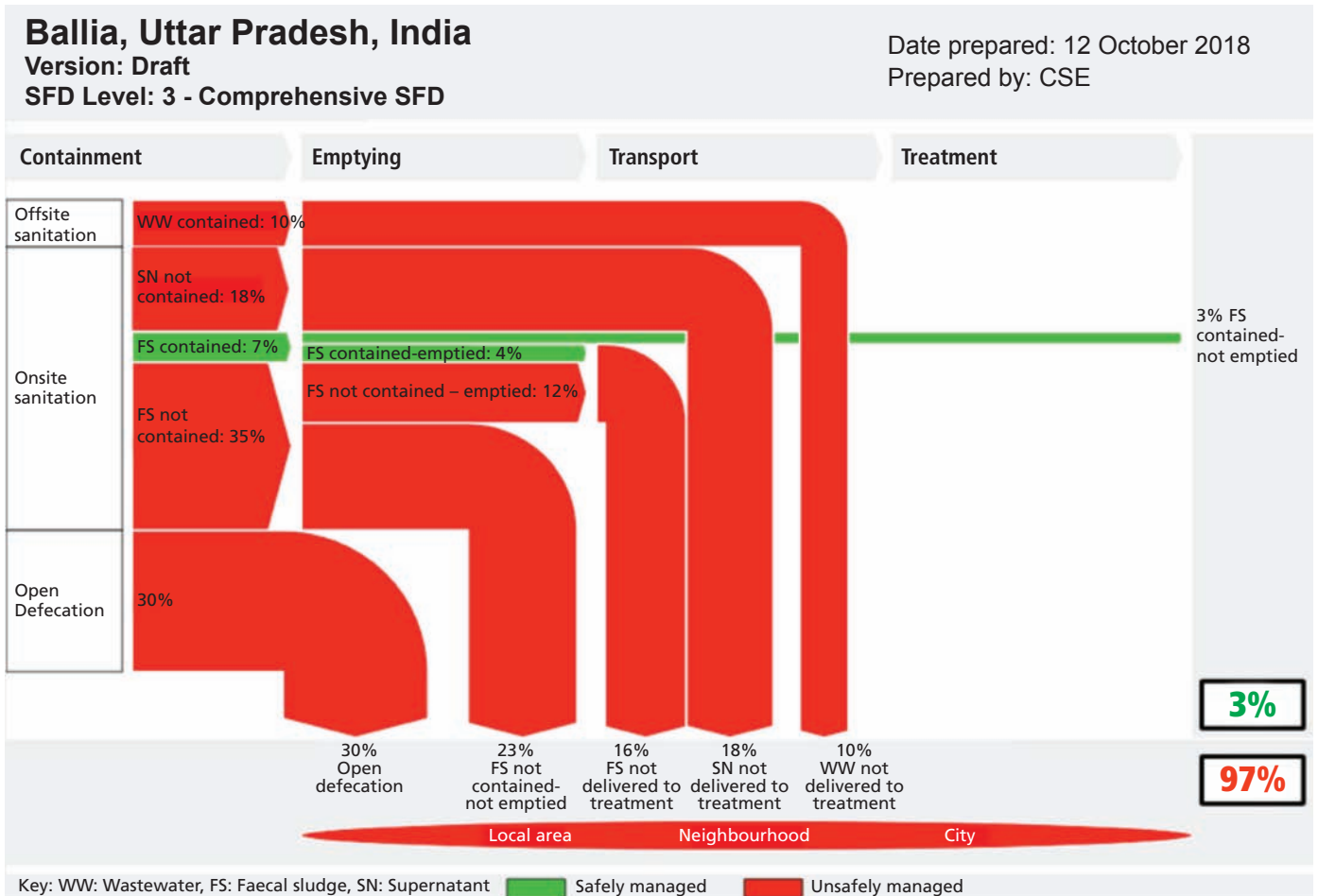
Municipal area: 16 sq.km.

Name of local government:

Nagar Palika Parishad Ballia

Ballia is also known as Bagi Ballia ("Rebel Ballia"), because Ballia gained independence twice, first on 19 August 1942 for one day, and the second time with India. The eastern boundary of the city lies at the junction of two major rivers, the Ganges and the Ghaghara. The city is situated 140 km (87 mi) east of Varanasi. Bhojpuri is the primary local language.

SFD graphic



Service outcomes

Containment

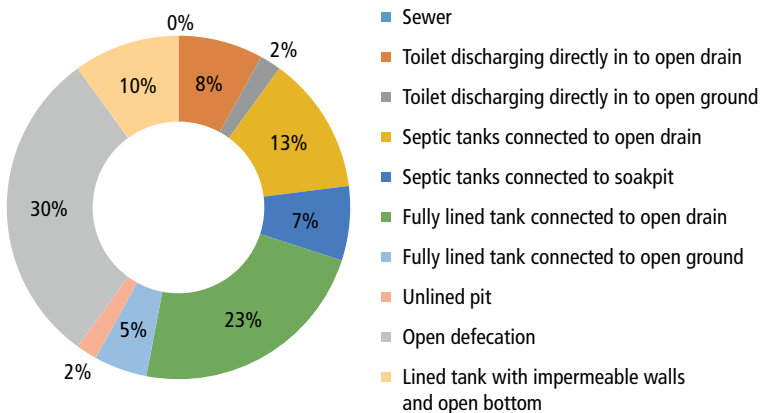


Figure 1: Septic tank of a household

↘ Emptying

Service provided by	Government	Private operator
No of vehicles	1	5
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 1000 - 1200	INR 1800 - 2000
No of manual emptiers	350 - 400	
Fee charged by manual emptiers	INR 1,000-1,500	

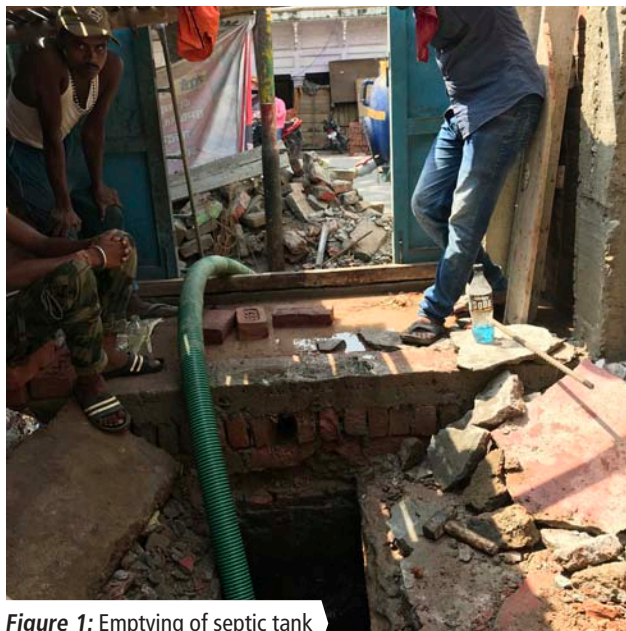


Figure 1: Emptying of septic tank

↘ Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per day	6	NA
Capacity of vehicle	3,000 - 5,000 litres	NA



Figure 3: Tractor mounted emptying vehicle

↘ Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	No	NA
Generated	12 MLD	34 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Disposal in agriculture land



Figure 5: FS disposed in agriculture land

Source: Data collected by CSE team, July 2018



BARAUT

CITY PROFILE

Population: 103,764

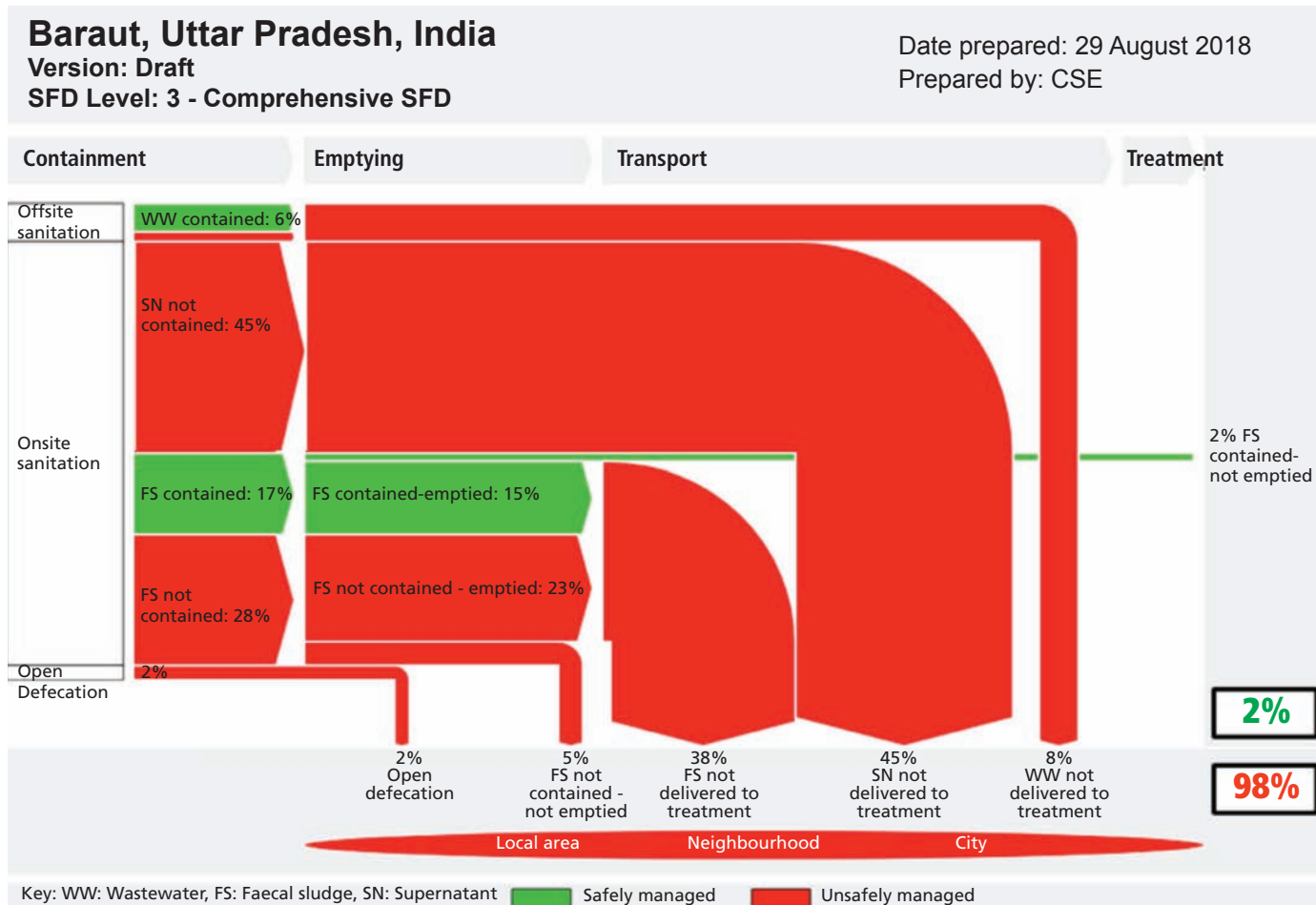
Municipal area: 10.36 sq.km.

Name of local government:

Baraut Nagar Palika Parishad

Baraut is an important town and tehsil in Baghpat district of Uttar Pradesh state in India. Baraut is located 55 kilometers from Delhi (the national capital of India) and 601 kilometers from state capital Lucknow and is within the National Capital Region (NCR). Baraut city is famous for the manufacturing of rim axle and cultivation of sugarcane.

SFD graphic



Service outcomes

Containment

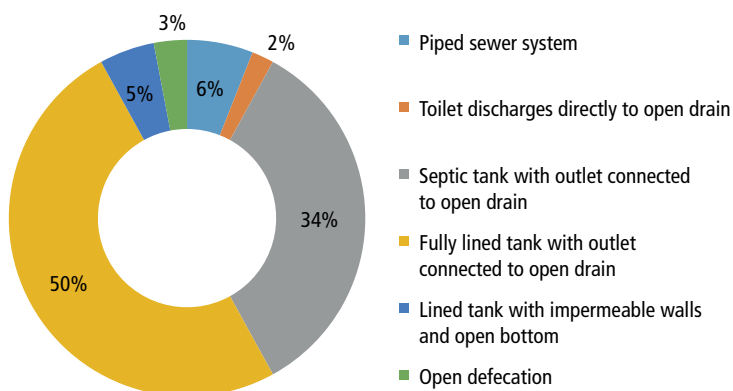


Figure 1: Fully lined tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	1	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Government tanker used for emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	5	1
No of trips per tanker per day	7	2
Capacity of vehicle	4,000 litres	5,000 litres



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	No	NA
Generated	10 MLD	32 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No

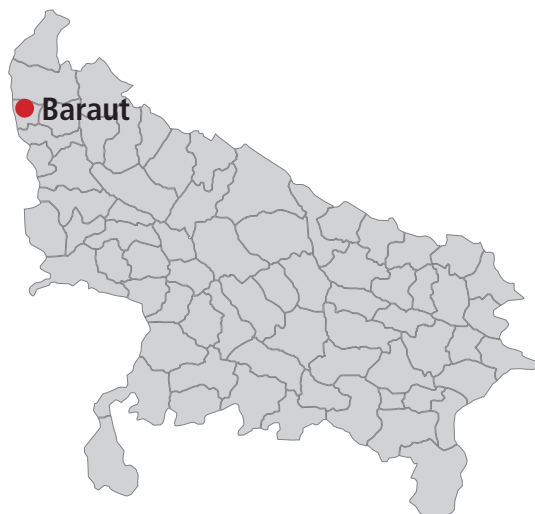


Figure 4: Faecal sludge discharged into sugarcane field



Figure 5: Faecal sludge discharged into drain leading to fields

Source: Data collected by CSE team, August 2018



BASTI

CITY PROFILE

Population: 114,657

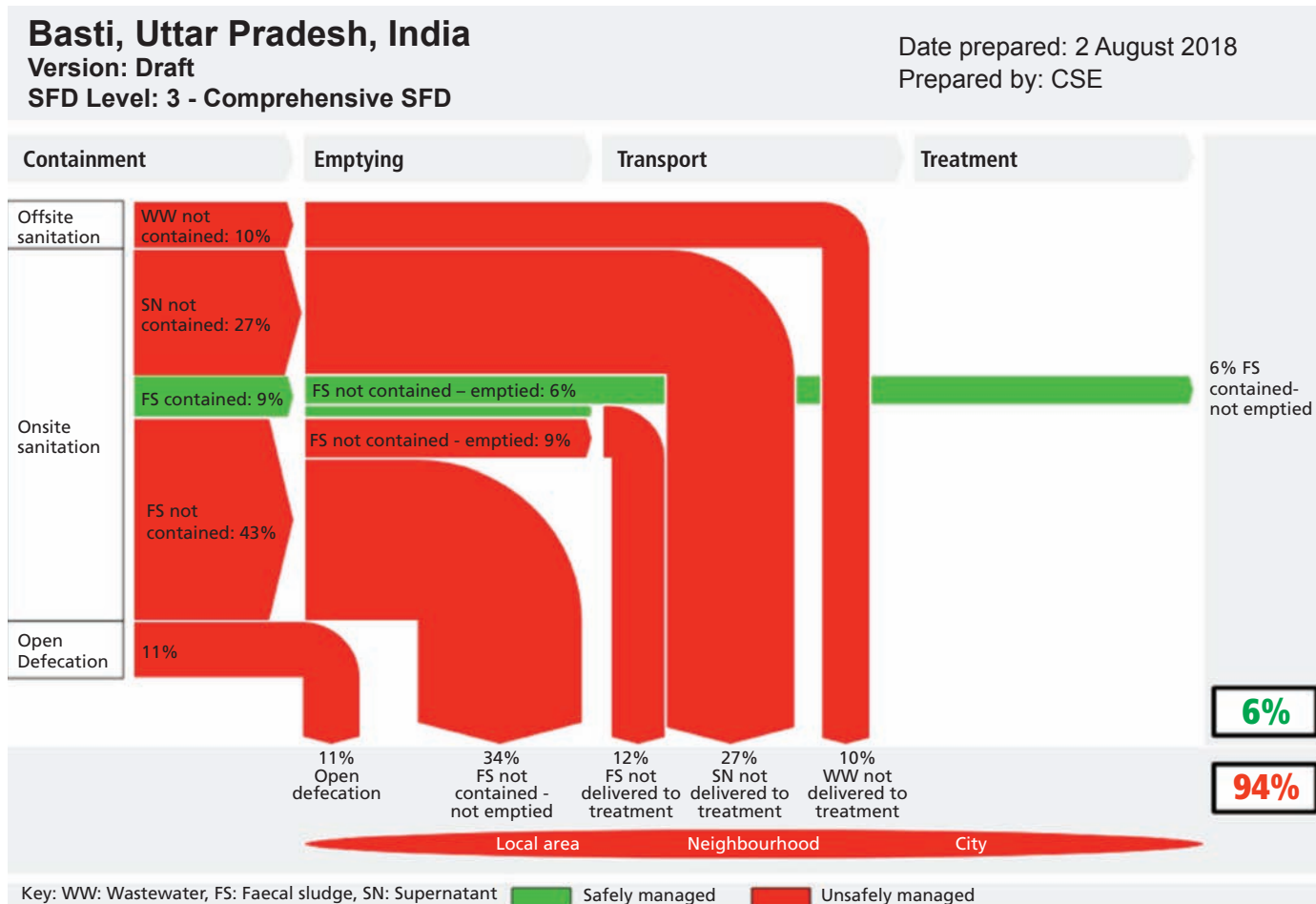
Municipal area: 19.47 sq.km.

Name of local government:

Nagar Palika Parishad Basti

Basti district is one of the districts of Uttar Pradesh state, India and Basti town is the district headquarters. The river Kuwana and Ghaghara are the main rivers, besides these rivers there are so many rivers, nalas and ponds in the area.

