



ASSESSMENT OF EXCRETA MANAGEMENT

SFD factsheets for 66 cities in Uttar Pradesh



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This report would not have been possible without the constant support of Local Body Directorate of Uttar Pradesh, Jal Nigam and Urban Local Bodies of target cities



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We are grateful to Bill and Melinda Gates Foundation for their support to CSE — Department of Urban Development, Uttar Pradesh for mainstreaming Faecal Sludge and Septage Management in Uttar Pradesh

Suresh Rohilla, Bhitush Luthra et al 2019. *Assessment of Excreta Management — Factsheets for 66 cities in Uttar Pradesh*, Centre for Science and Environment, New Delhi

Material from this publication can be used, but with acknowledgement.

Printed at Bravo Printex

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AGRA

CITY PROFILE

Population: 1,779,439

Municipal area: 126 sq.km.

Local government:

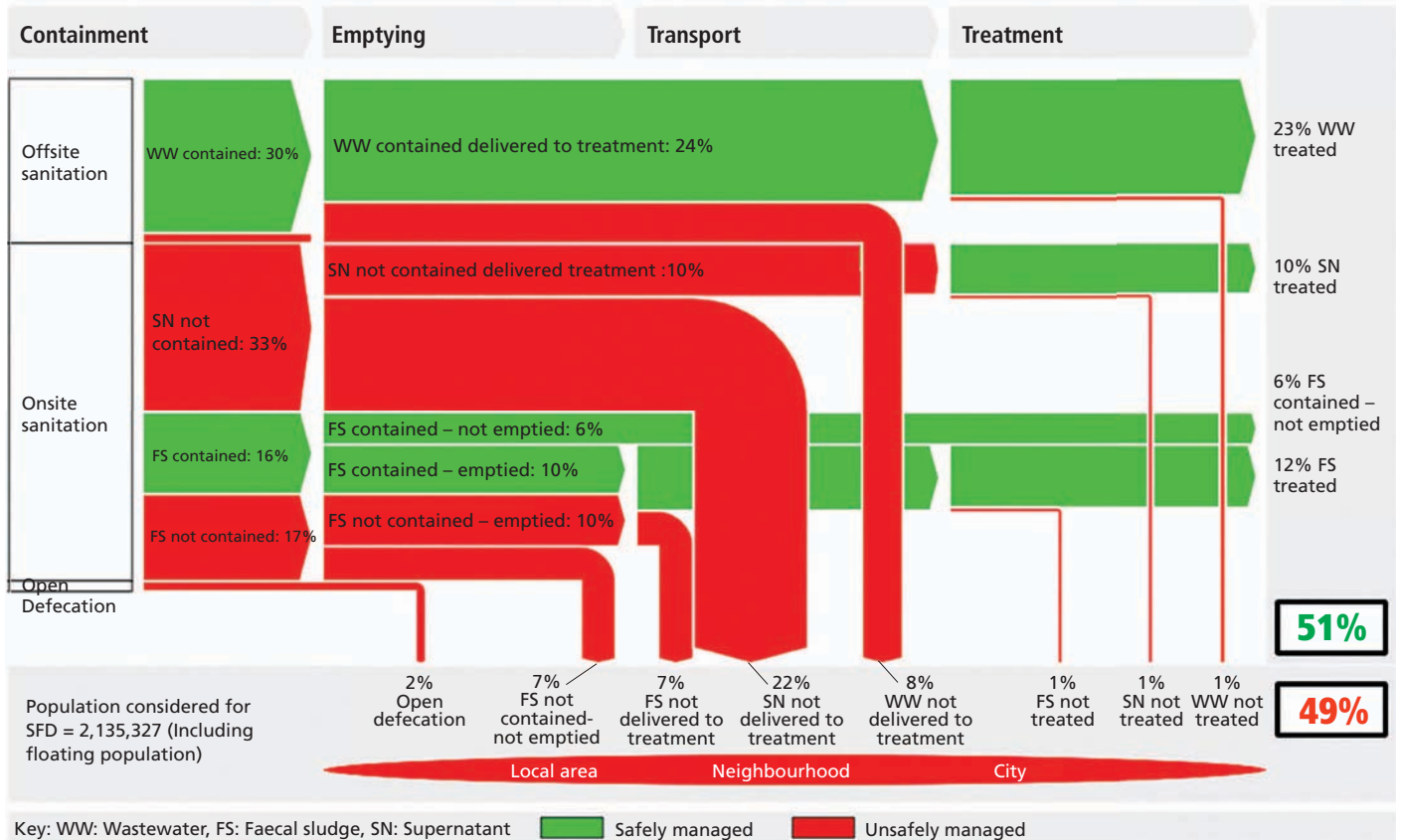
Agra Nagar Nigam

Agra is situated on the Western Bank of river Yamuna at about 200 Kms from Delhi in the state of Uttar Pradesh. Agra is ranked amongst the most outstanding historic cities in the world and certainly best known tourist destinations in India. The city boasts three World Heritage Sites namely – the Taj Mahal, Fatehpur Sikri & Agra Fort.

SFD graphic

Agra, Uttar Pradesh, India
Version: Draft
SFD Level: 2 - Intermediate SFD

Date prepared: 31 October 2018
 Prepared by: CSE



Service outcomes

Containment

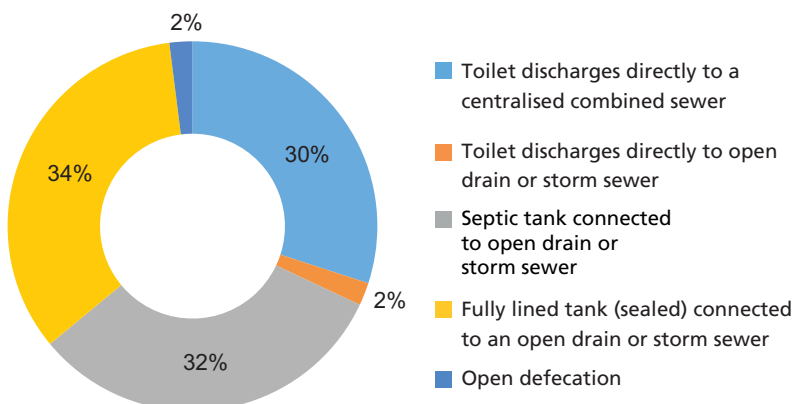


Figure 1: Three chambered septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	7	25
Licensed / registered	Yes	Yes (11)
Record maintained	Yes	No
Fee charged	INR 1,000	INR 500 - 1,000
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	INR 2,000 - 3,000	



Figure 2: Emptying of choked sewer line

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	25	7
No of trips per tanker per day	1-2	2-3 per week
Capacity of vehicle	5,000 liters	5,000-6,000 litres



Figure 3: Registered and licensed private emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	Yes
Type of facility	UASB	Co-treatment at STP
Generated	286 MLD	783 KLD
Treated	140.50 MLD	142 KLD
Designated disposal site	Yes	Yes