SFD graphic



Service outcomes

Containment

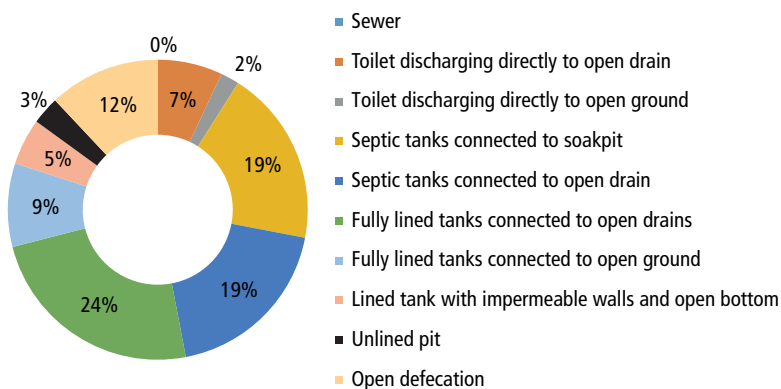


Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	6
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 1,000 - 1,200	INR 1,800 - 2,000
No of manual emptiers	100 - 150	
Fee charged by manual emptiers	INR 1,000/ft - 1,500/ft	



Figure 1: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per day	6	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	No	NA
Generated	11 MLD	38 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Disposal into drain



Figure 5: SN from septic tank discharging into open drain

Source: Data collected by CSE team, July 2018



BAHRAICH

CITY PROFILE

Population: 186,223

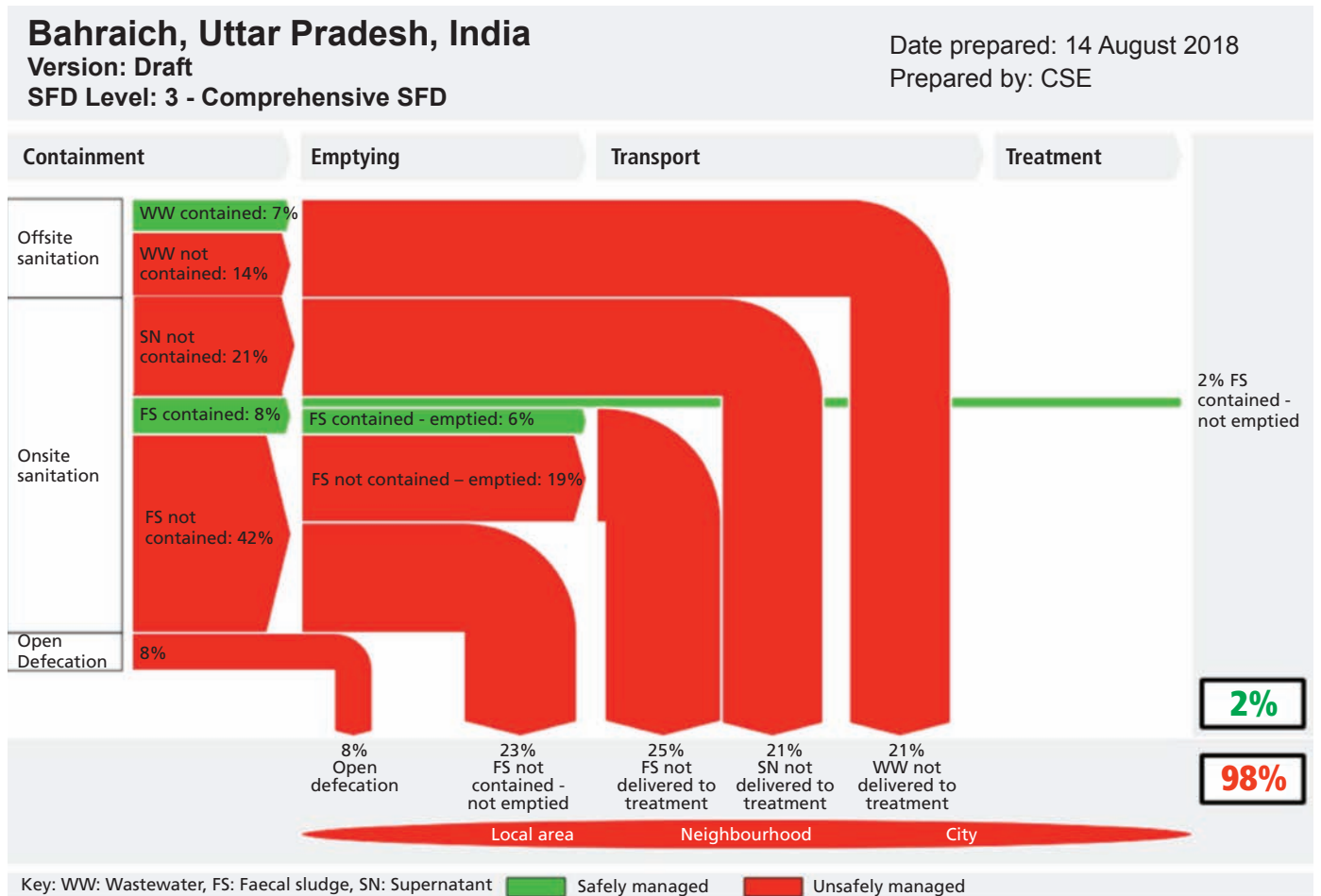
Municipal area: 13.3 sq.km.

Name of local government:

Nagar Palika Parishad Behraich

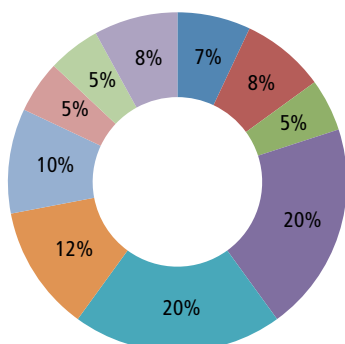
Bahraich is a rich historic city of Uttar Pradesh State in Devipatan division of India. It is the administrative headquarter of district Behraich. It is located on the bank of Saryu River, a tributary of river Ghaghra. The city is about 125 km North-East of state's capital Lucknow.

SFD graphic



Service outcomes

Containment



- Pipe sewer
- Toilet discharged directly into open drain
- Toilet discharged directly into open ground
- Septic tank connected to open drain
- Fully lined tank connected to open drain
- Septic tank connected to soakpit
- Fully lined tank connected to soakpit
- Lined tank with impermeable walls and open bottom
- Unlined pit
- Open defecation



Figure 1: A septic tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	1	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000-1,200	INR 1,800-2,000
No of manual emptiers	250-300	
Fee charged by manual emptiers	INR 6,000	



Figure 2: Emptying of a fully lined tank connected to open drain

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	6	0
No of trips per tanker per day	1	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	13 MLD	30 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Faecal sludge discharged into agriculture field



Figure 5: Cleaning of clogged tanker

Source: Data collected by CSE team, August 2018



BIJNOR

CITY PROFILE

Population: 93,297

Municipal area: 3.6 sq.km.

Name of local government:

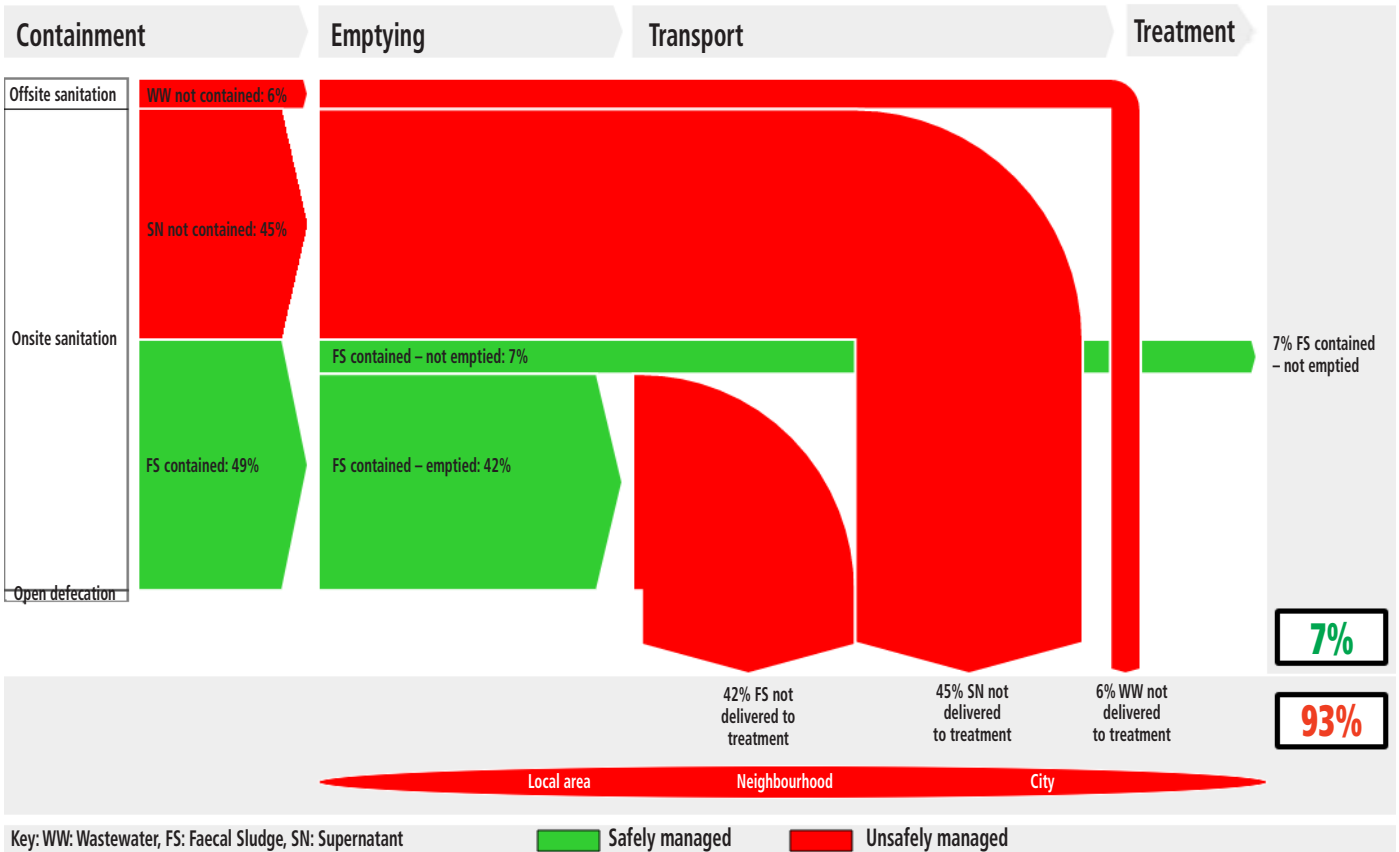
Nagar Palika Parishad Bijnor

Bijnor is located 12 km west to the bank of River Ganga and 460 km from Lucknow, the state capital of Uttar Pradesh. Bijnor is the district headquarter of Bijnor district. The geographical coordinates of Bijnor are 29° 0' 0" North and 78° 16' 0" East. The topography of Bijnor district is majorly plain.

SFD graphic

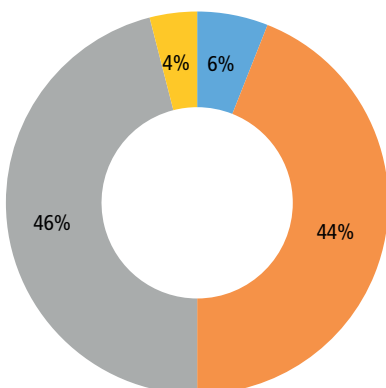
Bijnor, Uttar Pradesh

Date: 3rd July 2017
SFD Level: 3 – Comprehensive SFD



Service outcomes

Containment



- Night soil disposed directly to open drain/open ground
- Septic Tank + Open drain
- Fully-lined Tank + Open drain
- Lined Pit + Semi-permeable walls and open bottom with no outlet significant risk



Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator(s)
No of vehicles	0	5
Licensed / registered	NA	No
Record maintained	NA	No
Fee charged	NA	INR 1,500 - 2,000
No of manual emptiers	200 - 250	
Fee charged by manual emptiers	INR 2,500	

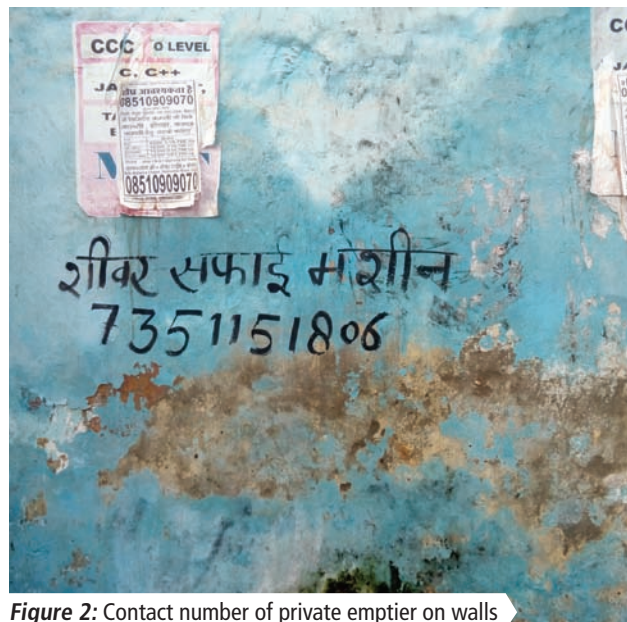


Figure 2: Contact number of private emptier on walls

Transport

Type of emptying vehicles	Tractor mounted	Truck mounted
No of vehicles	5	0
No of trips per tanker per day	4-5 trips/week	0
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	UASBR	NA
Generated	24 MLD	12 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Discharge of faecal sludge in low lying area

Source: Data collected by CSE team, September 2018



Figure 5: STP under construction

CHANDAUSI

CITY PROFILE

Population: 114,383

Municipal area: 8.8 sq.km.

Name of local government:

Nagar Palika Parishad Chandausi

Chandausi is a municipality in Sambhal district in the state of Uttar Pradesh, India. The original name of the city was "Chaand Si", meaning "moon like" (in Indian Poetry the moon is considered to be beautiful). Chandausi is known for mint oil which has become the city's main trade.

SFD graphic

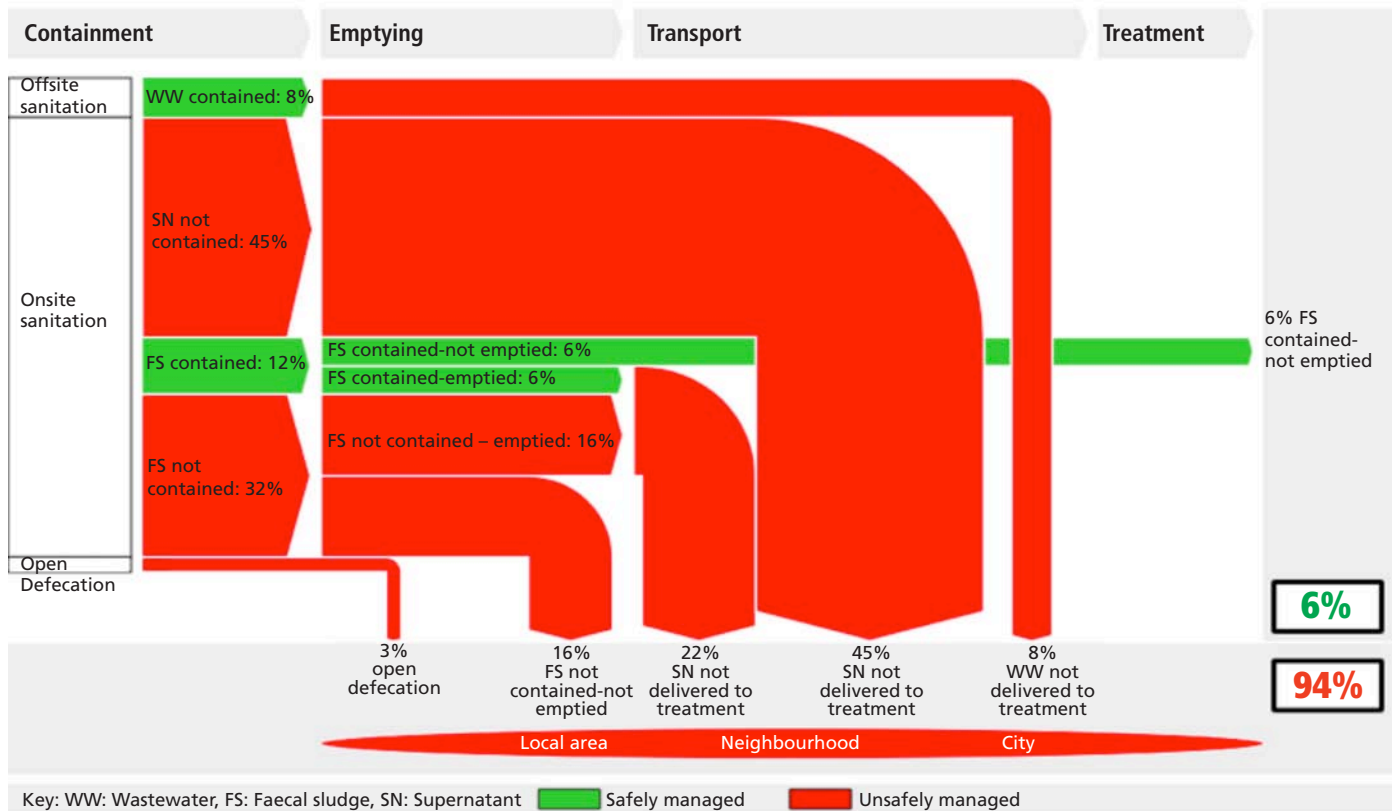
Chandausi, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

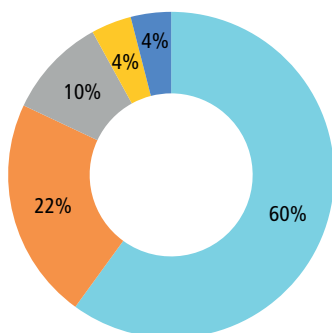
Date prepared: 9 October 2018

Prepared by: CSE



Service outcomes

Containment



- Fully lined tank (sealed) connected to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Toilet discharge directly to open drain or storm sewer
- Toilet discharge directly to a centralized combined sewer
- Open defecation



Figure 1: Fully lined tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	0	10
Licensed / registered	NA	No
Record maintained	NA	No
Fee charged	NA	INR 1,500-2,500
No of manual emptiers	150	
Fee charged by manual emptiers	INR 2,500-3,000	



Figure 2: Temporary cover of septic tank for easy emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	02	0
No of trips per tanker per day	2-3	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	11.43 MLD	50 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Faecal sludge discharge point in Sot river



Figure 5: Faecal sludge discharged on banks of Sot river

Source: Data collected by CSE team, August 2018



CHUNAR

CITY PROFILE

Population: 37,185

Municipal area: 14 sq.km.

Name of local government:

Nagar Palika Parishad Chunar

Chunar is situated along the banks of River Ganga and River Jirgo, in the state of Uttar Pradesh, India. The city lies in the Vidhyan Range, 42 km from the district headquarters, Mirzapur and at a distance of 273 km from the state capital, Lucknow. The city is famous for pottery, especially of clay toys.

SFD graphic

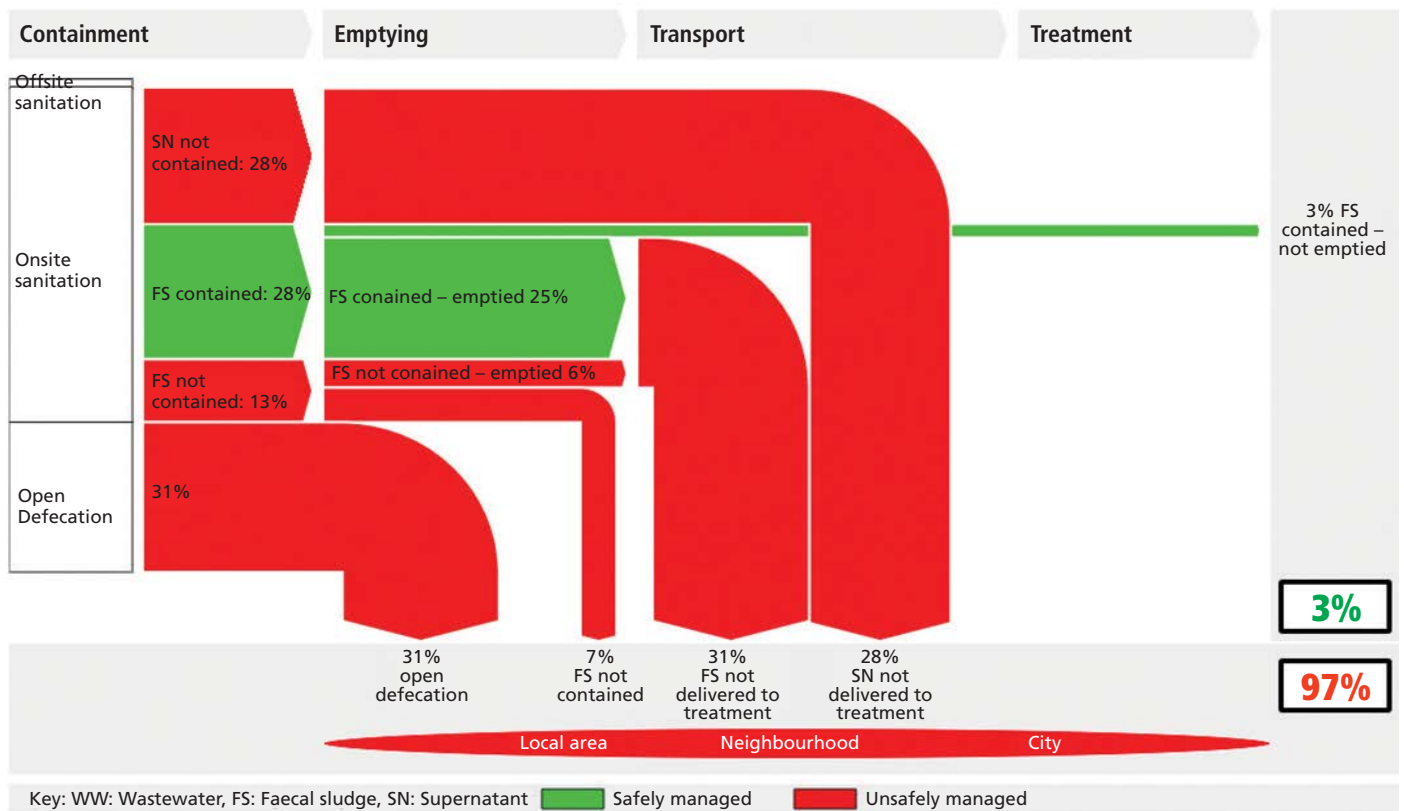
Chunar, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

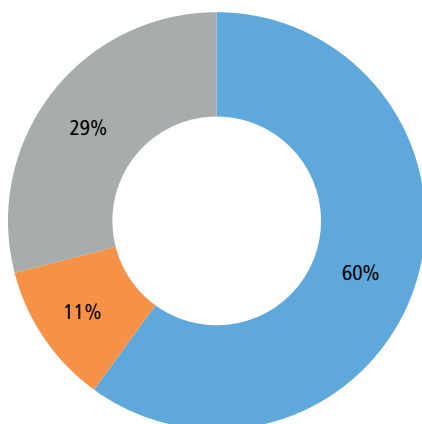
Date prepared: 6th July 2018

Prepared by: CSE



Service outcomes

Containment



- Septic tank connected to open drain
- Lined pit semi-permeable walls and open bottom with no outlet 'significant risk'
- Population practicing open defecation

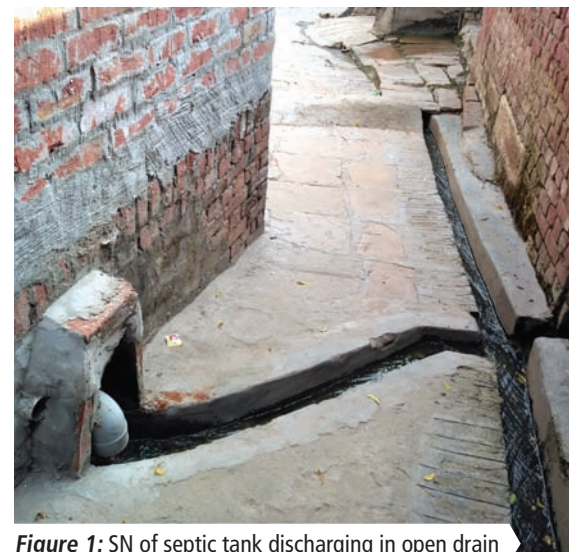


Figure 1: SN of septic tank discharging in open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	0	0
Licensed / registered	NA	NA
Record maintained	NA	NA
Fee charged	NA	NA
No of manual emptiers	20-30	
Fee charged by manual emptiers	INR 1,500-2,000	



Figure 2: Temporary opening for easy emptying of tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	0	0
No of trips per tanker per day	NA	NA
Capacity of vehicle	NA	NA



Figure 3: SN transported via open drain

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	3.71MLD	4.5 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Faecal sludge disposal point near river



Figure 5: Faecal sludge disposal point in drain

Source: Data collected by CSE team, October 2016



FATEHPUR

CITY PROFILE

Population: 193,193

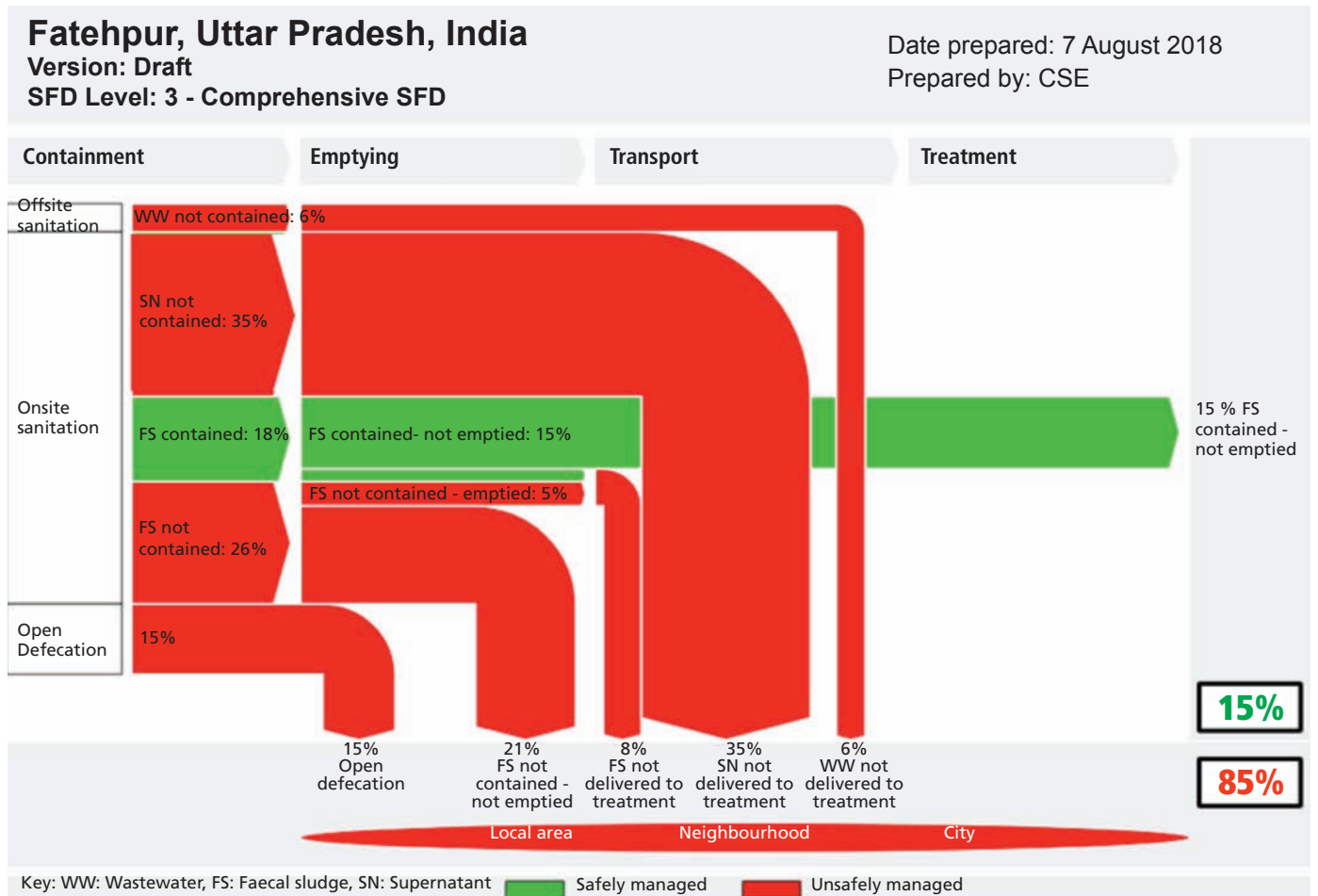
Municipal area: 56.98 sq.km.

Name of local government:

Nagar Palika Parishad Fatehpur

Fatehpur is a city and a municipal board located in Fatehpur district in the state of Uttar Pradesh, India. Located on the banks of the sacred rivers Ganges and Yamuna. This district is situated between two important cities Allahabad and Kanpur of Uttar Pradesh.

SFD graphic



Service outcomes

Containment

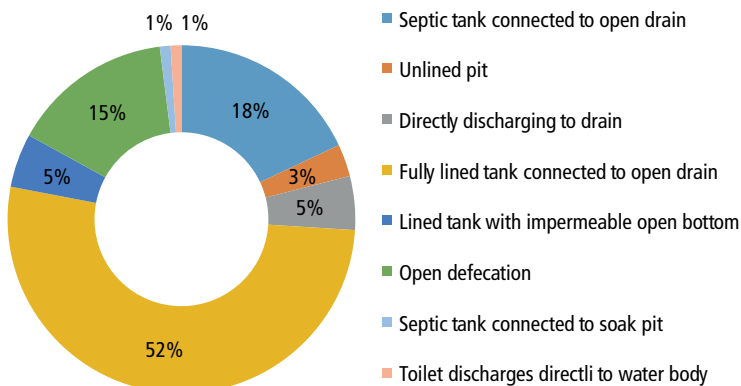


Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	6
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 1,500
No of manual emptiers	could not be tracked	
Fee charged by manual emptiers	could not be tracked	



Figure 2: Emptying of pit

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	7	0
No of trips per tanker per day	3	NA
Capacity of vehicle	4,000 litres	NA



Figure 3: SN transported to open ground via drain

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	20 MLD	40 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Discharge of faecal sludge in low lying areas



Figure 5: Discharge of faecal sludge at the road side

Source: Data collected by CSE team, August, 2018



FIROZABAD

CITY PROFILE

Population: 603,797

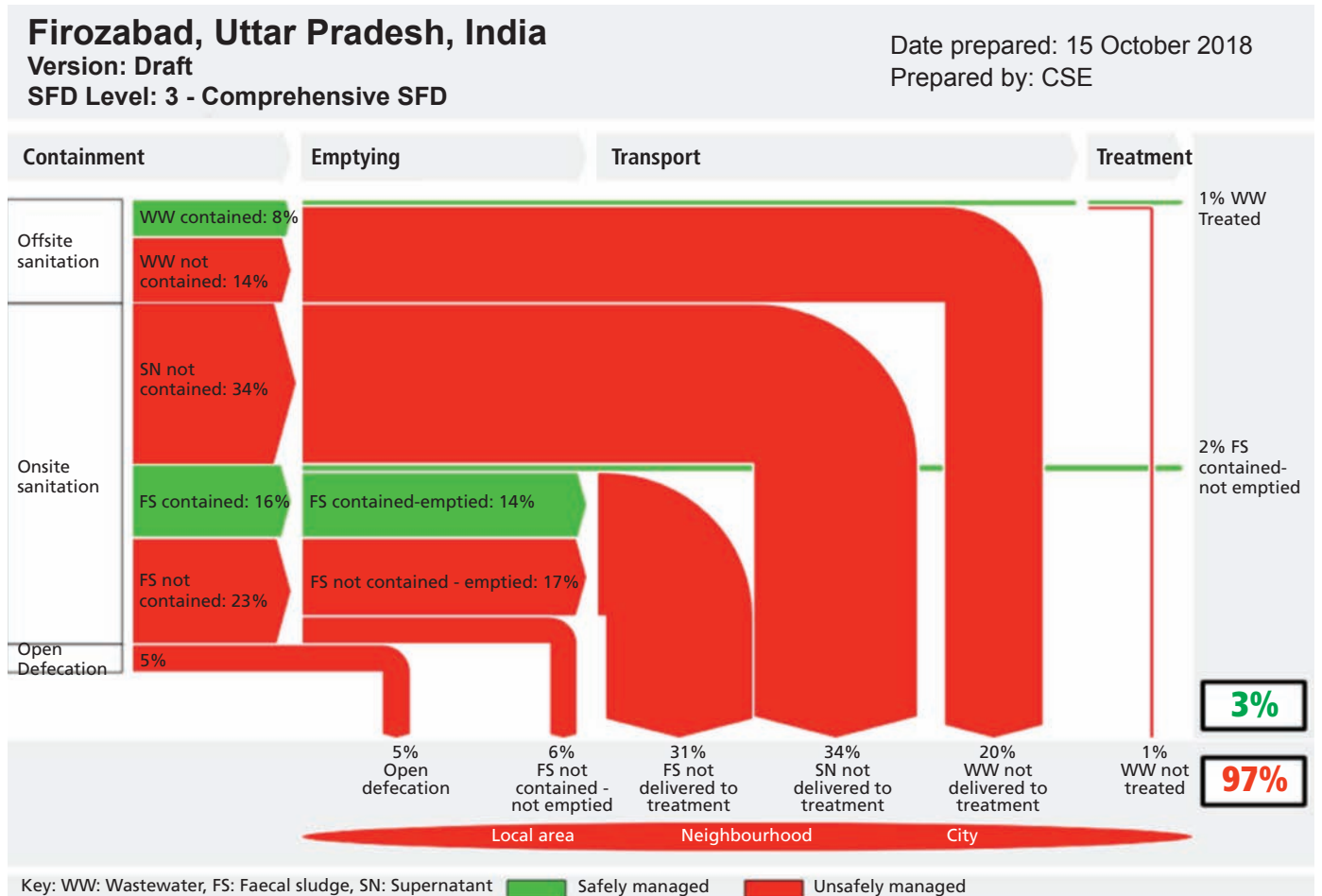
Municipal area: 34.90 sq.km.

Name of local government:

Firozabad Municipal Corporation

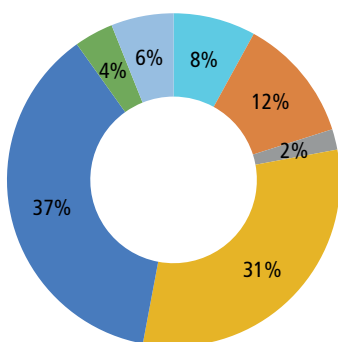
Firozabad is a city situated in Firozabad district in Uttar Pradesh, India. It is also the administrative headquarter of Firozabad district. It is known as the "Bangle city". From early times, it was famous for glass and bangle works, and its related small scale industry is famous throughout the world.

SFD graphic



Service outcomes

Containment



- Toilet discharge connected to Sewer
- Night soil disposed in open drain
- Toilet connected to open ground
- Septic tank connected to open drain
- Fully line tank connected to open drain
- Unlined pit
- Open defecation



Figure 1: Supernatant of a tank discharges into open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	3	12
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,200	INR 800
No of manual emptiers	200	
Fee charged by manual emptiers	INR 1,000-1,500	



Figure 2: Advertisement by private emptiers for emptying service

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	0	15
No of trips per tanker per day	NA	3-5
Capacity of vehicle	NA	4,000 litres



Figure 3: Truck mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	80 MLD	55 KLD
Treated	1 MLD	0 KLD
Designated disposal site	Agriculture land	No



Figure 4: 3 MLD sewage treatment plant in Dubrai

Source: Data collected by CSE team, August, 2018



Figure 5: Faecal sludge discharged at solid waste dumping site

GANGAGHAT

CITY PROFILE

Population: 84,072

Municipal area: 4.91 sq.km.

Name of local government:

Nagar Palika Parishad Gangaghat

Gangaghat is situated along the banks of Ganga river in the state of Uttar Pradesh, India. The city lies in the Indo Gangetic plain, at a distance of 5 km from Kanpur. The city is located 83 km south west from Lucknow, the state capital.