Figure 4: WW reaching Yamuna river near Taj Mahal and Agra fort



Figure 5: Designated FS disposal site

Source: Data collected by CSE team, September 2018



AKBARPUR

CITY PROFILE

Population: 111,447

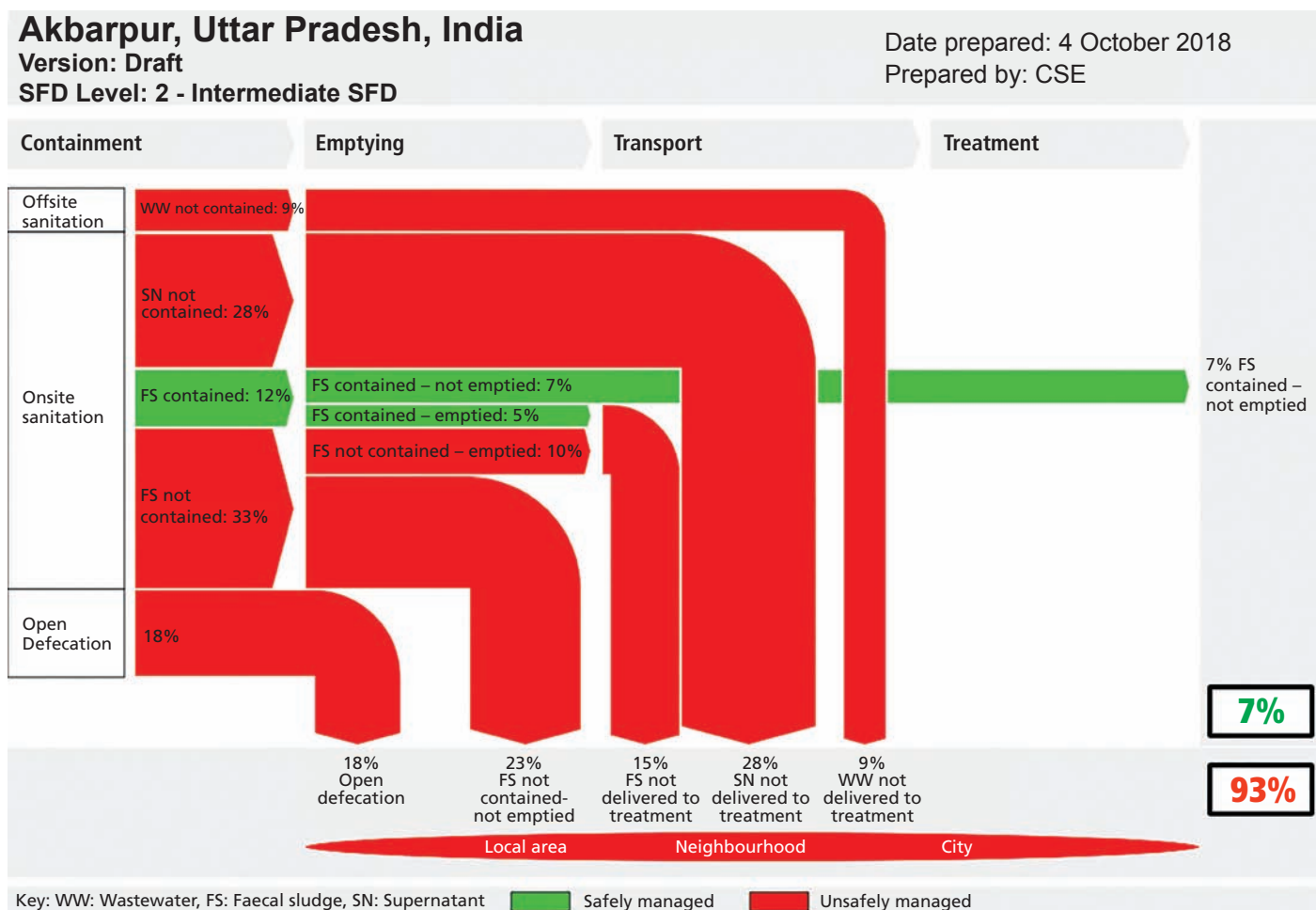
Municipal area: 72.47 sq.km.

Local government:

Nagar Palika Parishad Akbarpur

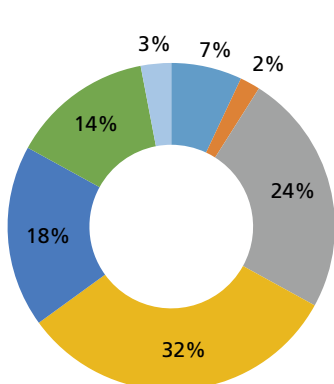
Akbarpur is situated on the banks of the Tamsa River (also known as the Tons River) that divides the city into two parts, Akbarpur and Shahzadpur, with the latter being the commercial centre of the city. Major economic activities in the city are power looms and farming.

SFD graphic



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to to an open drain or storm sewer
- Fully lined tank (sealed) to an open drain or storm sewer
- Open defecation
- Septic tank connected to soak pit, where there is a 'significant risk' of groundwater pollution
- Lined tank with impermeable walls and open bottom, no outlet or overflow, where there is a 'significant risk' of groundwater pollution



Figure 1: Septic tank of a household under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	0	2
Licensed / registered	No	No
Record maintained	No	No
Fee charged	INR 1,000	INR 1,200 - 1,800
No of manual emptiers	250-300	
Fee charged by manual emptiers	INR 2,500-3,000	



Figure 2: Night soil disposed in open drain

Transport

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



Figure 3: Handcart for transport of FS by manual emptiers

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	12 MLD	45 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: SN and WW flowing in drain

Source: Data collected by CSE team, September 2018



Location of city

Akabarpur



Figure 5: Household discharging FS in nullah

ALIGARH

CITY PROFILE

Population: 889,408

Municipal area: 40 sq.km.

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

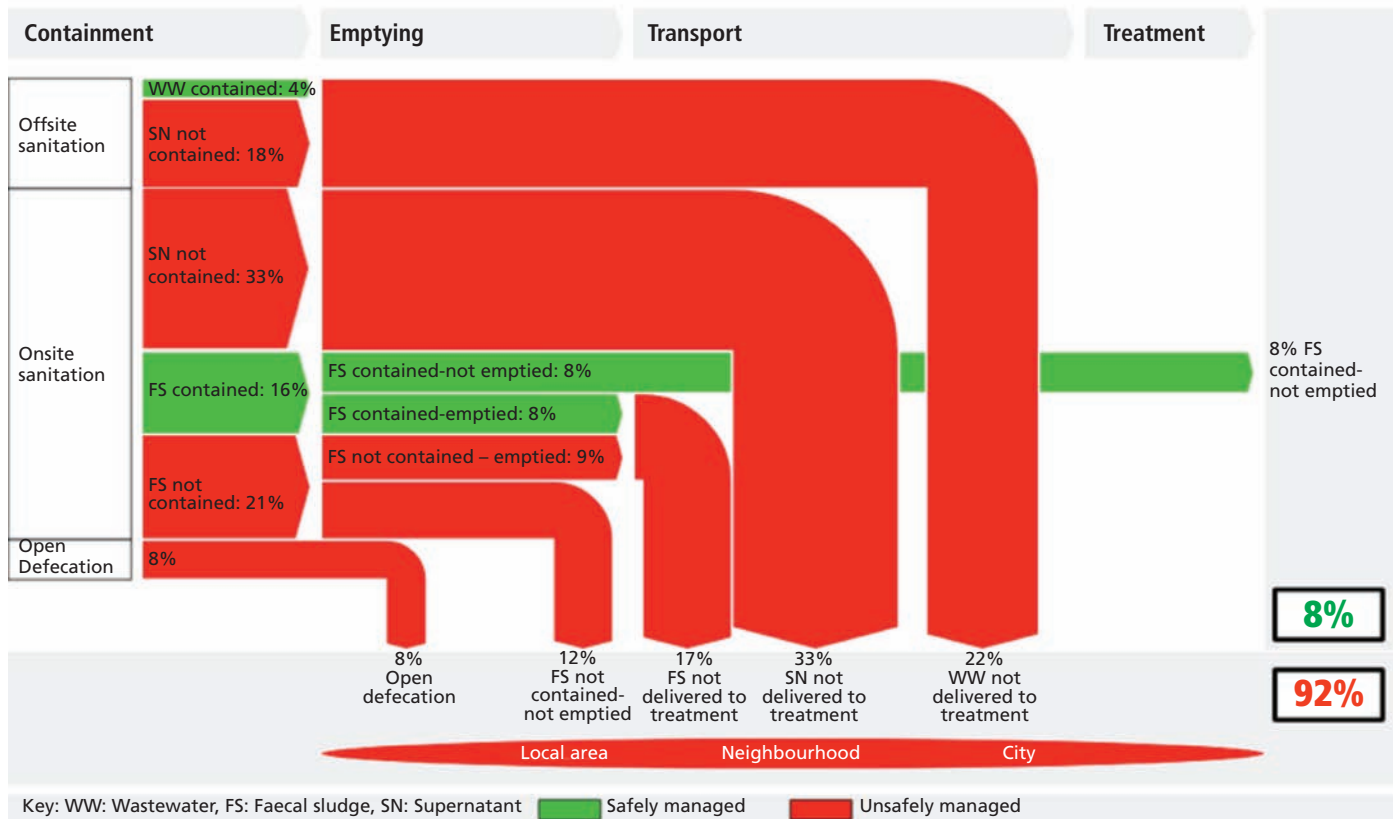
Aligarh, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 19 July 2018

Prepared by: CSE



Service outcomes

Containment

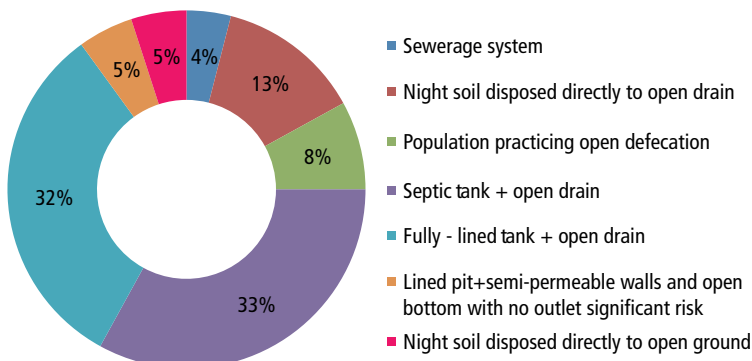


Figure 1: Drums used as containment

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



Location of city

Aligarh

AMROHA

CITY PROFILE

Population: 198,741

Municipal area: 9 sq.km.