SFD graphic

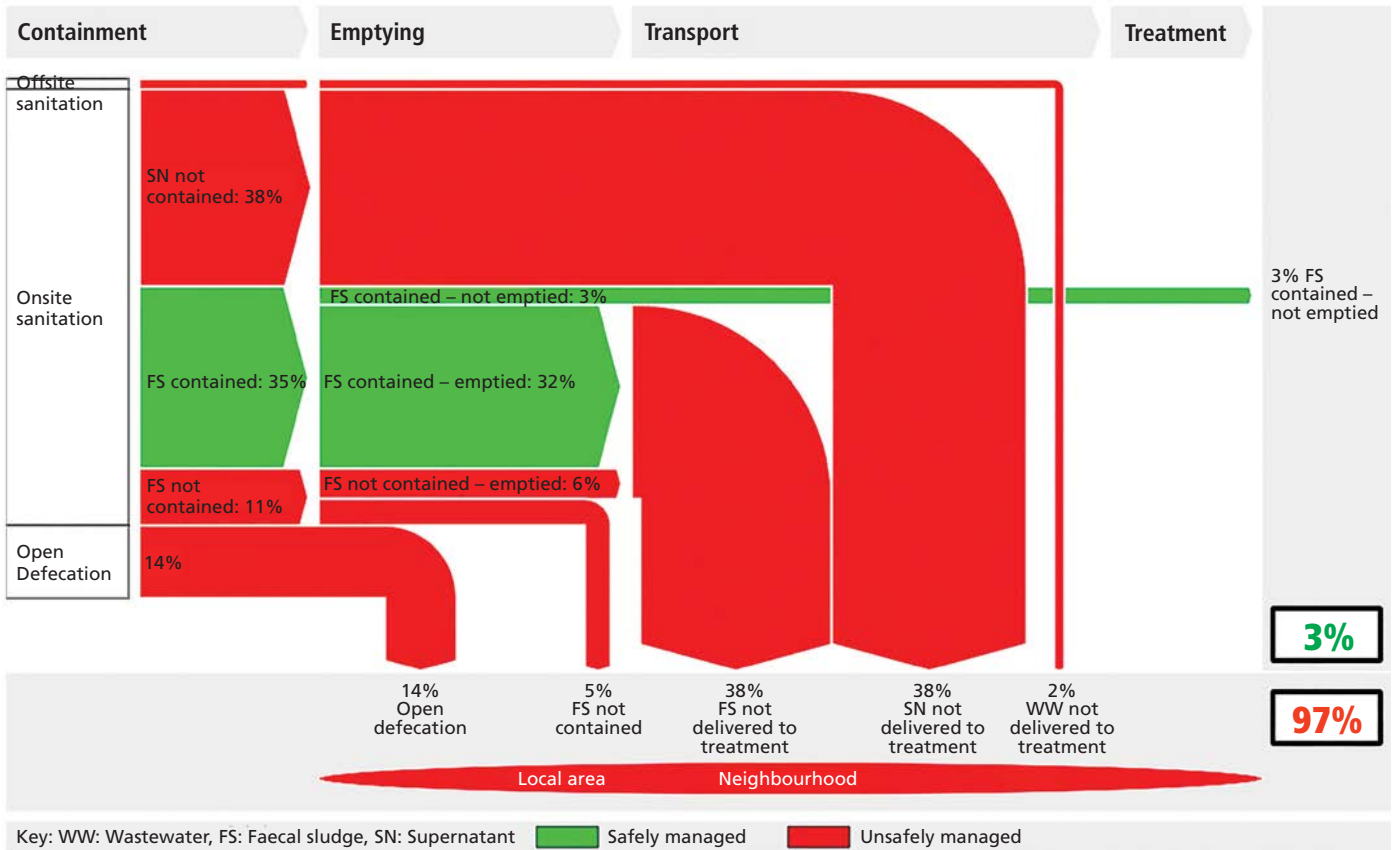
Gangaghat, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

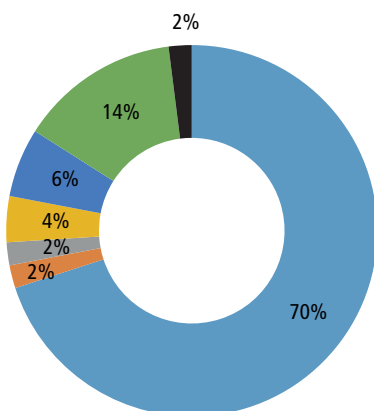
Date prepared: 7 July 2018

Prepared by: CSE



Service outcomes

Containment



- Septic tank connected to open drain
- Septic tank connected to open ground/water body
- Septic tank connected to soak pit
- Lined pit+semi-permeable walls and open bottom with no outlet significant risk
- Lined tank with impermeable walls and open bottom (no outlet)
- Population practicing open defecation
- Night soil disposed directly to open drain/open ground



Figure 1: Three chambered septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	1 (Non- operational)	5
Licensed / registered	Yes	NA
Record maintained	NA	NA
Fee charged	NA	INR 1,000-1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Government tanker emptying septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	6 (1- Non operational)	0
No of trips per tanker per day	2-3	NA
Capacity of vehicle	3,000 -5,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	8.40 MLD	6 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Discharge of faecal sludge in drain

Source: Data collected by CSE team, October 2016



Figure 5: SN and WW discharged in river via drain

GORAKHPUR

CITY PROFILE

Population: 673,446

Municipal area: 141.016 sq.km.

Name of local government:

Gorakhpur Municipal Corporation

Gorakhpur (or Gorakshpur) is a city along the banks of Rapti and Rohin river in the eastern part of the state of Uttar Pradesh in India, near the Nepal border. Gorakhpur is famous as a religious centre. The city was home to Buddhist, Hindu, Jain and Sikh saints and is named after the medieval saint Gorakshanath.

SFD graphic

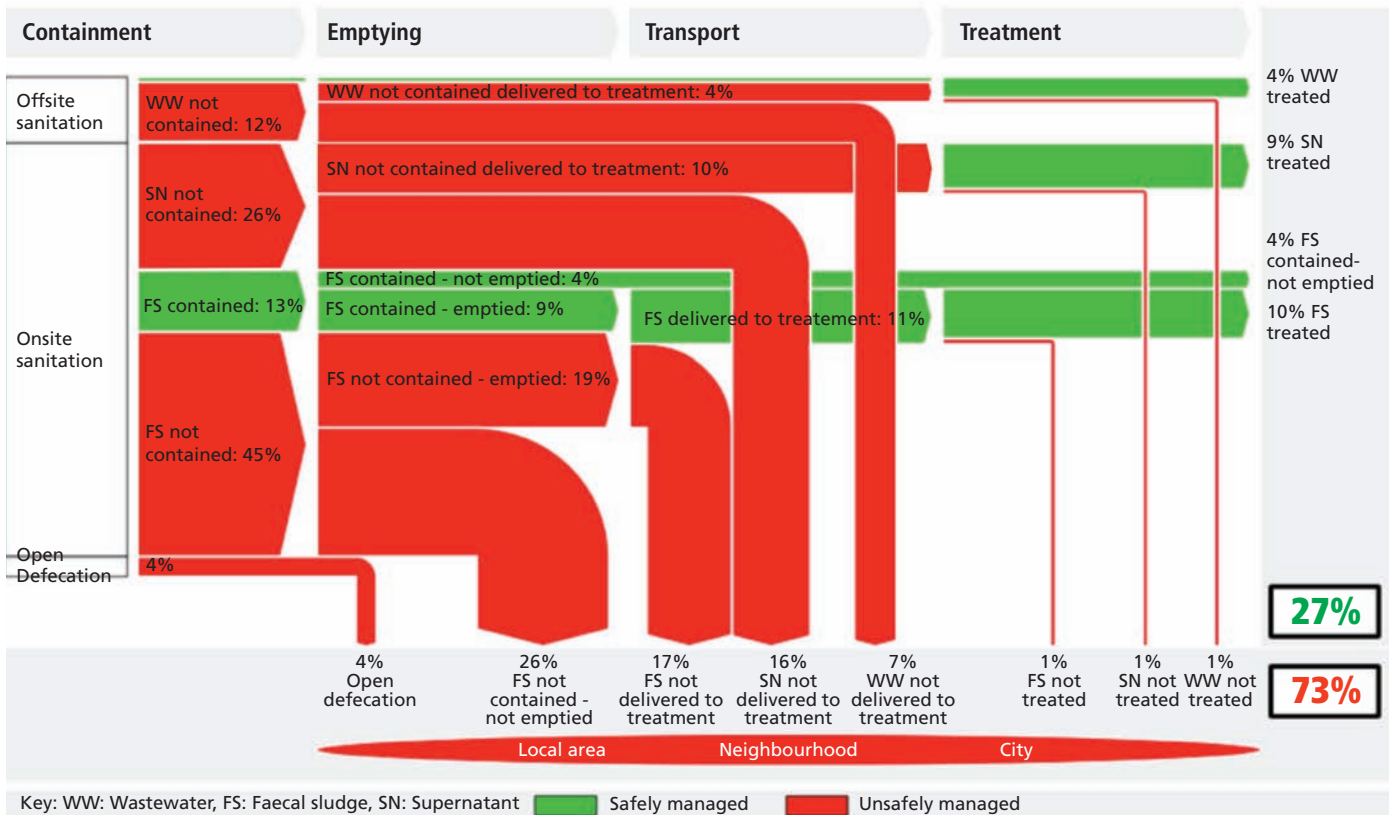
Gorakhpur, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

Date prepared: 11 September 2018

Prepared by: CSE



Service outcomes

Containment

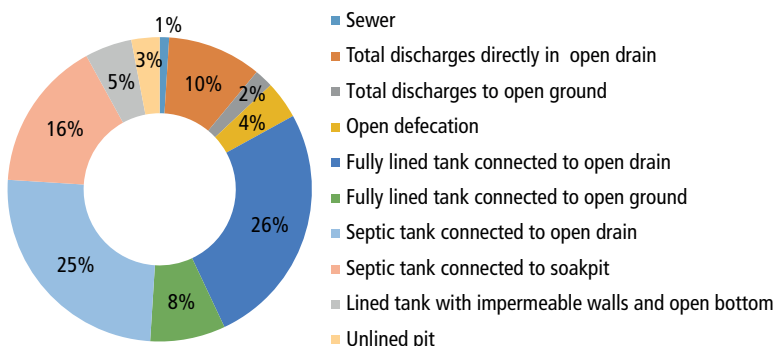


Figure 1: Septic tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	2	20
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 500-1,000	INR 1,500 - 2,000
No of manual emptiers	300-400	
Fee charged by manual emptiers	INR 5,000	



Figure 2: Emptying of a septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	1
No of trips per tanker per day	22	1
Capacity of vehicle	5,000 litres	7,000 litres



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	100 MLD	120 KLD
Treated	12 MLD	0 KLD
Designated disposal site	Ramgarh tal	No



Figure 4: 30 MLD sewage treatment plant



Figure 5: Discharge of faecal sludge along road side

Source: Data collected by CSE team, September 2018



HAPUR

CITY PROFILE

Population: 262,983

Municipal area: 14 sq.km.

Name of local government:

Hapur Nagar Palika Parishad

Hapur was administratively a part of Ghaziabad District in Uttar Pradesh State. Now Hapur is a new district carved out from Ghaziabad district, Uttar Pradesh, India. Geographically Hapur is situated at 28° 44' N latitude and 77° 47' E Longitude.

SFD graphic

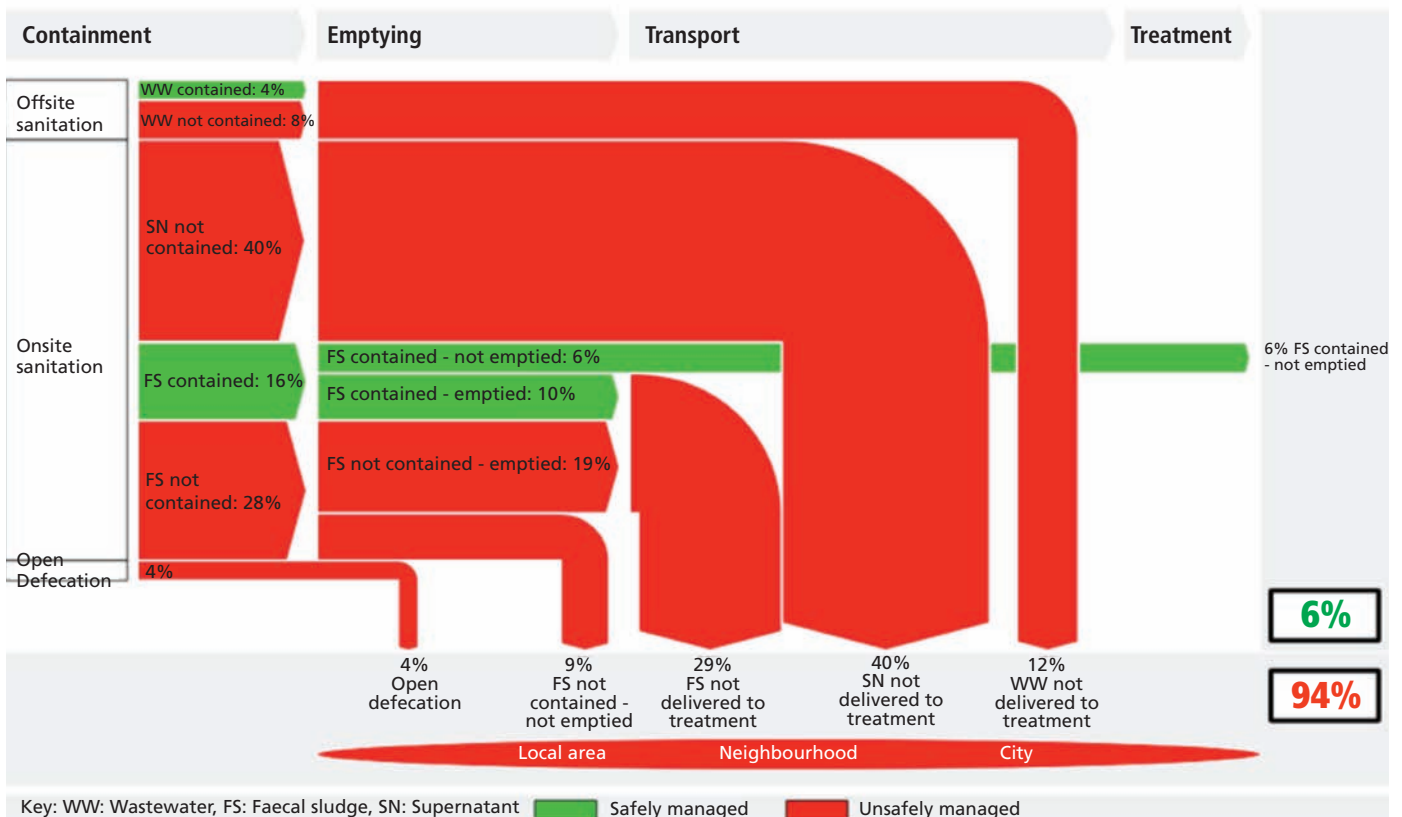
Hapur, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

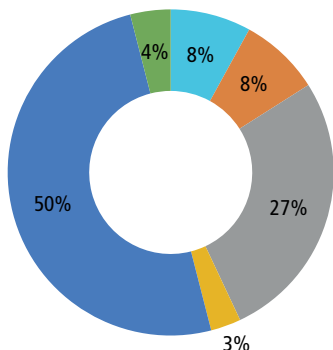
Date prepared: 3 September 2018

Prepared by: CSE



Service outcomes

Containment



- Piped sewer system
- Toilet discharges directly to open drain
- Septic tank with outlet connected to open drain
- Septic tank with outlet connected to open ground
- Fully lined tank with outlet connected to open drain
- Open defecation



Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator(s)
No of vehicles	2	8
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000 - 1,200	INR 1,200 - 1,500
No of manual emptiers	could not be tracked	
Fee charged by manual emptiers	could not be tracked	



Figure 2: Government tanker emptying septic tank

Transport

Type of vehicles	Tractor mounted	Truck mounted
No of vehicles	6	2
No of trips per tanker per day	2-3	10-12
Capacity of vehicle	4,000 liters	6,000 litres



Figure 3: Emptying vehicle used to clean sewers

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	80 MLD	58 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: SN from septic tank transported to nullah via drains



Figure 5: Discharge of faecal sludge in open drain

Source: Data collected by CSE team, September 2018



HASTINAPUR

CITY PROFILE

Population: 58,452

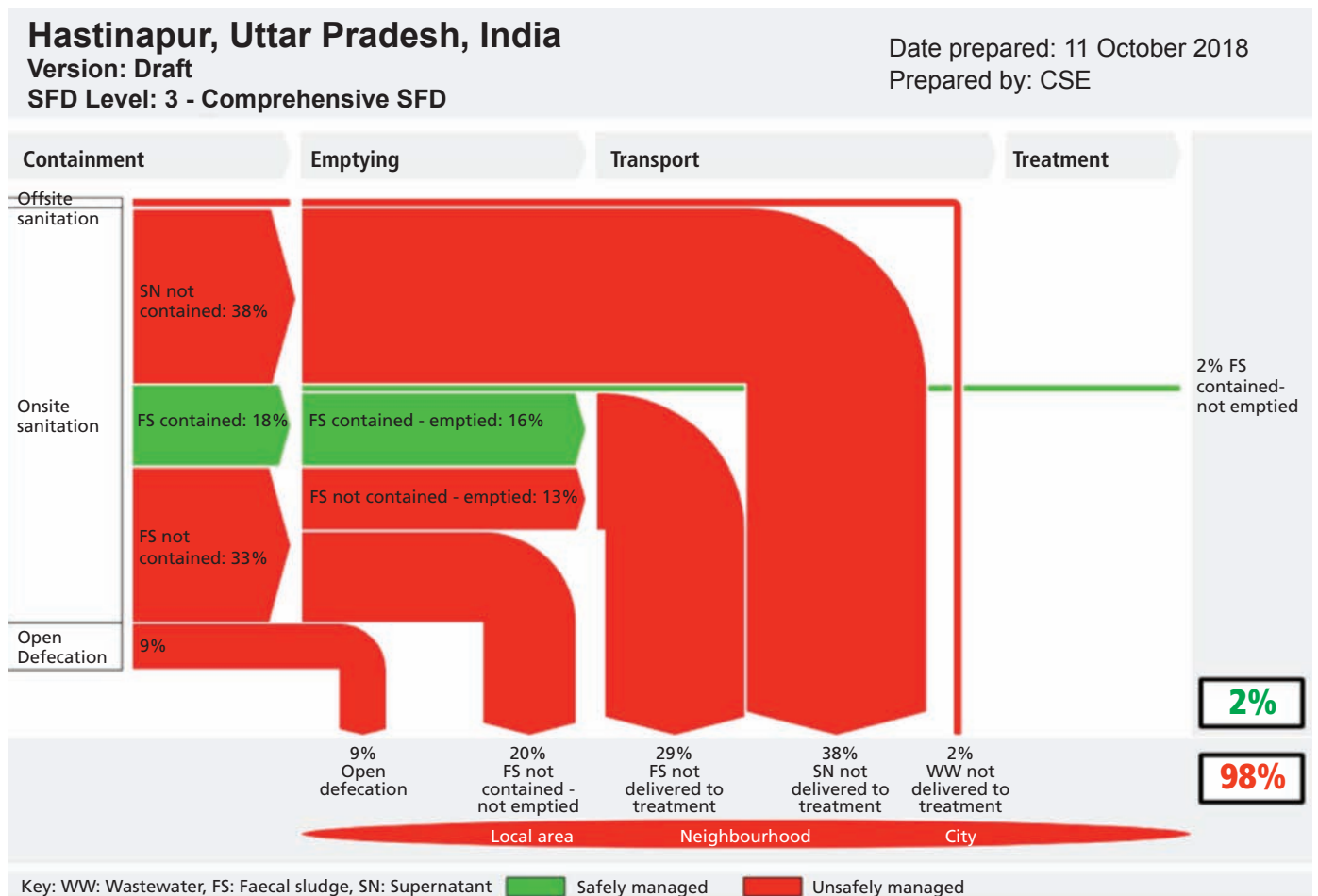
Municipal area: 56.98 sq.km.