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

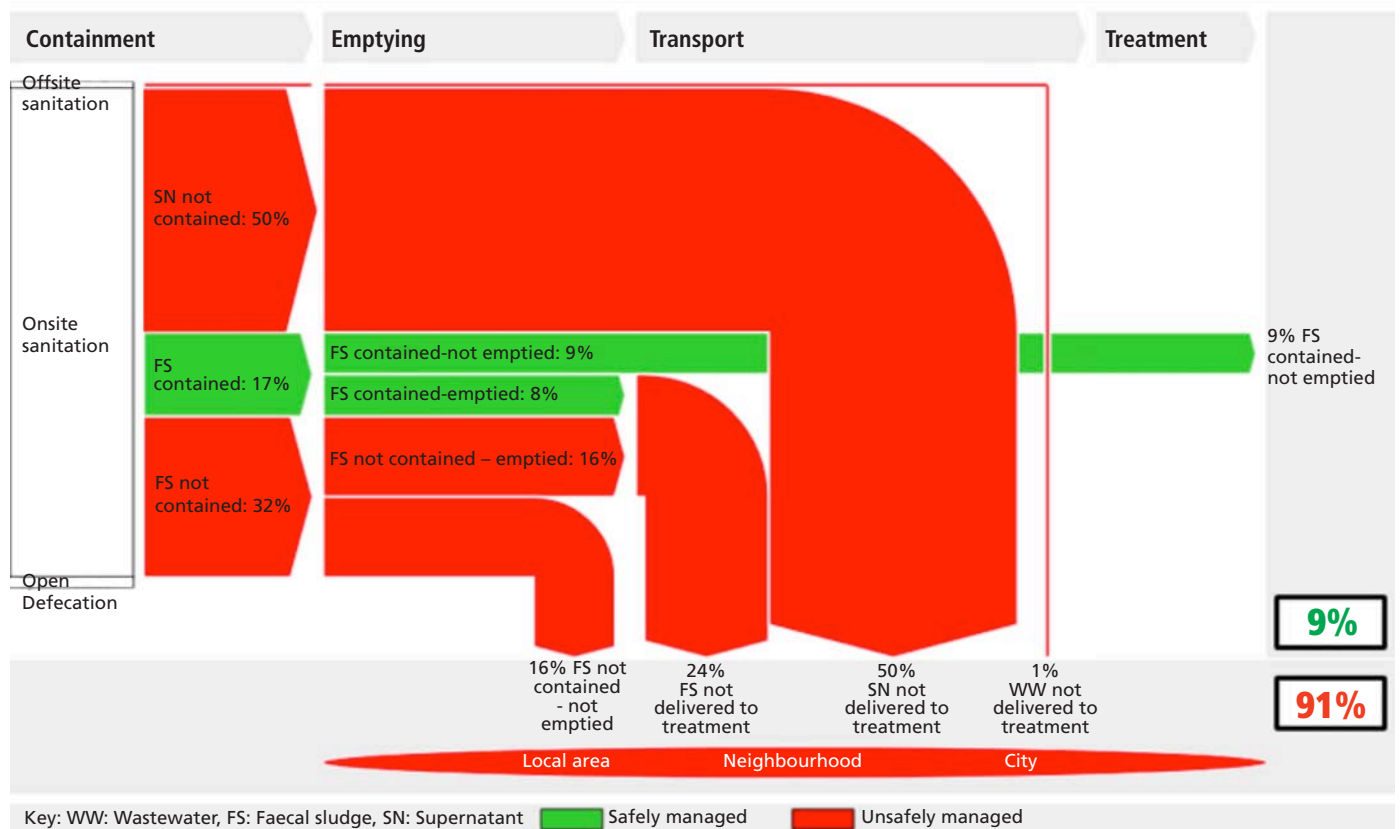
Amroha, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

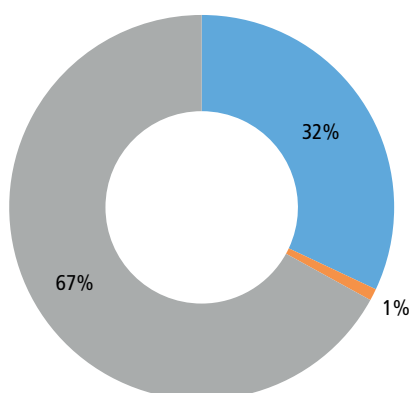
Date prepared: 9 October 2018

Prepared by: CSE



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.

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

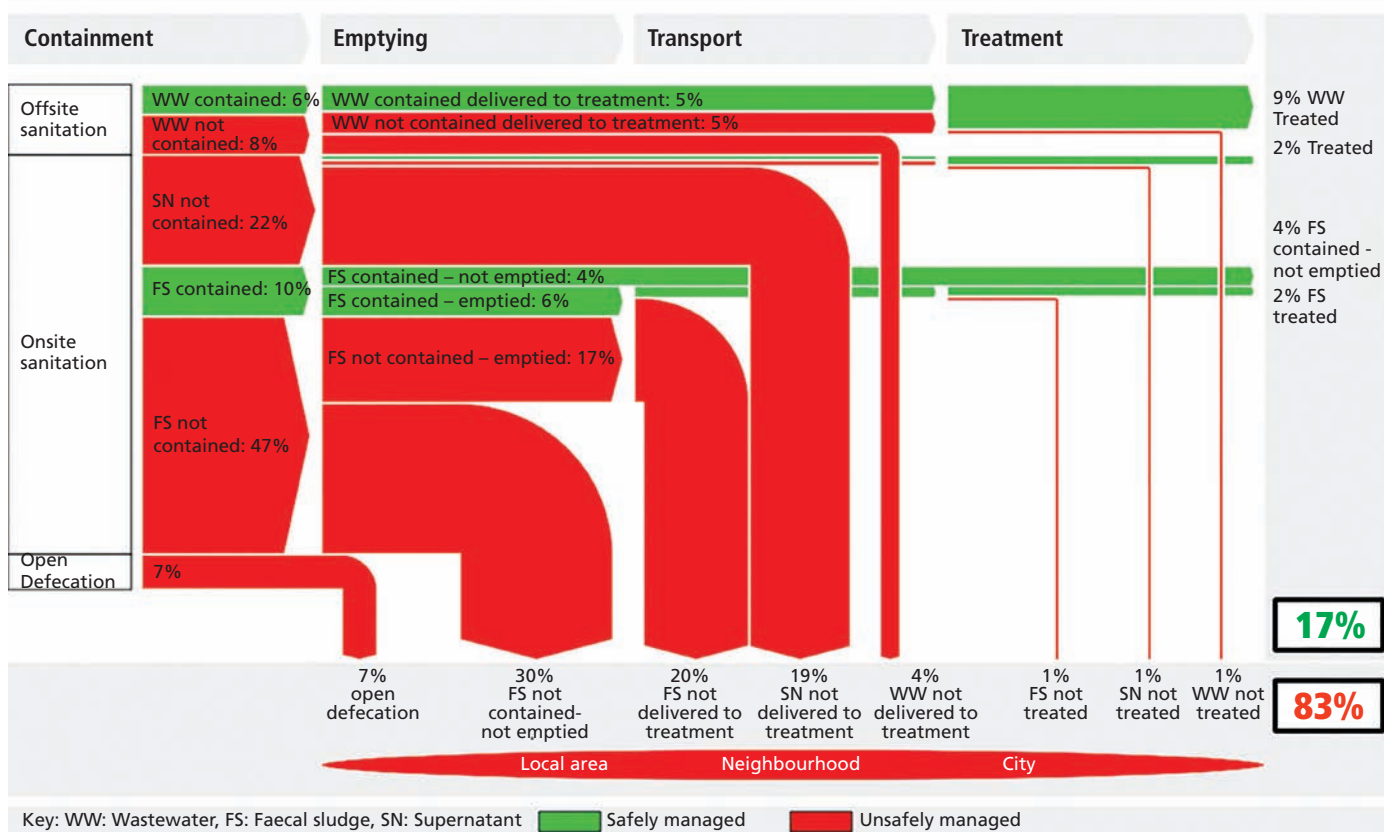
Ayodhya/Faizabad, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

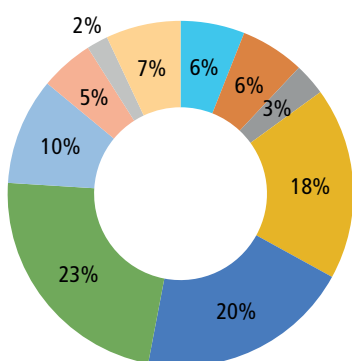
Date prepared: 4 Aug 2018

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

Source: Data collected by CSE team, September 2018



Figure 5: Disposal of FS in low lying areas

AZAMGARH,

Population: 110,983

Municipal area: 21.7 sq.km.

Local government:

Nagar Palika Parishad Azamgarh

Azamgarh is a city in the Indian state of Uttar Pradesh. The district is named after its headquarters town, Azamgarh. Azam, son of Vikramajit, founded the town in 1665. The city is situated on the bank of Tamsa River.