Name of local government:

Nagar Palika Parishad Fatehpur

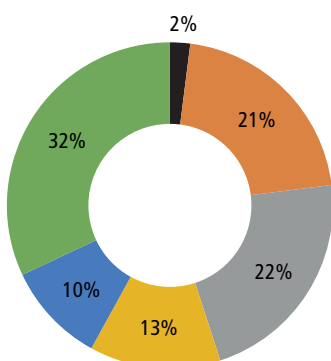
Hastinapur is a city in Meerut district in the Indian state of Uttar Pradesh. It has been the silent witness to the majestic, grandeur, royal conflicts and princely anecdotes of Pandavas & Kauravas. It was also known as capital city of Pandavas and Kauravas at the time of Mahabharata.

SFD graphic



Service outcomes

Containment



- Toilet discharges directly to open drain
- Septic tank with outlet connected to open drain
- Fully lined tank with outlet connected to open drain
- Lined pit with semi permeable wall and open bottom
- Lined tank with impermeable walls and open bottom



Figure 1: Fully lined tank under construction of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	1	1
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 800-1,000	INR 1,200-1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Emptying of septic tank by a private operator

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	1
No of trips per tanker per month	5	1-2
Capacity of vehicle	5,000 litres	5,000 litres



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	5.6 MLD	3 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Discharge of faecal sludge in low lying area



Figure 5: Discharge of FS into open drain

Source: Data collected by CSE team, September 2018



JHANSI

CITY PROFILE

Population: 507,293

Municipal area: 169 sq.km.

Name of local government:

Jhansi Municipal Corporation

Jhansi is one of the prominent cities in Uttar Pradesh much famous for its historical value. It lies in the region Bundelkhand on the banks of Pauj River and Betwa River at an average elevation of 285 meters. This city has given two gems to our Nation, in the field of sport and in the shield of patriotism. Both Jhansi fort and Statue of Major Dhyan Chand looks over to each other.

SFD graphic

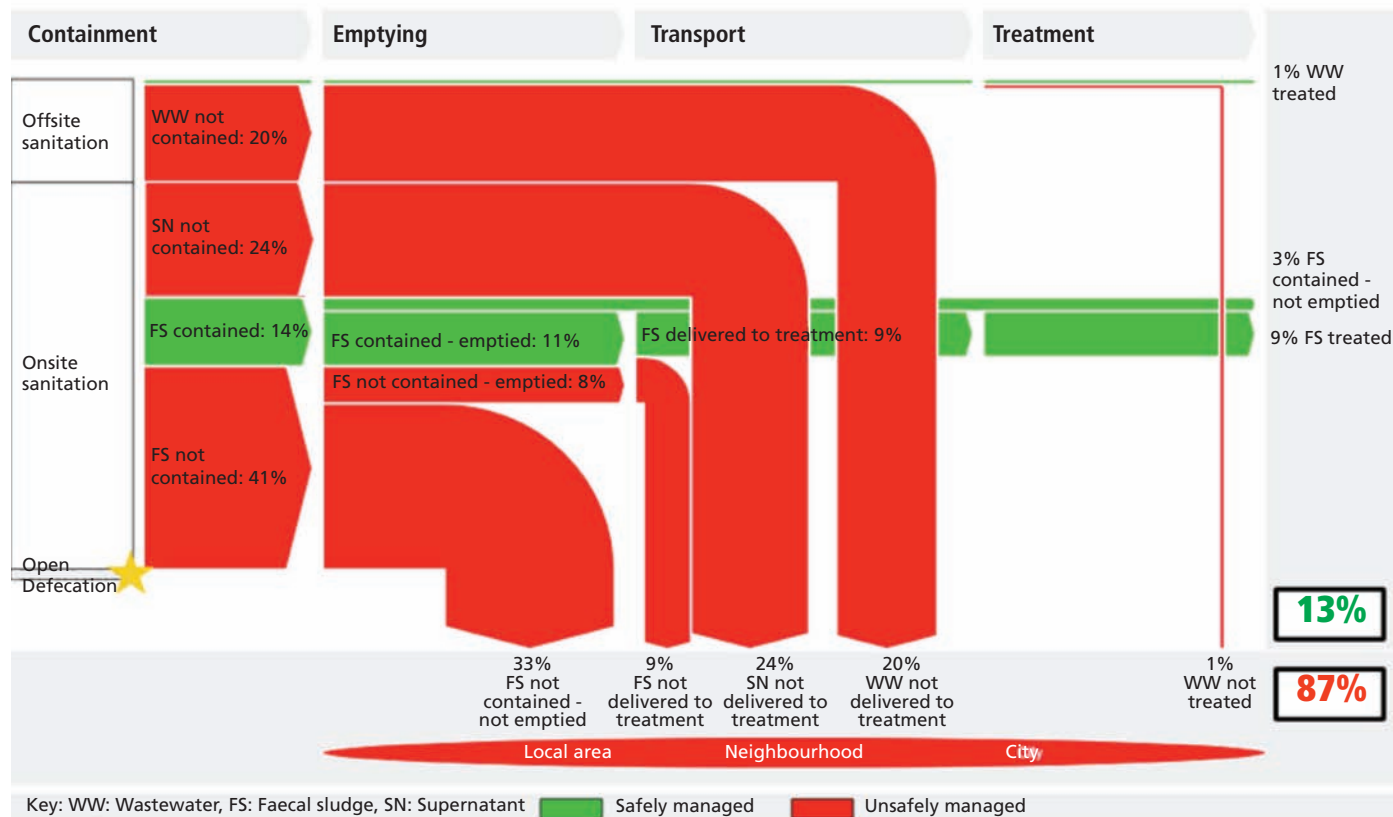
Jhansi, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

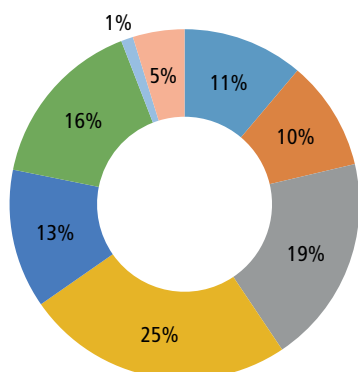
Date prepared: 19 September 2018

Prepared by: CSE



Service outcomes

Containment



- Night soil disposed in open drain
- Toilet discharge connected to open ground
- Septic tank connected to open ground
- Septic tank connected to open drain
- Fully lined tank connected to open ground
- Fully lined tank connected to open Drain
- Unlined pit



Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	2	0
Licensed / registered	Yes	NA
Record maintained	No	NA
Fee charged	INR 1,200	NA
No of manual emptiers	could not be tracked	
Fee charged by manual emptiers	INR 1,000-1,500	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	0	2
No of trips per tanker per day	NA	2
Capacity of vehicle	NA	1,500 litres



Figure 3: Tractor mounted emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	Yes
Type of facility	No	Planted drying bed
Generated	57 MLD	10 KLD
Treated	0 MLD	6 KLD
Designated disposal site	Pahuj River	Bijoli industrial area



Figure 4: FS drying beds at treatment plant



Figure 5: Effluent after treating FS

Source: Data collected by CSE team, August 2018



KANPUR

CITY PROFILE

Population: 2,765,348

Municipal area: 260 sq.km.

Name of local government:

Kanpur Municipal Corporation

Kanpur is an important industrial centre and is known for its textile and leather industry. The city is situated on important national highways i.e. no. 2 & 25, the main Delhi-Howrah railway trunk lines. The city is surrounded by the river Ganga in the northern side and river Pandu on the southern side.

SFD graphic

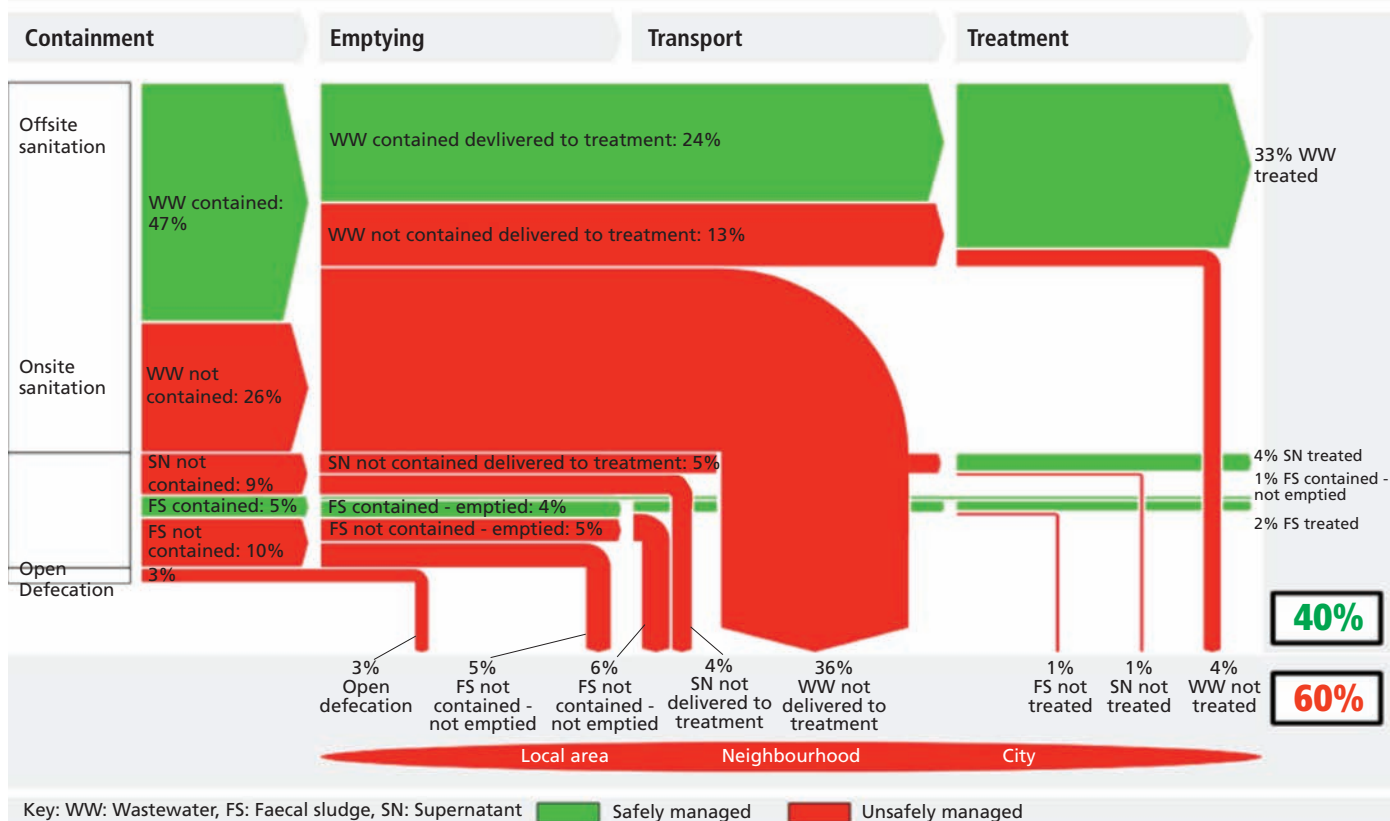
Kanpur, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

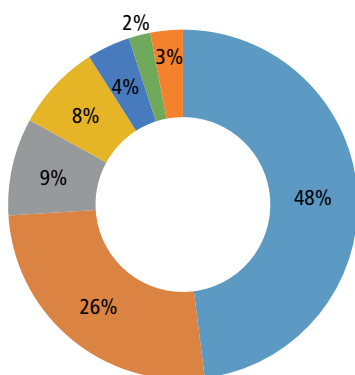
Date prepared: 2 August 2018

Prepared by: CSE



Service outcomes

Containment



- Centralized sewerage network
- Night soil disposed into open drain
- Septic tank connected to open drain
- Fully lined tank connected to open drain
- Lined tank with semi-permeable wall and open bottom
- Unlined pit
- Open defecation



Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	14	26
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 600	INR 600-1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	40	0
No of trips per tanker per day	2-3	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	Co-Treatment at STP
Generated	320 MLD	320 KLD
Treated	255 MLD	175 KLD
Designated disposal site	No	No



Figure 4: Discharge of faecal sludge at STP



Figure 5: 42 MLD sewage treatment plant in Sajari

Source: Data collected by CSE team, July 2018



LONI

CITY PROFILE

Population: 516,082

Municipal area: 34.68 sq.km.

Name of local government:

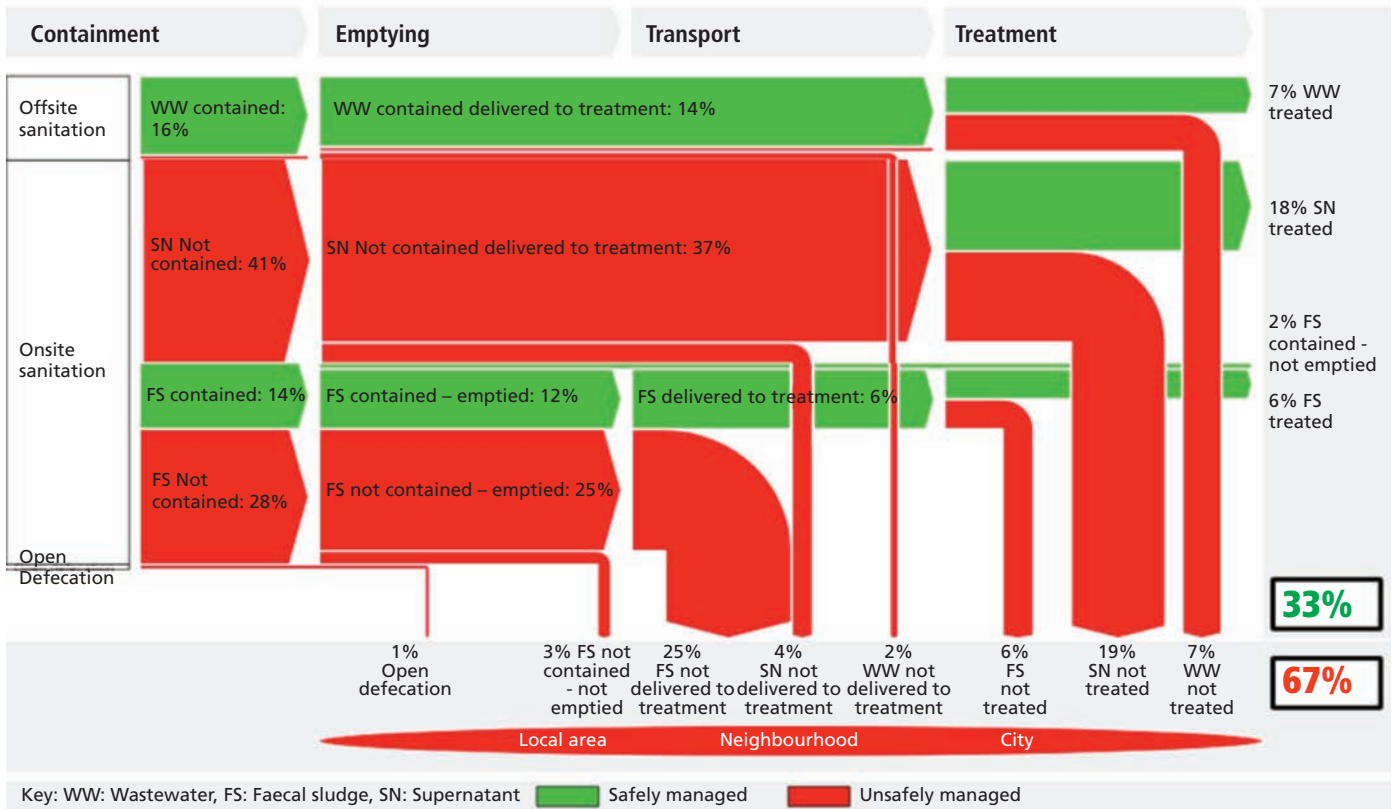
Loni Nagar Palika Parishad

Loni town is situated on the National Highway from Delhi to Saharanpur at a distance of 9 kilometers from National Capital of Delhi, 69 kilometers from Meerut and 19 kilometers from district headquarter Ghaziabad.

SFD graphic

Loni, Uttar Pradesh, India
Version: Draft
SFD Level: 3 - Comprehensive SFD

Date prepared: 8 August 2018
Prepared by: CSE



Service outcomes

Containment

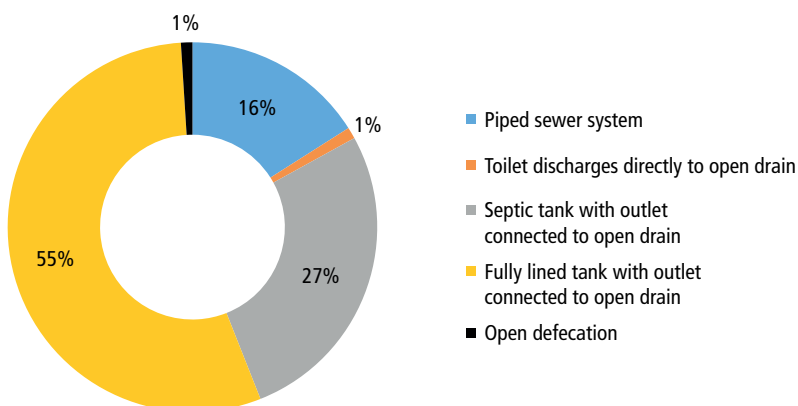


Figure 1: Septic tank of a household under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	2	8
Licensed / registered	Yes	No
Record maintained	Yes	NO
Fee charged	INR 1,000 - 1,200	INR 1,200 - 1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Separate opening for easy emptying of faecal sludge

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	21
No of trips per tanker per day	2-3	4-8
Capacity of vehicle	4,000 litres	6,000 litres



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	30 MLD	50 KLD
Treated	30 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Discharge of SN in open drain

Source: Data collected by CSE team, July, 2018



Figure 5: Sewage treatment plant working on MBBR technology

LUCKNOW

CITY PROFILE

Population: 2,817,105

Municipal area: 350 sq.km.

Name of local government:

Lucknow Municipal Corporation

Lucknow is the capital and the largest city of Uttar Pradesh in India. It is also the administrative headquarters of the eponymous district and division. Lucknow is popularly known as the 'The City of Nawabs'. The city is located on the northwestern shore of the Gomti River.

SFD graphic

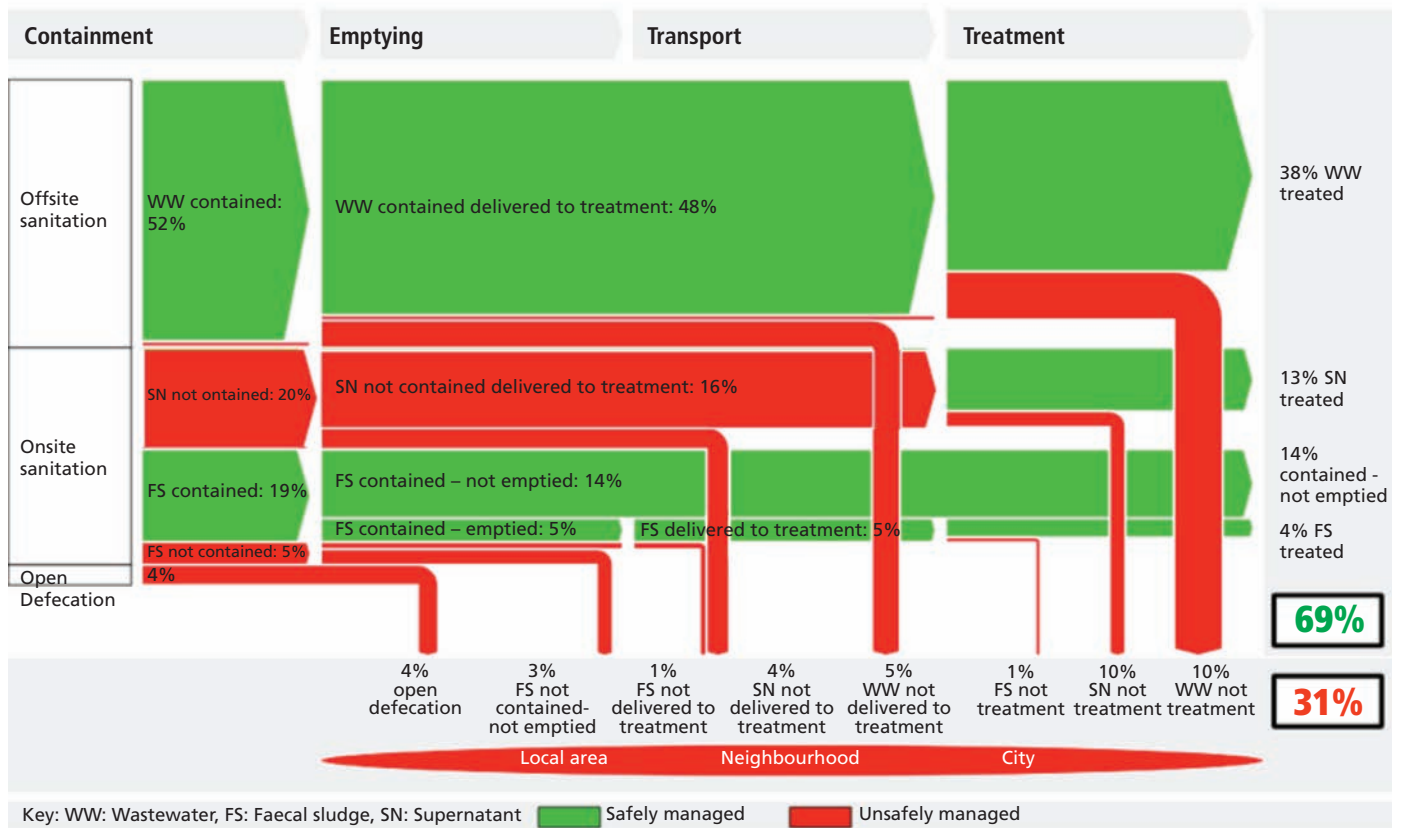
Lucknow, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

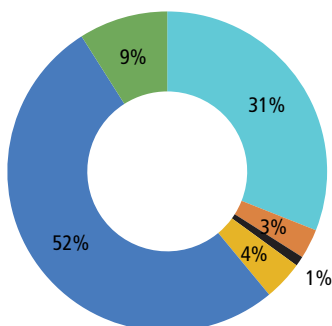
Date prepared: 9 October 2018

Prepared by: CSE



Service outcomes

Containment



- Pipe sewer
- Septic tank connected to open drain
- Lined pit with open bottom with no outlet
- Toilet discharges directly to open drain
- Open defecation
- Fully lined tank connected to open drain



Figure 1: Septic tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	17	35
Licensed / registered	Yes	13
Record maintained	Yes	Yes
Fee charged	INR 700 - 12,000	INR 1,000 - 2,000
No of manual emptiers	200	
Fee charged by manual emptiers	INR 5,000 - 6,000	



Figure 2: Private tanker emptying septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	45	07
No of trips per tanker per day	2-3	1-2
Capacity of vehicle	3,000 - 5,000 litres	3,000-4,000 litres



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	Yes
Type of facility	STP	STP
Generated	490 MLD	350 KLD
Treated	401 MLD	18 KLD
Designated disposal site	Gomti river	Sewage Pumping Station



Figure 4: STP based on UASBR technology at Bharwara

Source: Data collected by CSE team, October 2018



Figure 5: Faecal sludge discharged into sewer manhole

MEERUT

CITY PROFILE

Population: 1,305,429

Municipal area: 141.94 sq.km.

Name of local government:

Meerut Municipal Corporation

Meerut is a city in the Indian state of Uttar Pradesh and is the district headquarters. City also holds historic importance with settlements dating back to the Indus Valley civilization, have been found in and around the city. The city lies in the indo-Gangetic plains 70 km northeast of the national capital New Delhi, and 453 km northwest of the state capital Lucknow.

SFD graphic

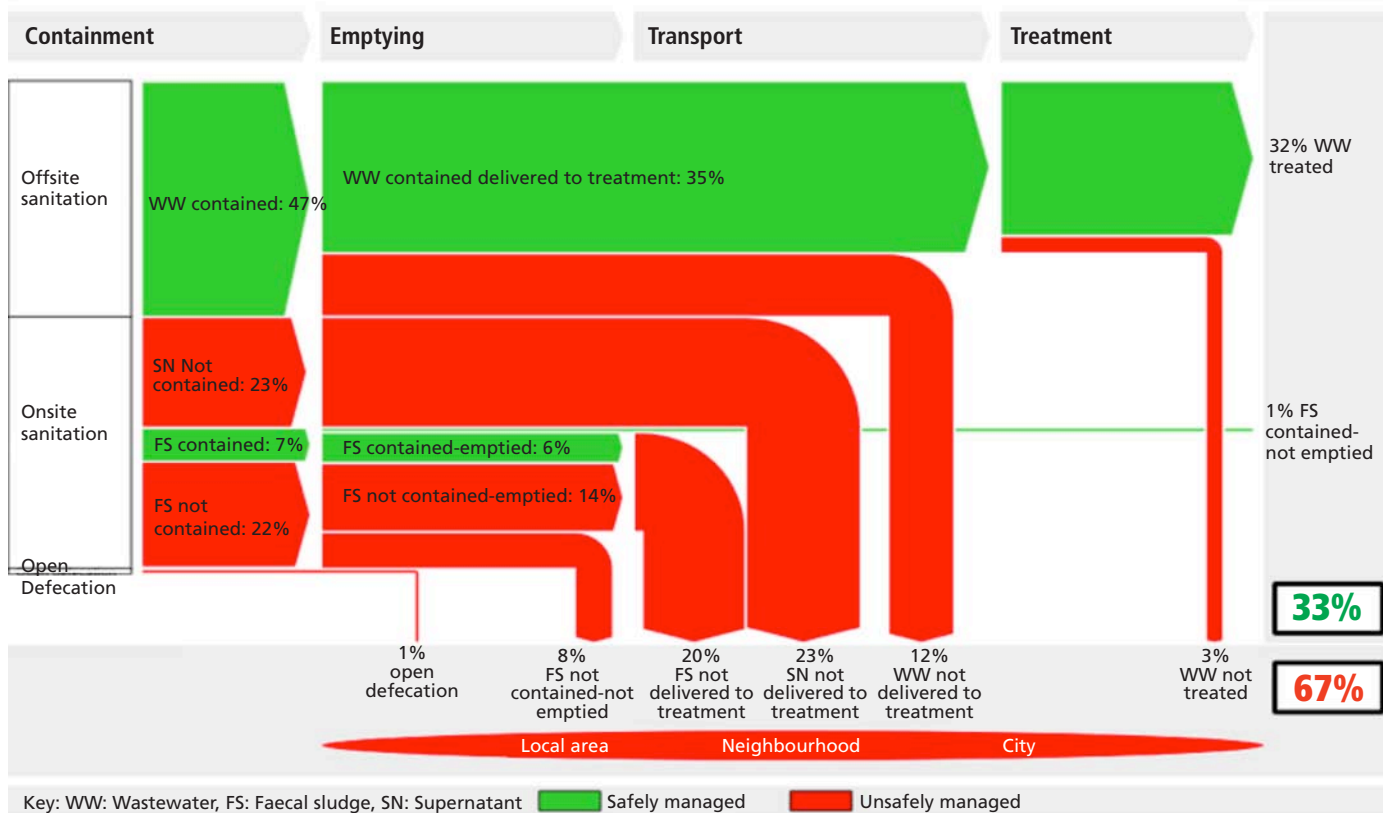
Meerut, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

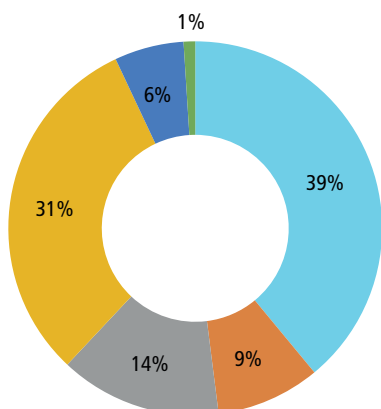
Date prepared: 9 October 2018

Prepared by: CSE



Service outcomes

Containment



- Piped sewer system
- Toilet discharges directly to open drain
- Septic tank with outlet connected to open drain
- Fully lined tank with outlet connected to open drain
- Lined tank with impermeable walls and open bottom
- Open defecation



Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	2	21
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000 - 1,200	INR 1,200 - 1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: private emptying vehicle

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	21
No of trips per tanker per day	2	4 - 8
Capacity of vehicle	4,000 litres	6,000 litres



Figure 3: Government tractor mounted emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	179 MLD	230 KLD
Treated	82.6 MLD	0 KLD
Designated disposal site	No	No



Figure 5: Sewage treatment plant with SBR technology



Figure 4: Disposal of faecal sludge in drain

Source: Data collected by CSE team, July 2018



MORADABAD

CITY PROFILE

Population: 887,871

Municipal area: 70 sq.km.

Name of local government:
Moradabad Municipal Corporation

Moradabad is one of the important cities in Uttar Pradesh, India well known for its brass industry. It is also called "Brass City" or Peetal Nagri (in the local language). Ramganga river flows in the north east and Gangan river in south west of the city.

SFD graphic

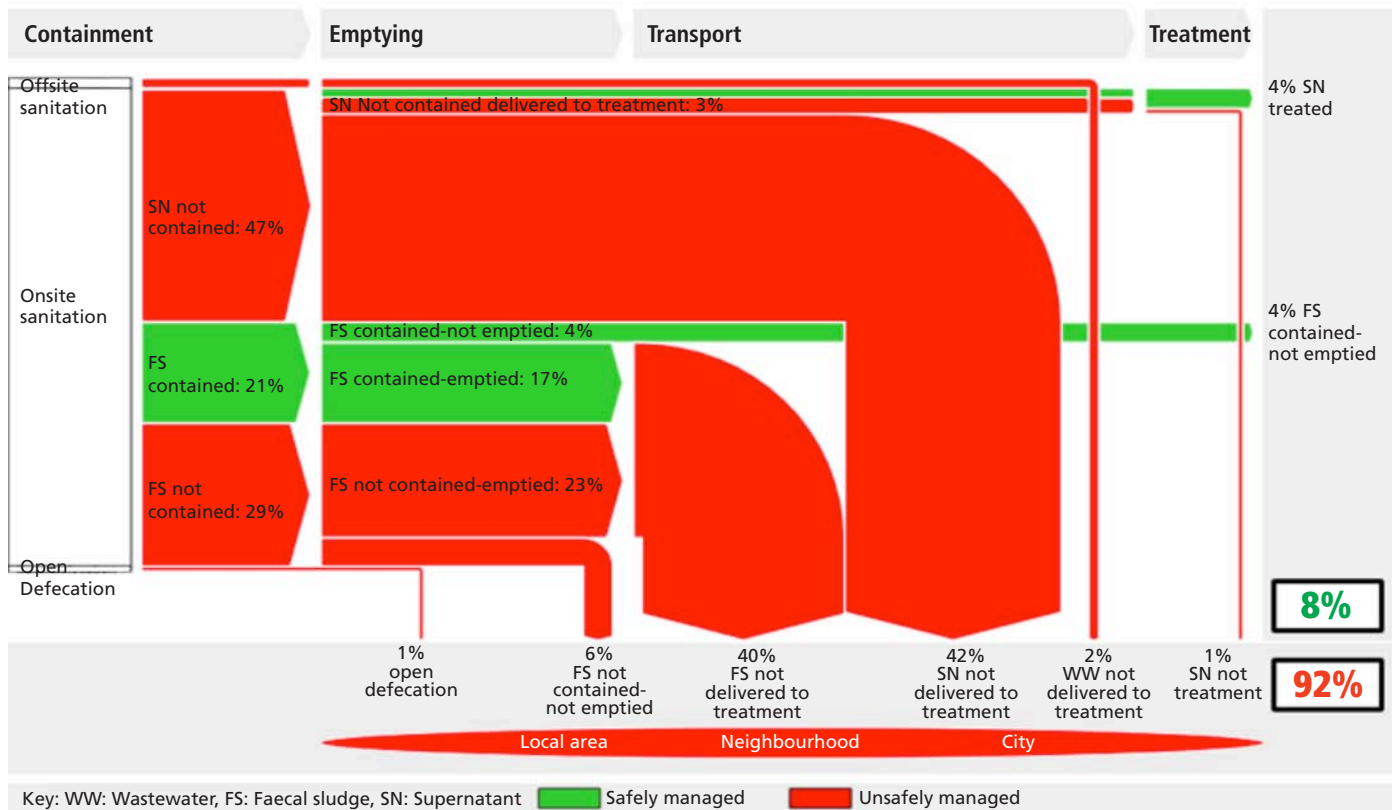
Moradabad, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

Date prepared: 9 October 2018

Prepared by: CSE



Service outcomes

Containment

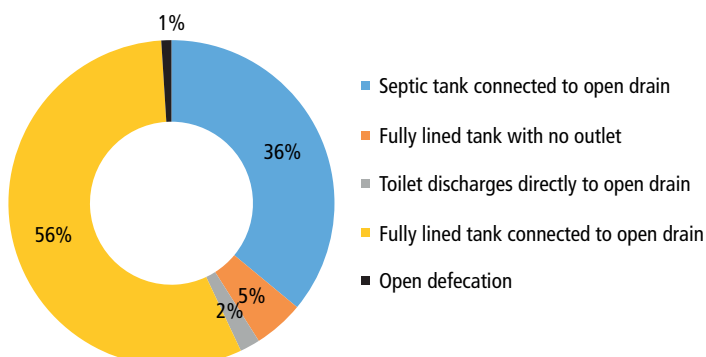


Figure 1: Two chambered septic tank

Emptying

Service provided by	Government	Private operator
No of vehicles	2	15
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 500-1,000	INR 1,500
No of manual emptiers	400-500	
Fee charged by manual emptiers	INR 2,500	



Figure 2: Septic tank emptying by Govt. emptier

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	15
No of trips per tanker per day	8 to 10	2
Capacity of vehicle	3,000 litres	5,000 litres



Figure 3: Truck mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	No facility
Generated	110 MLD	243 KLD
Treated	12 MLD	No treatment
Designated disposal site	Ramganga river	No site