SFD graphic

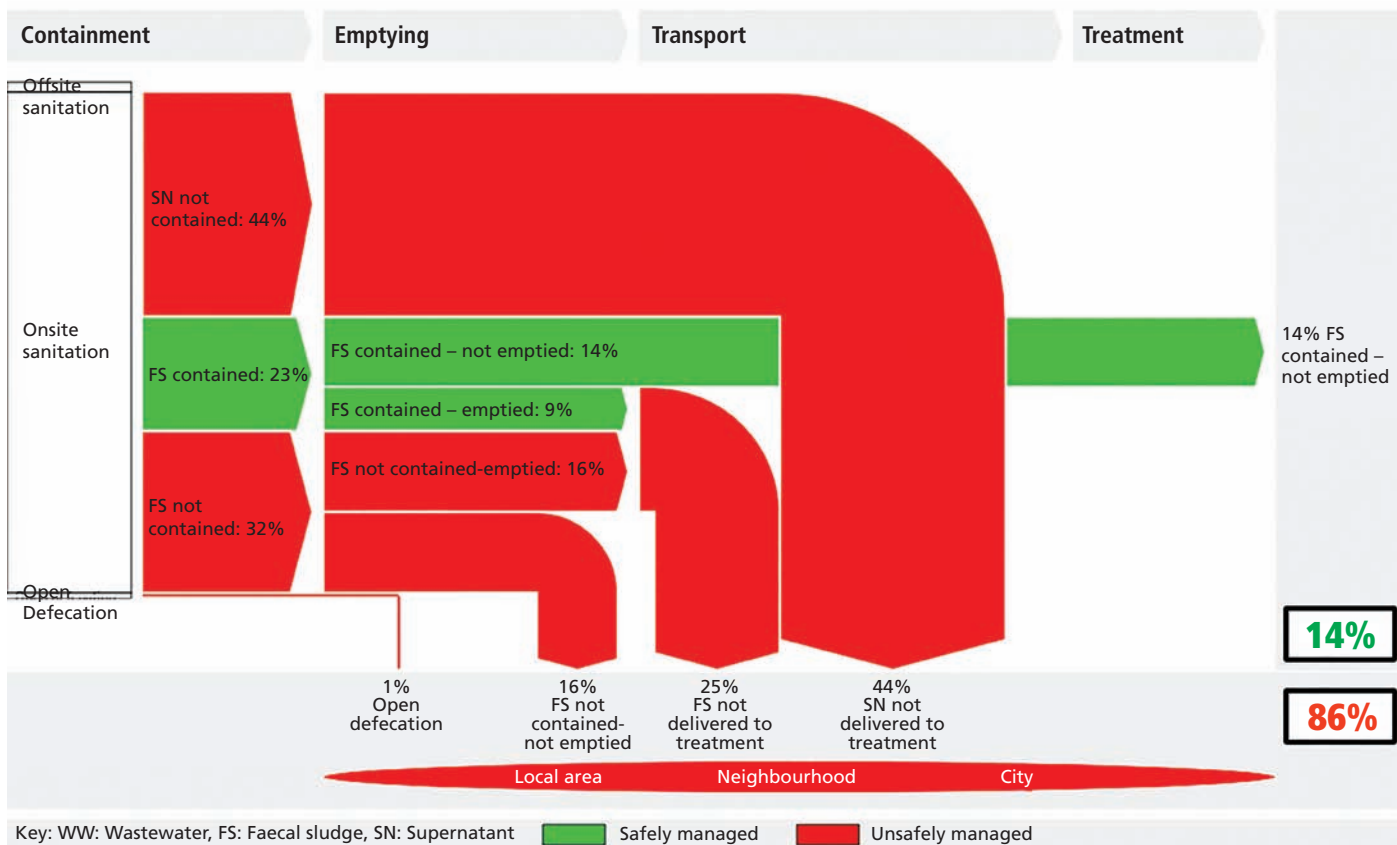
Azamgarh, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 28 November 2018

Prepared by: CSE



Service outcomes

Containment

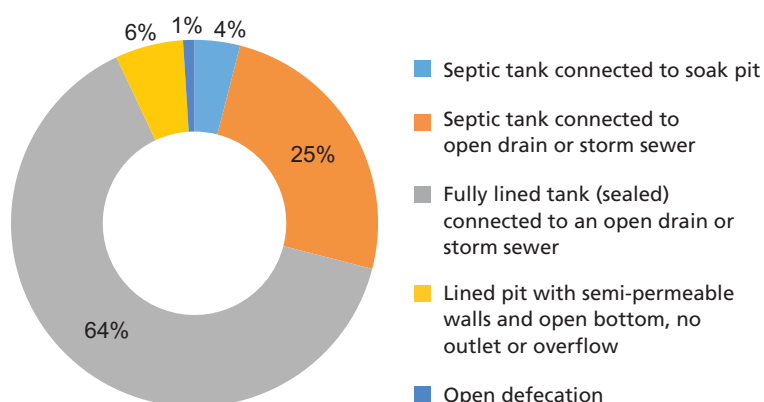


Figure 1: Septic tank of a household

↘ Emptying

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



Figure 2: Night soil discharged in open drain

↘ Transport

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



Figure 3: Govt. tractor mounted vacuum tanker

↘ Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	13.78 MLD	61 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged in river Tamsa



Figure 5: Sewage of city reaching river Tamsa via drain



Location of city

● Azamgarh

BAHRAICH

CITY PROFILE

Population: 186,223

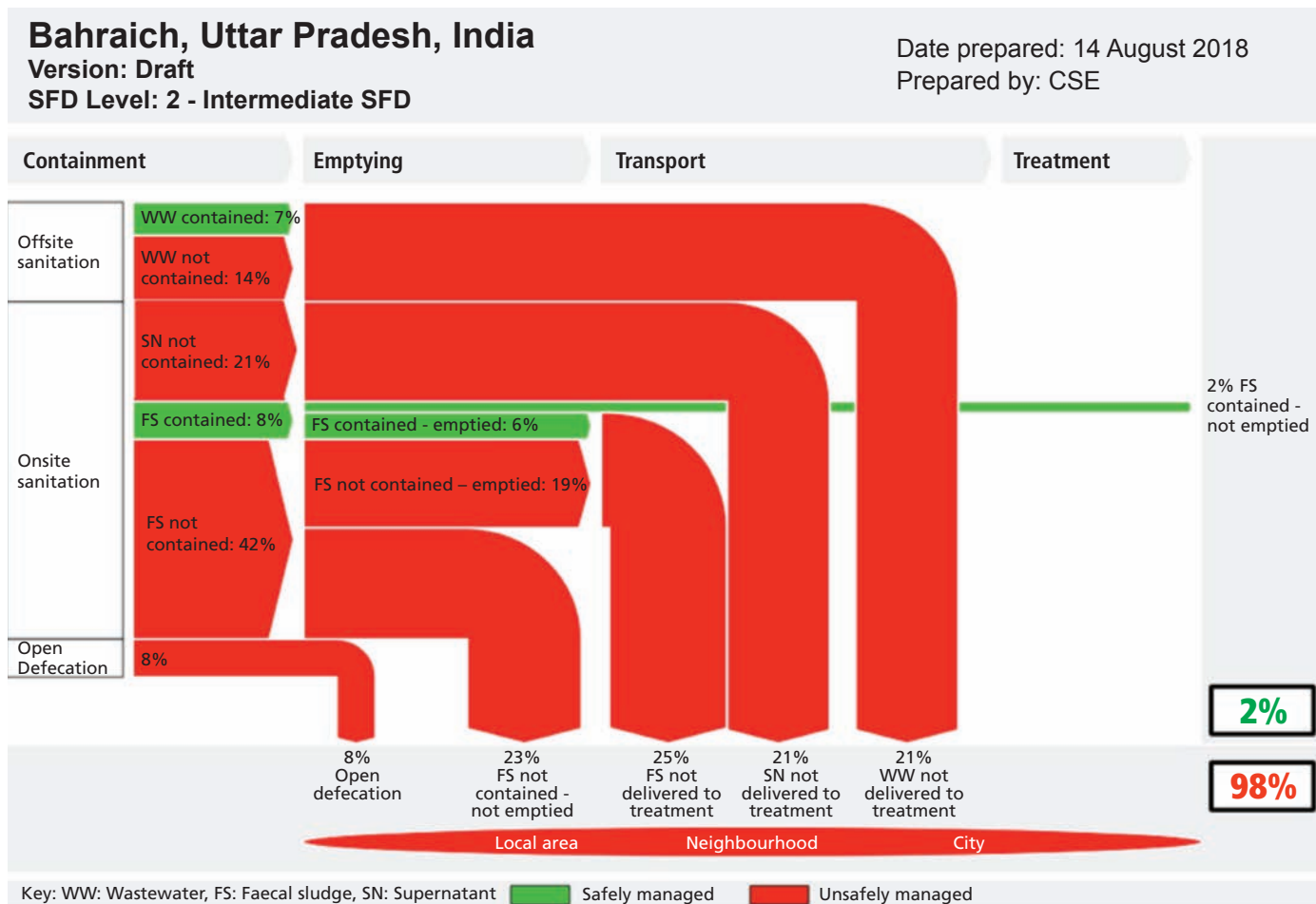
Municipal area: 13.3 sq.km.