Figure 4: STP based on SBR technology



Figure 5: WW from nullah discharging into Ramganga river

Source: Data collected by CSE team, July 2018



PT DEEN DAYAL UPADHYAYA NAGAR

CITY PROFILE

Population: 109,650

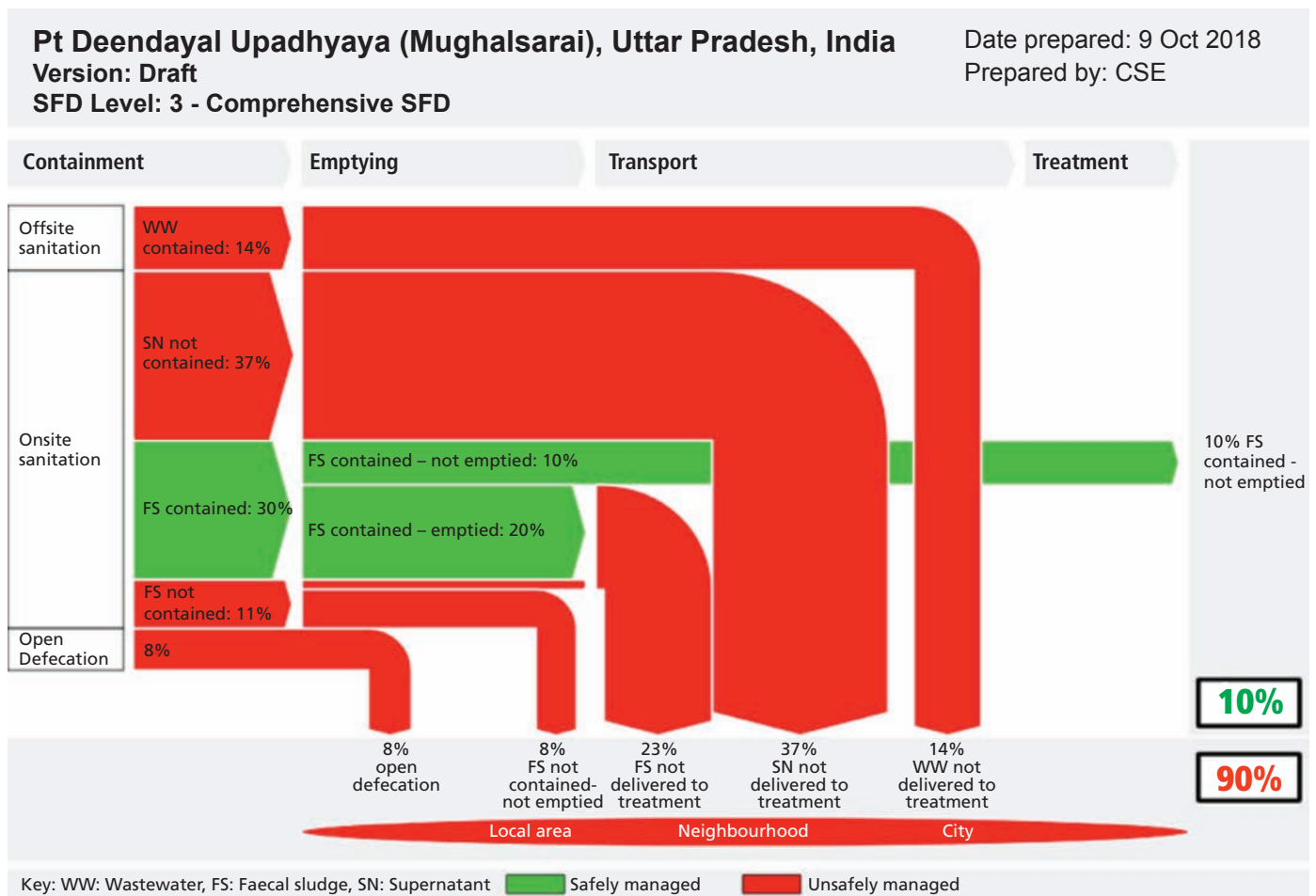
Municipal area: 16.55 sq.km.

Name of local government:

Nagar Palika Parishad Pt Deen Dayal Upadhyaya Nagar

Pt Deen Dayal Upadhyaya Nagar, located along the Grant Trunk road, is a town and a municipal board in the Chandauli district of Uttar Pradesh. It is located around 16 kilometres from Varanasi and recently has been renamed to Pandit Deen Dayal Upadhyaya Nagar.

SFD graphic



Service outcomes

Containment

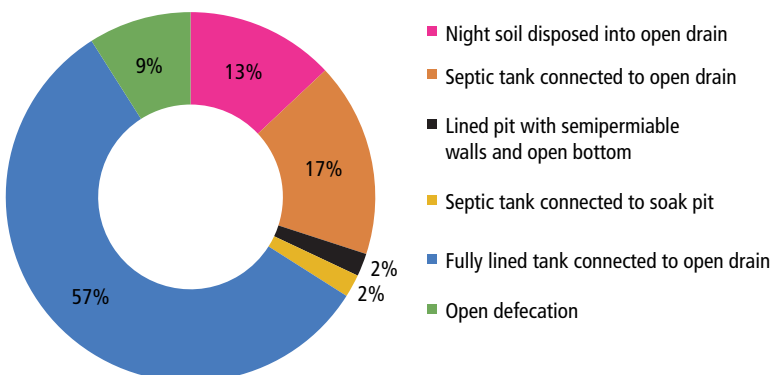


Figure 1: Shankar Balram containment system

Emptying

Service provided by	Government	Private operator
No of vehicles	1	2
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 5,00 - 1,000	INR 4,000
No of manual emptiers	200	
Fee charged by manual emptiers	INR 5,000-8,000	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	0
No of trips per tanker per day	3	NA
Capacity of vehicle	3,000 litres	4,000 litres



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	9.6 MLD	34 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: Disposal of faecal sludge

Source: Data collected by CSE team, September 2018

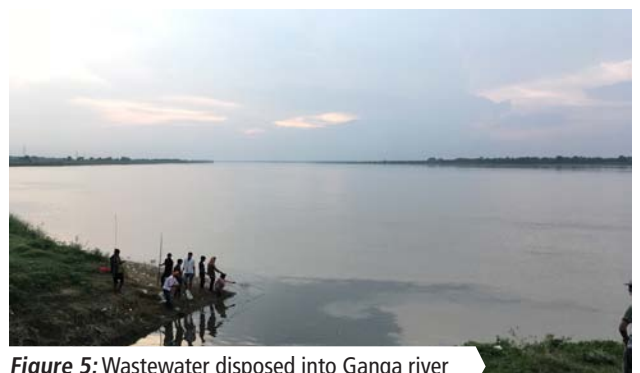


Figure 5: Wastewater disposed into Ganga river

RAEBARELI

CITY PROFILE

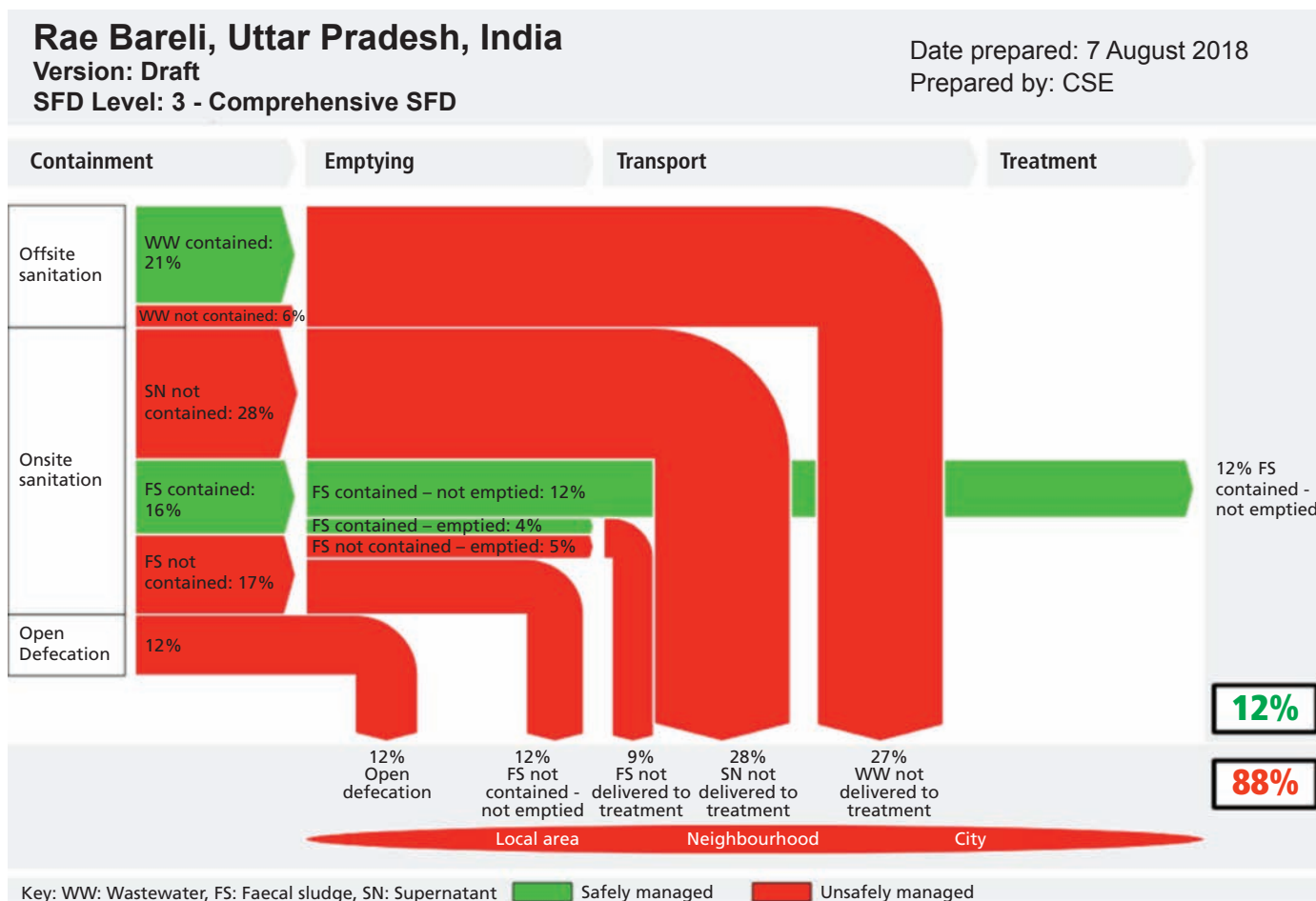
Population: 191,316

Municipal area: 50.12 sq.km.

Name of local government:
Rae Bareli Nagar Palika Parishad

Raebareli is the administrative head quarters of Raebareli district falls under Lucknow division of Uttar Pradesh state. The town is situated at the bank of the Sai river. The city is a renowned educational and agriculture centre in the state. Raebareli is nationally well known as a political mainstay of Gandhi – Nehru family.

SFD graphic



Service outcomes

Containment

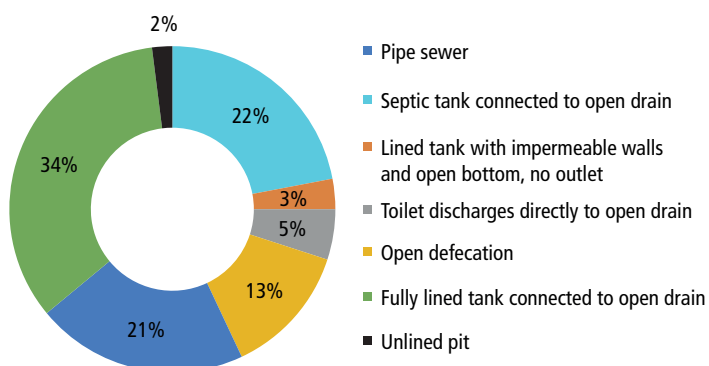


Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	1	5
Licensed / registered	Yes	No
Record maintained	Yes	Yes
Fee charged	INR 1,500	INR 800-3,000
No of manual emptiers	50-60	
Fee charged by manual emptiers	INR 3,000-5,000	



Figure 2: Private tanker emptying septic tank of a household

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1-2	1-2
No of trips per tanker per day	5	1
Capacity of vehicle	5,000 litres	4,000 litres



Figure 3: Sewage pumped out from SPS to drain

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	22.4 MLD	40 KLD
Treated	0 MLD	0 KLD
Designated disposal site	Randomly discharged into nullah and Sai river	Sewage Pumping Station



Figure 4: FS discharged into nullah

Source: Data collected by CSE team, August 2018



Figure 5: Supernatant and WW discharged in Sot river

RAMNAGAR

CITY PROFILE

Population: 49,132

Municipal area: 4 sq.km.

Name of local government:

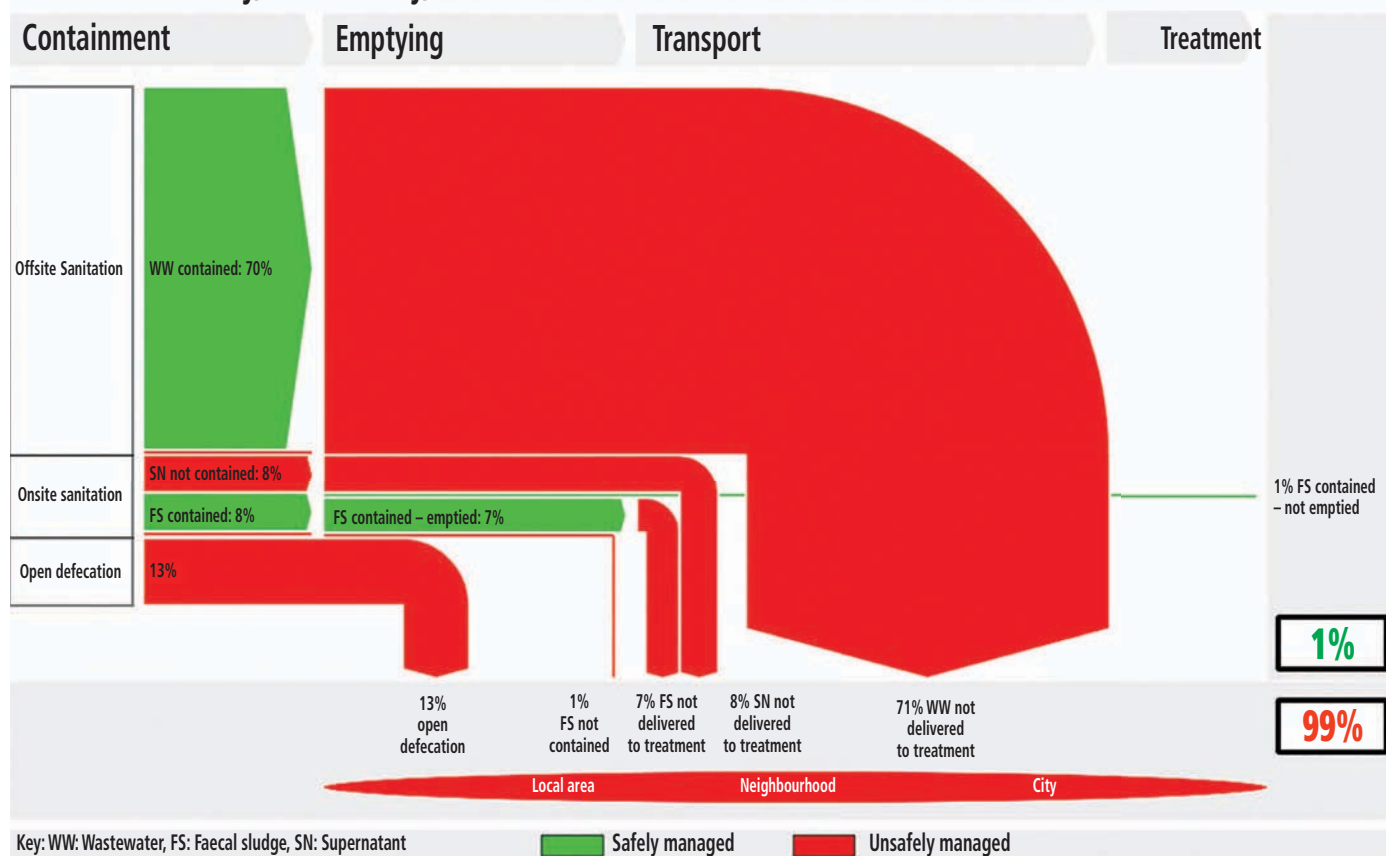
Nagar Palika Parishad Ramnagar

Ramnagar city lies in the Indo-Gangetic plain. Ramnagar is 28 km away from Varanasi, the district headquarters, and is connected via road and by a temporary pontoon bridge. From a historical point of view, Ramnagar gets its name from Ramnagar fort, which was constructed in the 18th century.