Local government:

Nagar Palika Parishad Behraich

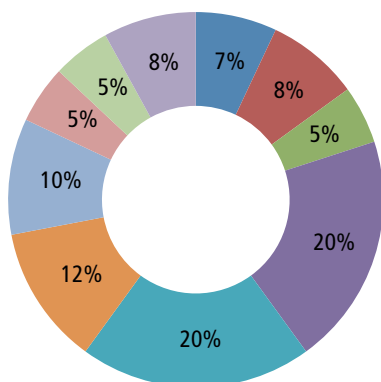
Bahraich is a rich historic city of Uttar Pradesh State in Devipatan division of India. It is the administrative headquarter of district Behraich. It is located on the bank of Saryu River, a tributary of river Ghaghra. The city is about 125 km North-East of state's capital Lucknow.

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	

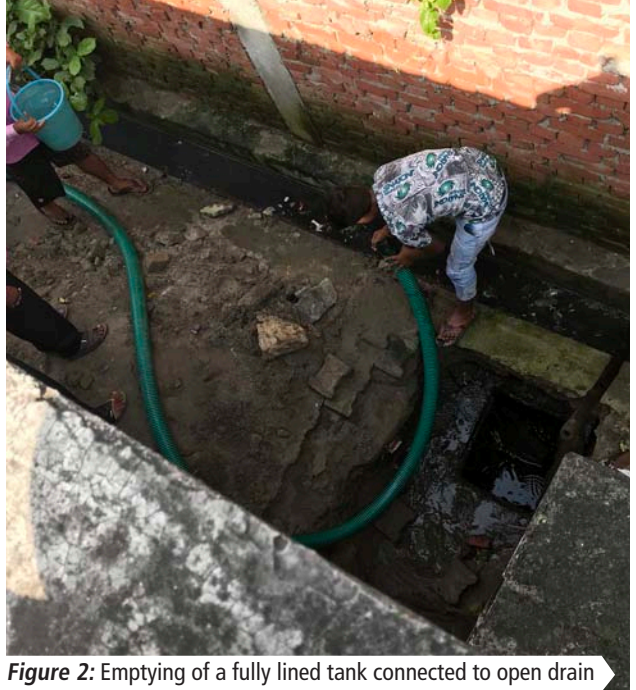


Figure 2: Emptying of a fully lined tank connected to open drain

↘ 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



Location of city

Bahraich

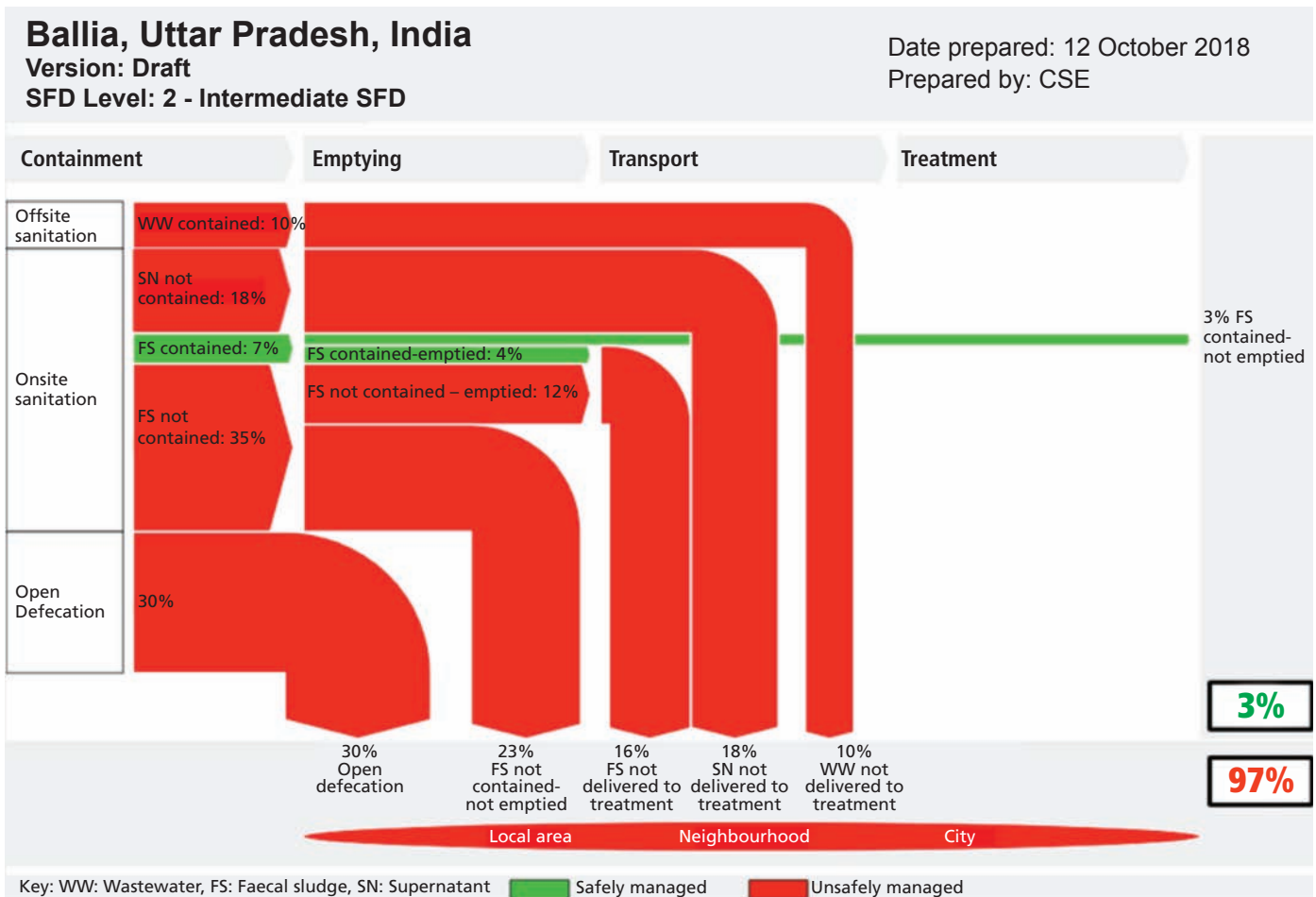
BALLIA

CITY PROFILE

Population: 104,424
Municipal area: 16 sq.km.
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

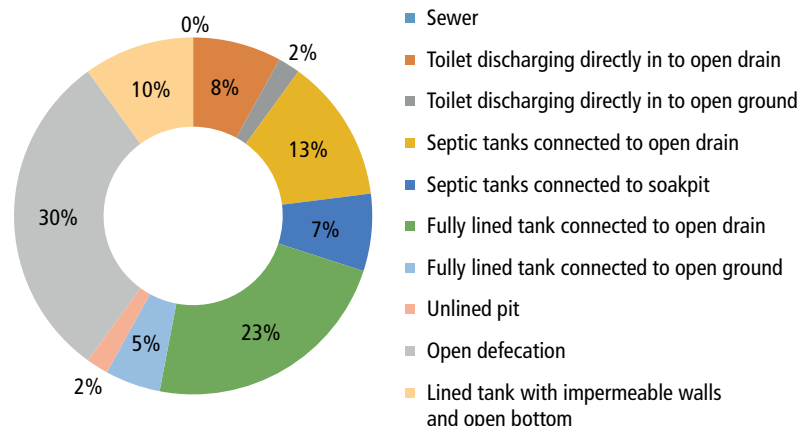


Figure 1: Septic tank of a household

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	

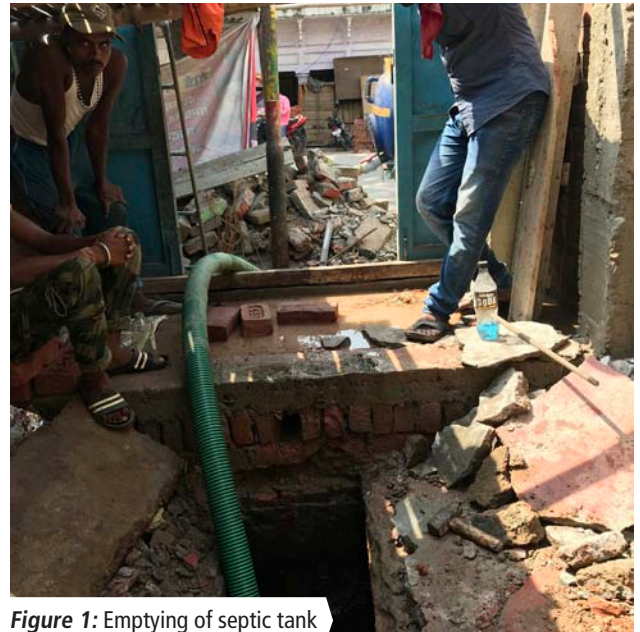


Figure 1: Emptying of septic tank

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



Location of city

Ballia

BANDA

CITY PROFILE

Population: 160,473

Municipal area: 44 sq.km.

Local government:

Banda Nagar Palika Parishad

Banda is a city in Banda district in the state of Uttar Pradesh, India. Banda lies south of Yamuna river and is one of the most important places of Bundelkhand region. The area of the city as well as surroundings is mostly plateau and is full of small hillocks. The town is near the right bank of the river Ken.

SFD graphic

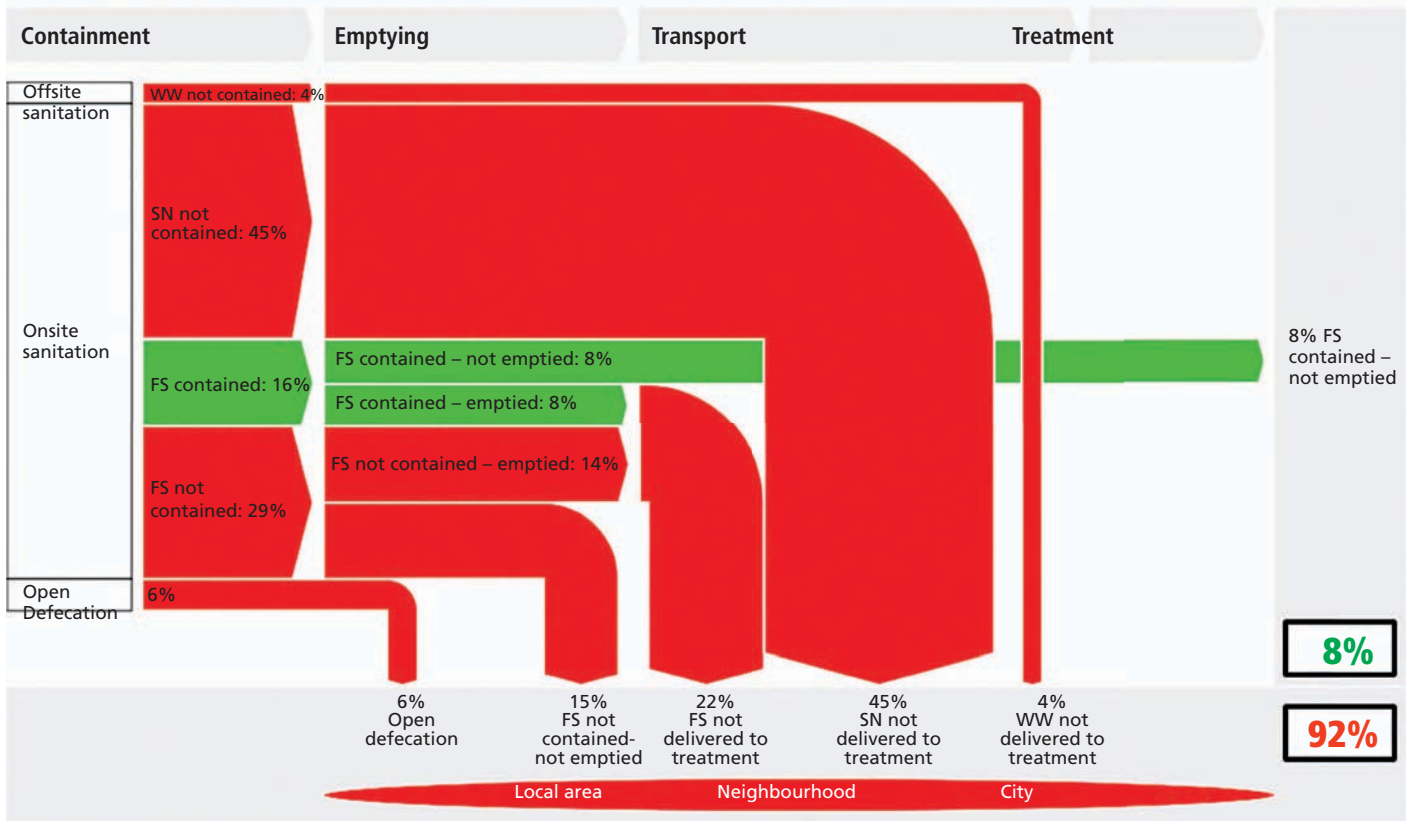
Banda, Uttar Pradesh, India

Version: Draft

SFD Level: 2 – Intermediate SFD

Date prepared: 10 November 2018

Prepared by: CSE



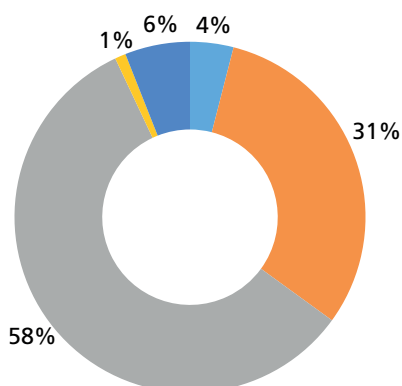
Key: WW: Wastewater, FS: Faecal sludge, SN: Supernatant

■ Safely managed

■ Unsafely managed

Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) to an open drain or storm sewer
- Unlined pit, no outlet or overflow
- Open defecation



Figure 1: Lined tank connected top open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	5 (only 1 functional)	0
Licensed / registered	Yes	No
Record maintained	Yes	NA
Fee charged	INR 1,500	NA
No of manual emptiers	500-600	
Fee charged by manual emptiers	INR 5,000-7,000	



Figure 2: Emptying of tank by govt. emptiers

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	5	0
No of trips per tanker per day	1-2	NA
Capacity of vehicle	2,500-4,000 litres	NA



Figure 3: Tractor mounted government vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP (not functional)	NA
Generated	20 MLD	80 KLD
Treated	No	No
Designated disposal site	No	Solid waste dump-yard



Figure 4: Discharge of FS at solid waste dumping site

Source: Data collected by CSE team, October 2018



Location of city



Figure 5: WW and SN discharged in Ken river

BARAUT

CITY PROFILE

Population: 103,764

Municipal area: 10.36 sq.km.

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

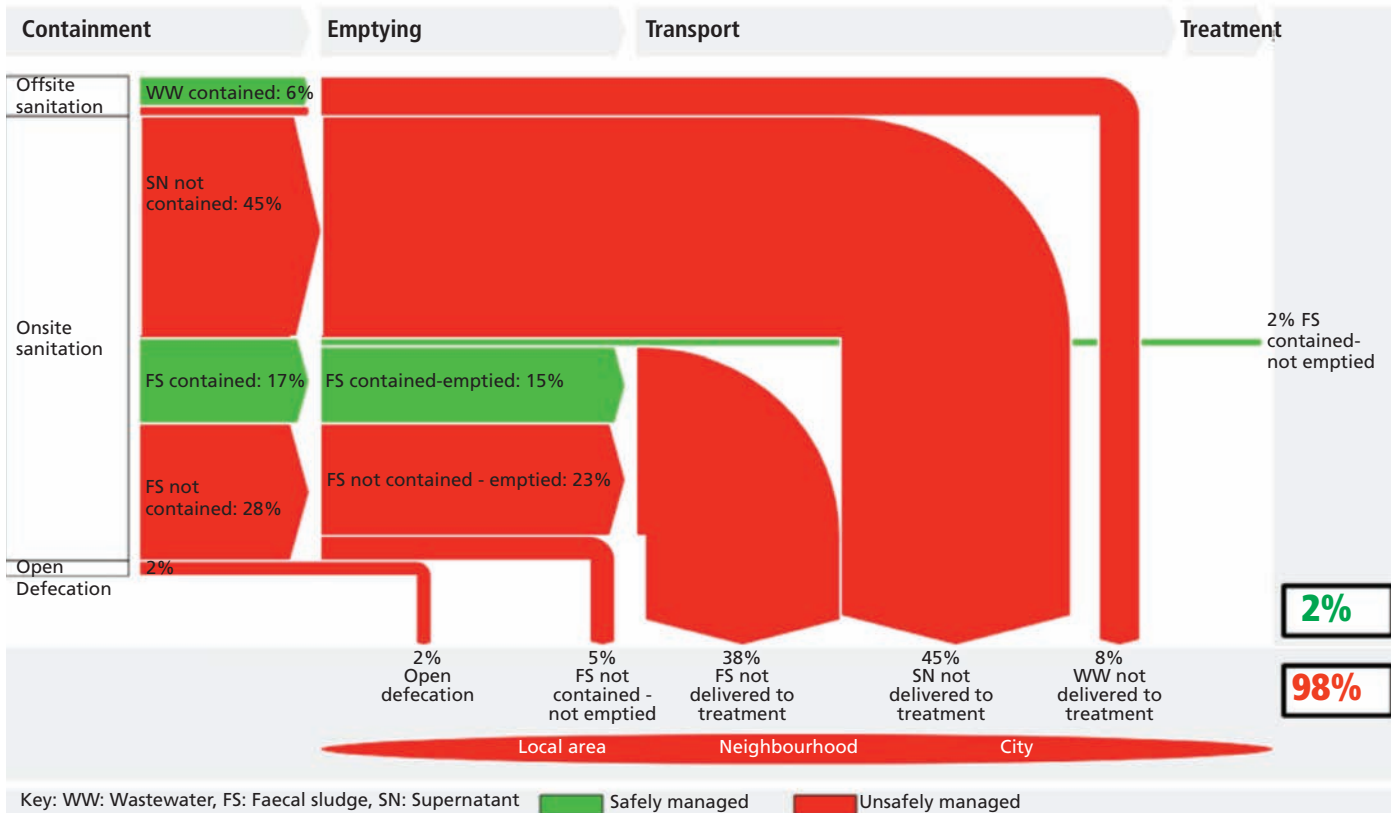
Baraut, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