SFD graphic

Ramnagar, India

Field based study, Date: 7 July, 2017



Service outcomes

Containment

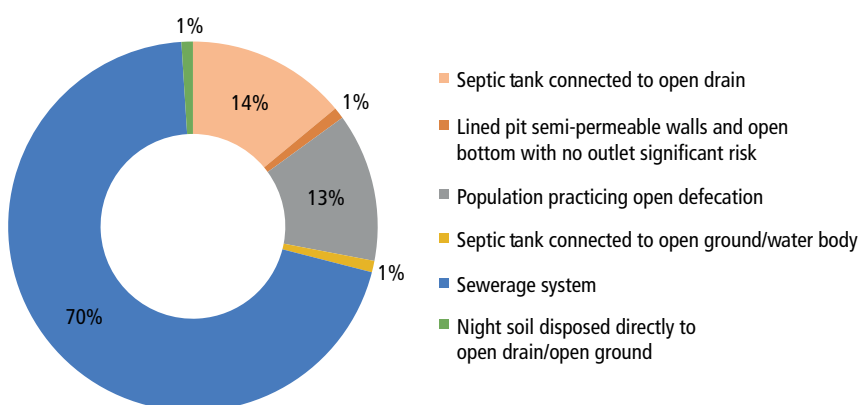


Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	1	0
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 1,000	NA
No of manual emptiers	20-30	
Fee charged by manual emptiers	INR 4,000-5,000	



Figure 2: Cleaning of choked sewer line

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per day	1-2/Year	NA
Capacity of vehicle	3,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	4.91 MLD	4.5 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: SN and WW transported to river via drain



Figure 5: Wastewater used in agriculture land

Source: Data collected by CSE team, October 2016



SAIDPUR

CITY PROFILE

Population: 24,338

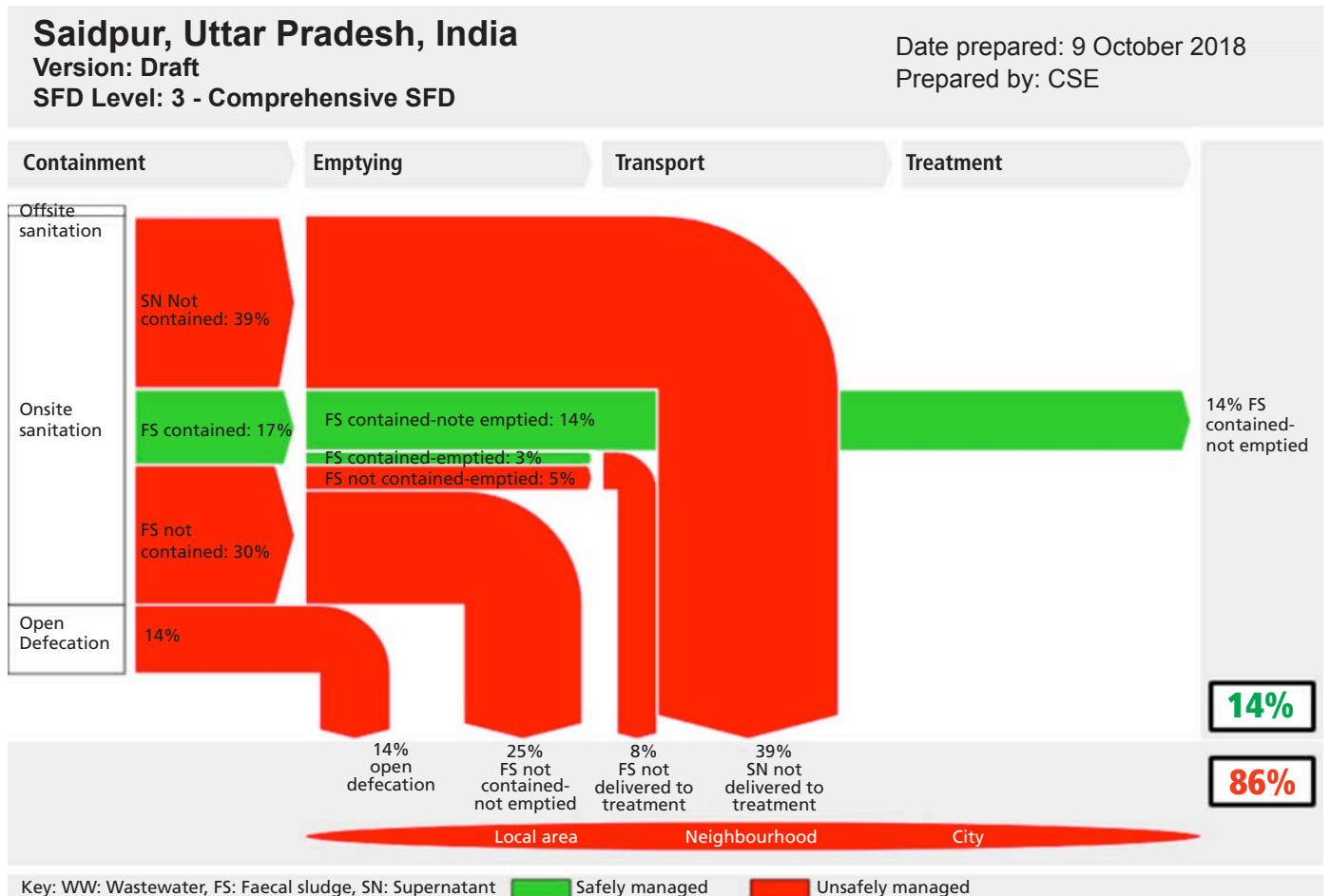
Municipal area: 5.21 sq.km.

Name of local government:

Saidpur Nagar Panchayat

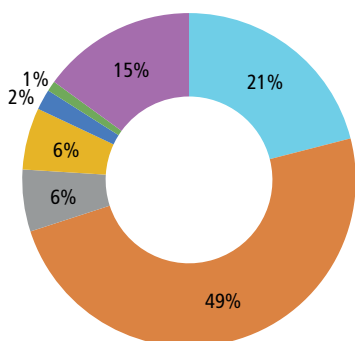
Saidpur is a town in Saidpur block in Ghazipur district of Uttar Pradesh State. It belongs to Varanasi division. It is located 43 km towards west from district headquarters Ghazipur.

SFD graphic



Service outcomes

Containment



- Septic tank connected to open drain
- Fully lined tank connected to open drain
- Fully lined tank connected to open ground
- Septic tank connected to open ground
- Septic tank connected to soak pit
- Lined pit with semipermeable walls and open bottom
- Open defecation



Figure 1: Shankar balram containment system

Emptying

Service provided by	Government	Private operator
No of vehicles	1	0
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 3,000	INR 1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Truck mounted vacuum tanker

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per month	3	NA
Capacity of vehicle	3,000 litres	NA



Figure 3: Tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	2.6 MLD	03 KLD
Treated	0 MLD	0 KLD
Designated disposal site	NA	No



Figure 4: SN from septic tank transported to river via drains

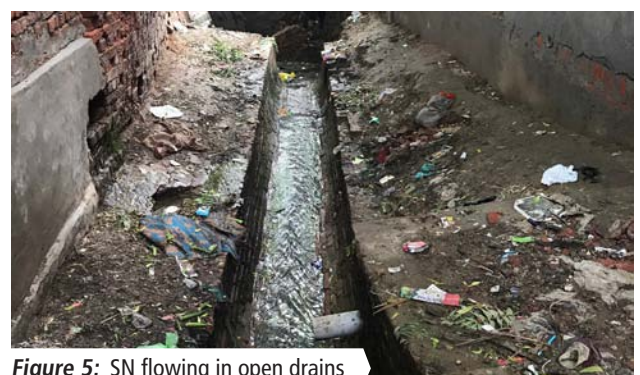


Figure 5: SN flowing in open drains

Source: Data collected by CSE team, October 2018



SHIKOHABAD

CITY PROFILE

Population: 107,300

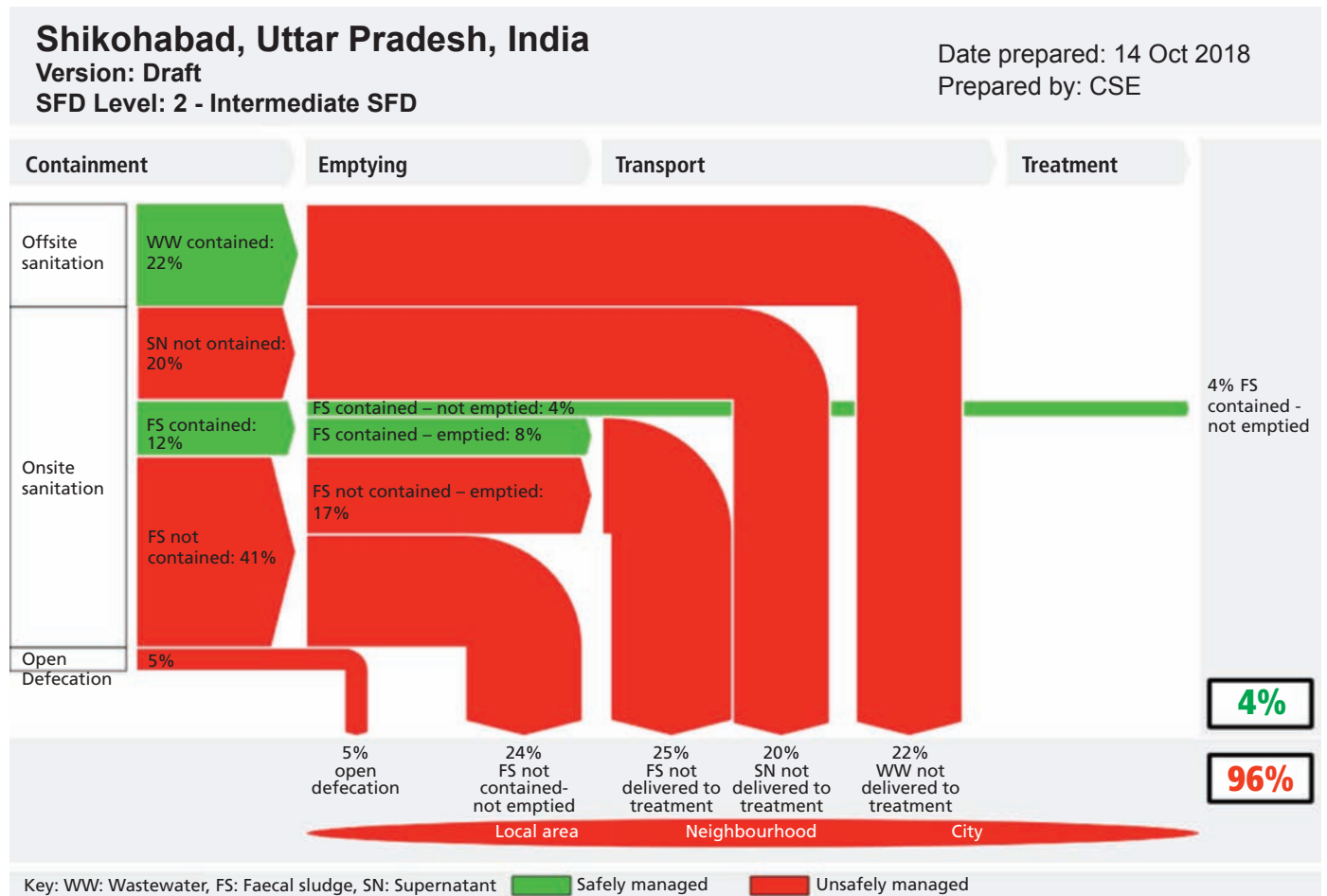
Municipal area: 8.48 sq.km.

Name of local government:

Shikohabad Nagar Palika Parishad

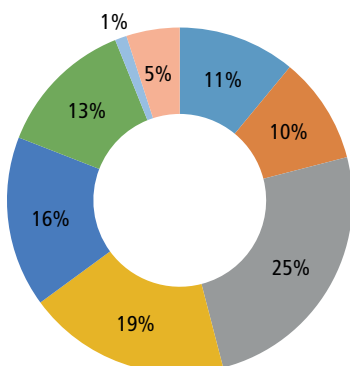
Shikohabad is one sub-district of Firozabad city in Uttar Pradesh, well known for its bricks industry. There are two famous temples in Shikohabad namely Balaji and Aav Ganga Mandir situated within the Nagar Palika. River Sirsa flows through the city, which is a perineal tributary of river Yamuna.

SFD graphic



Service outcomes

Containment



- Night soil disposed into open drain
- Toilet connected to open ground
- Septic tank connected to open drain
- Septic tank connected to open ground
- Fully lined tank connected to open drain
- Fully lined tank connected to ground
- Unlined pit



Figure 1: Septic tank constructed under SBM

Emptying

Service provided by	Government	Private operator
No of vehicles	1	0
Licensed / registered	Yes	NA
Record maintained	No	NA
Fee charged	INR 2,500	NA
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 3: Emptying of unlined pit

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per day	1	NA
Capacity of vehicle	5,000 litres	NA



Figure 3: Tractor mounted emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	7.24 MLD	10 KLD
Treated	0 MLD	0 KLD
Designated disposal site	Sirsa River	Open field & Sirsa River



Figure 4: Cleaning of storm water drain



Figure 5: Dried faecal sludge in field

Source: Data collected by CSE team, September 2018



VARANASI

CITY PROFILE

Population: 11,98,491

Municipal area: 82.1 sq.km.

Name of local government:

Varanasi Municipal Corporation

Varanasi is a city in the northern Indian state of Uttar Pradesh dating to the 11th century B.C. regarded as the spiritual capital of India, the city draws Hindu pilgrims. Along the city's winding streets are some 2,000 temples, including Kashi Vishwanath, the "Golden Temple," dedicated to the Hindu god Shiva.

SFD graphic

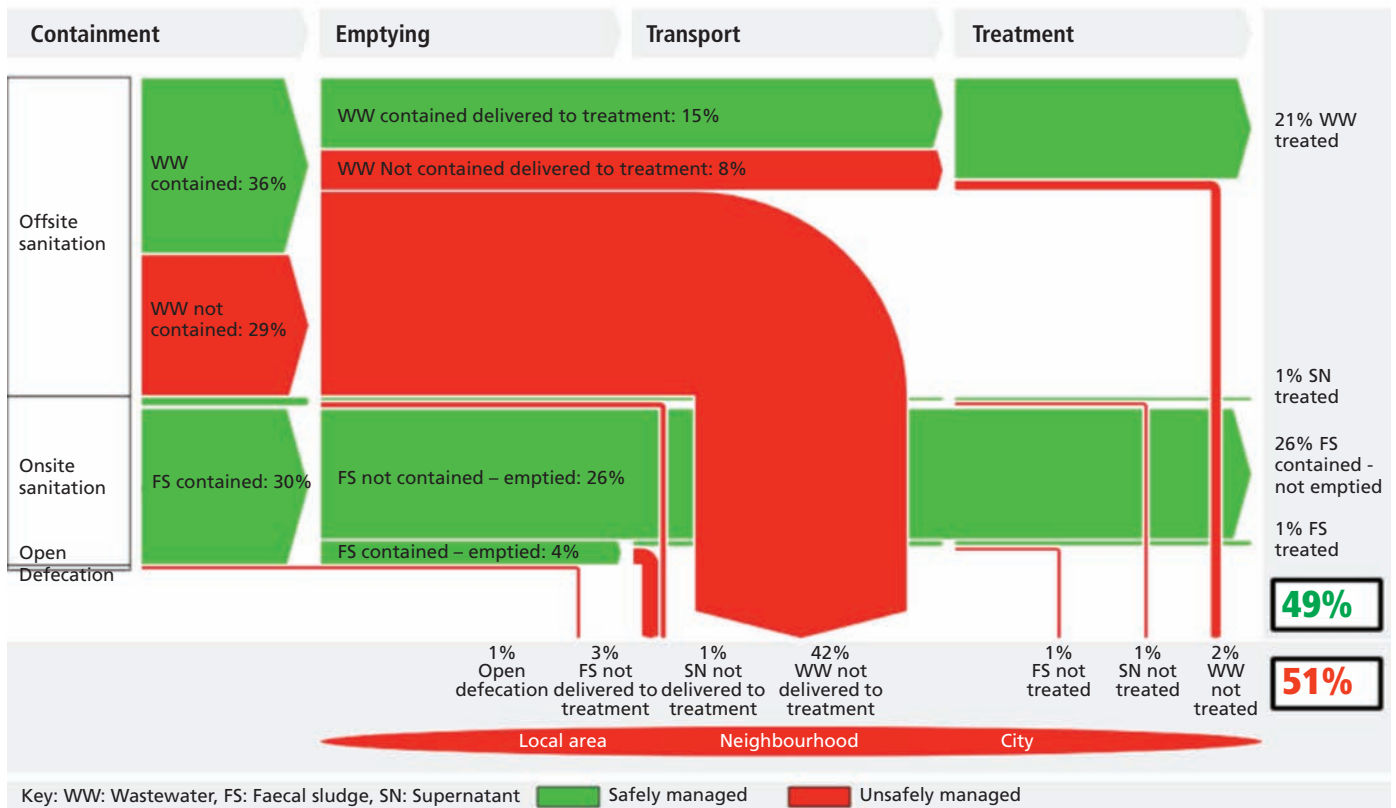
Varanasi, Uttar Pradesh, India

Version: Draft

SFD Level: 3 - Comprehensive SFD

Date prepared: 12 Oct 2018

Prepared by: CSE



Service outcomes

Containment

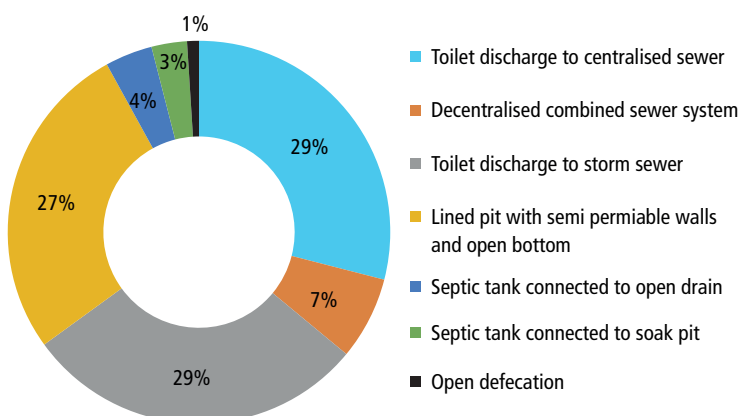


Figure 1: Septic tank of a toilet

Emptying

Service provided by	Government	Private operator
No of vehicles	1	5
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 5,000	INR 6,000-8,000
No of manual emptiers	40-50	
Fee charged by manual emptiers	INR 1,000-1,500	



Figure 2: ULB owned vacuum tanker

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	6	0
No of trips per tanker per month	2	0
Capacity of vehicle	3,000 litres	6,000 litres



Figure 3: Tractor mounted emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	300 MLD	22 KLD
Treated	102 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Sewage treatment plant

Source: Data collected by CSE team, October 2018



Figure 5: Discharge of FS and WW into River Ganga

FORUM OF CITIES THAT MANAGE SEPTAGE

The 2017 National Policy on Faecal Sludge and Septage Management provides specific milestones for states and urban local bodies. Under its directives, each state and city in the country needs to formulate its own FSSM strategy and integrate it in their respective state/city sanitation plans.

CSE is working with cities in the state to support them on effective septage management. As part of this initiative, it has launched the Forum of Cities that Manage Septage to recognise those urban local bodies which have achieved some progress on FSSM, and to channelize all the initiatives and efforts in a more organized and sustainable form.

Key Objectives of the Forum

- Developing a knowledge exchange platform for participating cities
- Training and capacity building on interventions across the sanitation chain and citywide sanitation
- Tracking and assessing the progress of cities
- Identifying 'pioneer cities' which can then handhold other cities on technical, economic and social aspects of FSSM and for preparing City Sanitation Plans
- Collating feedback and inputs from Forum cities and providing policy relevant information to state governments and Centre on FSSM
- Documentation of best practices



Centre for Science and Environment

41, Tughlakabad Institutional Area,
New Delhi-1100 62
Phone: 011-40616000
Fax: 011-29955879

Programme Support Unit,
3/17 Vikas Khand, Gomti nagar
Lucknow- 226 010, Uttar Pradesh
Tel. 0522-4240806

Contact us: fsm@cseindia.org; Visit: www.cseindia.org