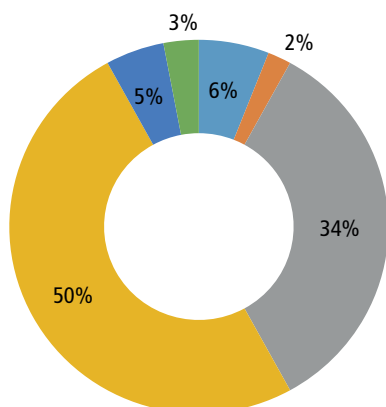
Date prepared: 29 August 2018

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: 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



Location of city

Baraut

BAREILLY

CITY PROFILE

Population: 898,167

Municipal area: 106 sq.km.

Local government:

Municipal Corporation Bareilly

Bareilly is a city in the northern Indian state of Uttar Pradesh. The city is also known by the name NathNagri, Bareilly Sharif, Zarinagari and historically as Sanjashya. Although Bareilly is a production center for cane (bans) furniture, "Bans Bareilly" is not derived from the bans market; it was named for two princes: Bansaldev and Baraldev.

SFD graphic

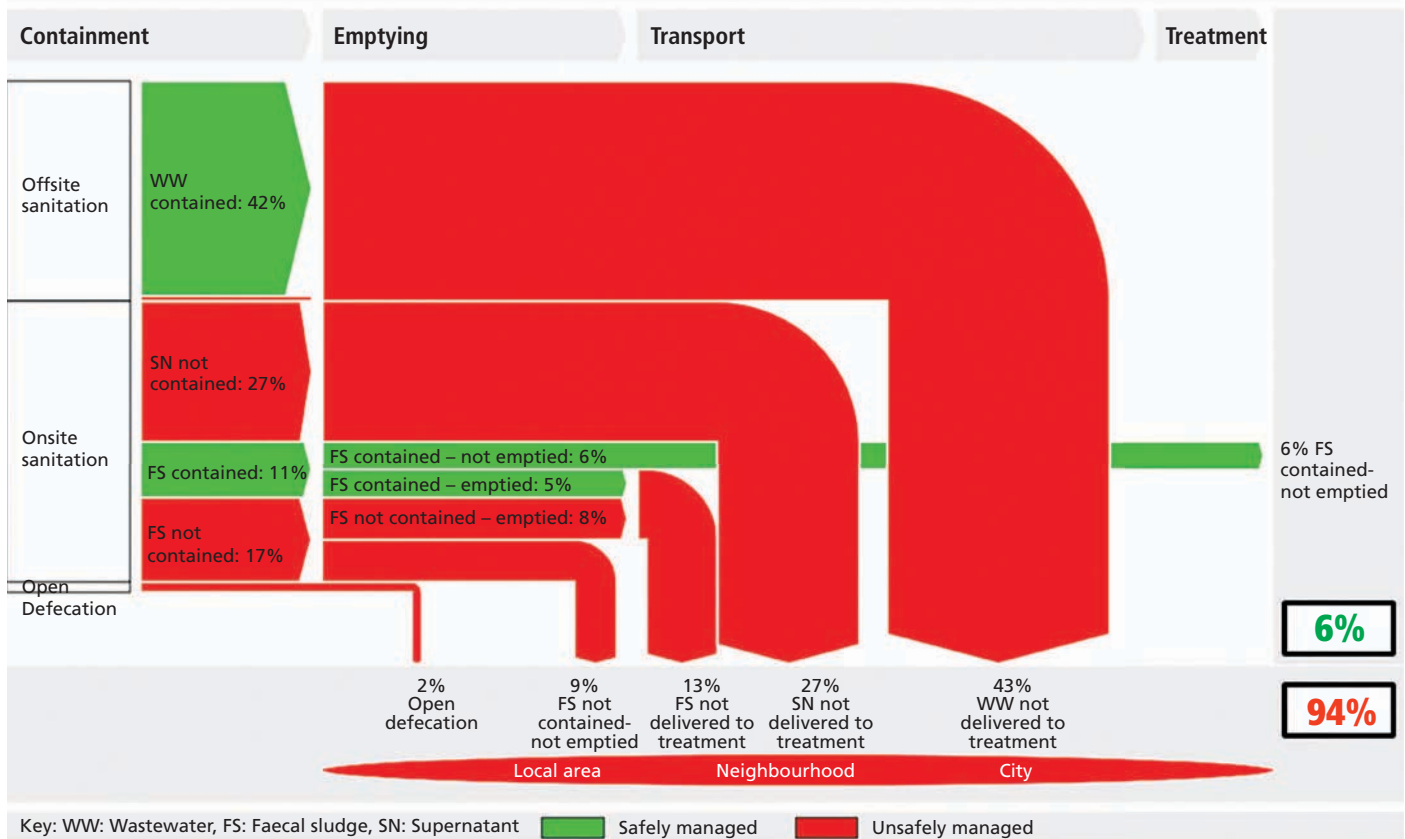
Bareilly, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

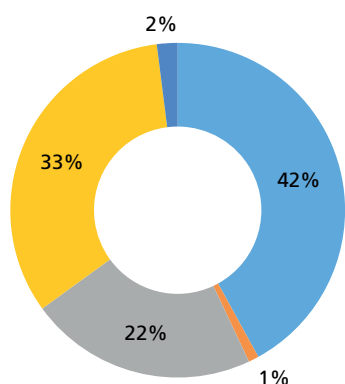
Date prepared: 28 September 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Septic tank having outlet connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	1	3
Licensed / registered	Yes	Yes
Record maintained	Yes	No
Fee charged	INR 2,500	INR 1,000-1,500
No of manual emptiers	30-40	
Fee charged by manual emptiers	INR 3,000-4,000	



Figure 2: Emptying of septic tank

Transport

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



Figure 3: Tractor mounted private emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	89.8 MLD	274 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: FS discharged into open drain

Location of city



Figure 5: WW from city terminating in Nakatiya river

BASTI

CITY PROFILE

Population: 114,657

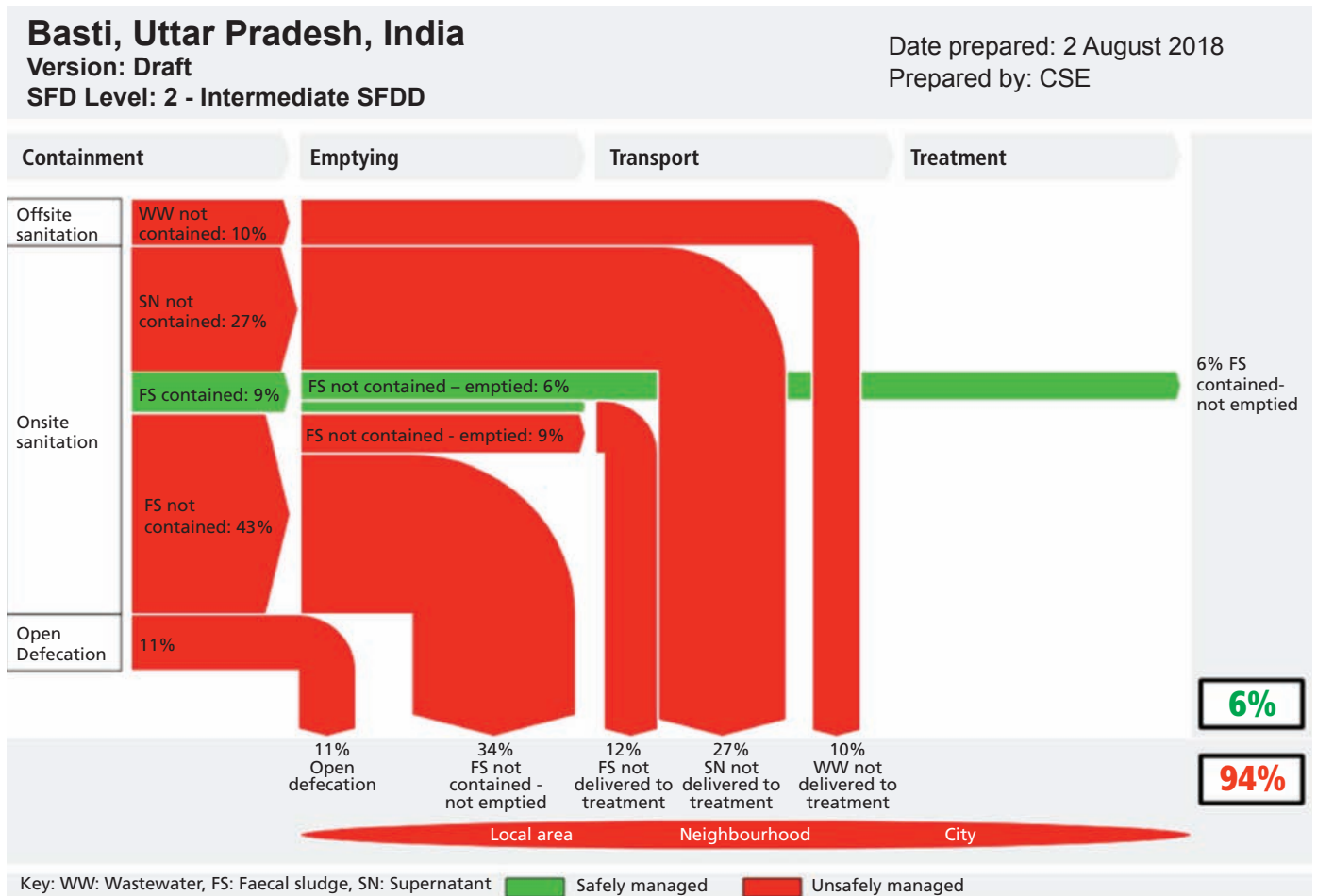
Municipal area: 19.47 sq.km.

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

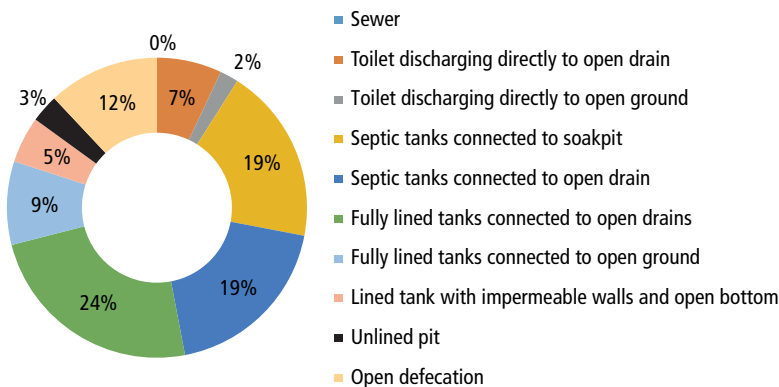


Figure 1: Septic tank under construction

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



Location of city

Basti

BIJNOR

CITY PROFILE

Population: 93,297

Municipal area: 3.6 sq.km.

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° 9' 0" North and 78° 16' 0" East. The topography of Bijnor district is majorly plain.

SFD graphic

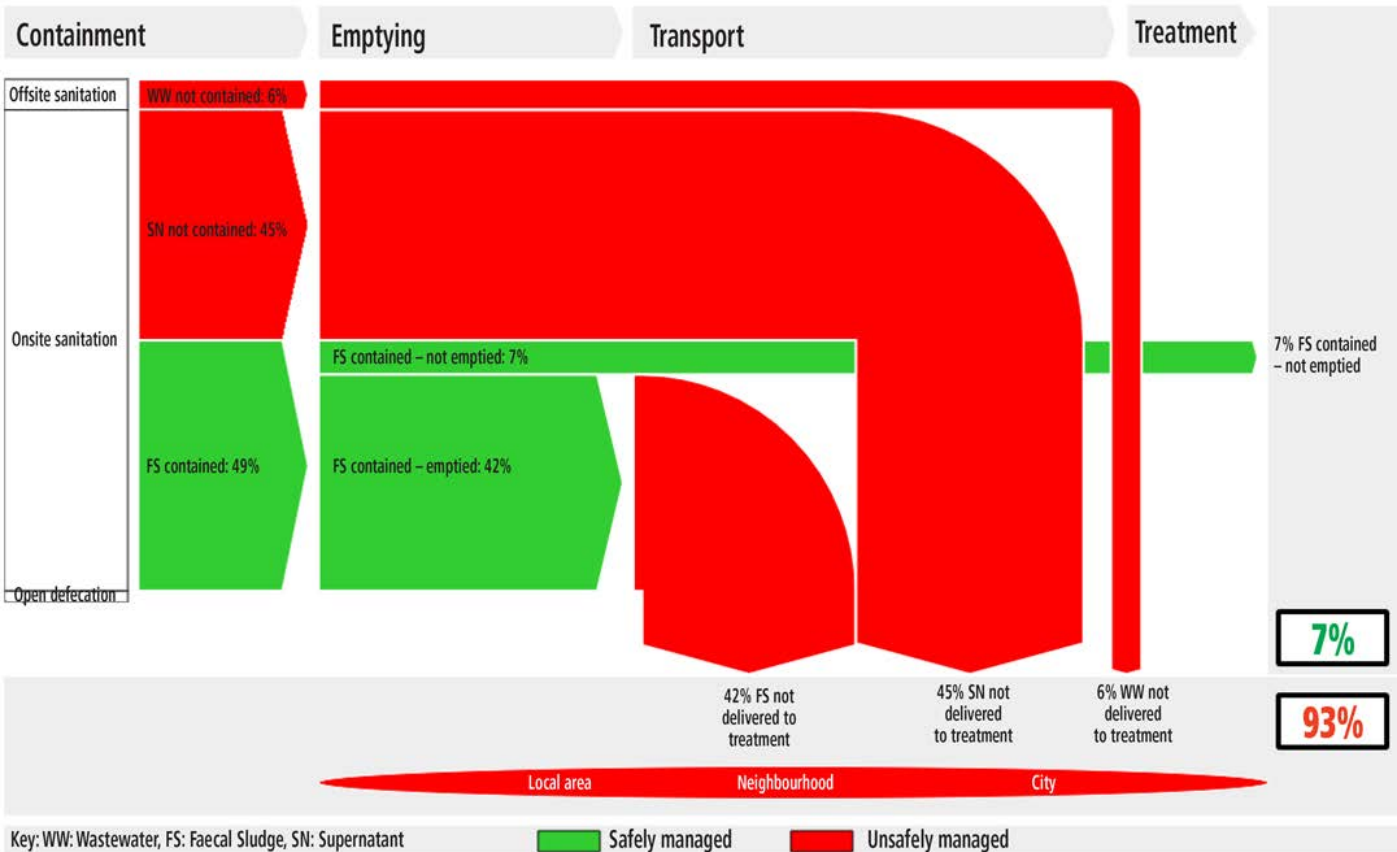
Bijnor, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 3 July 2018

Prepared by: CSE



Service outcomes

Containment

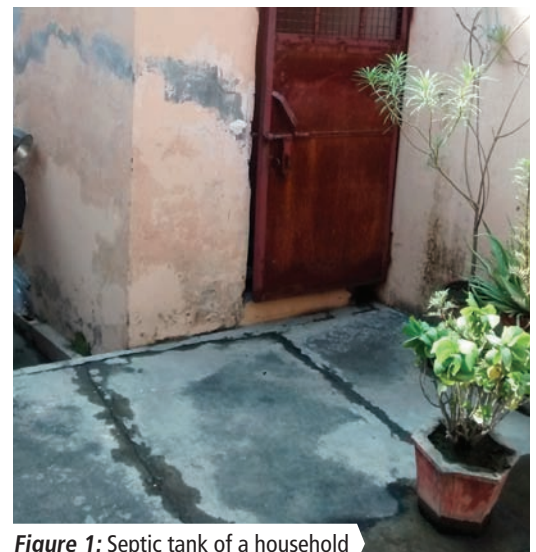
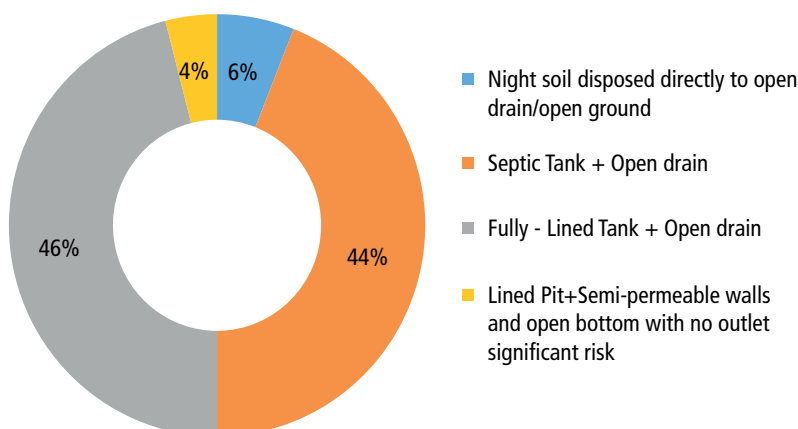


Figure 1: Septic tank of a household

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	

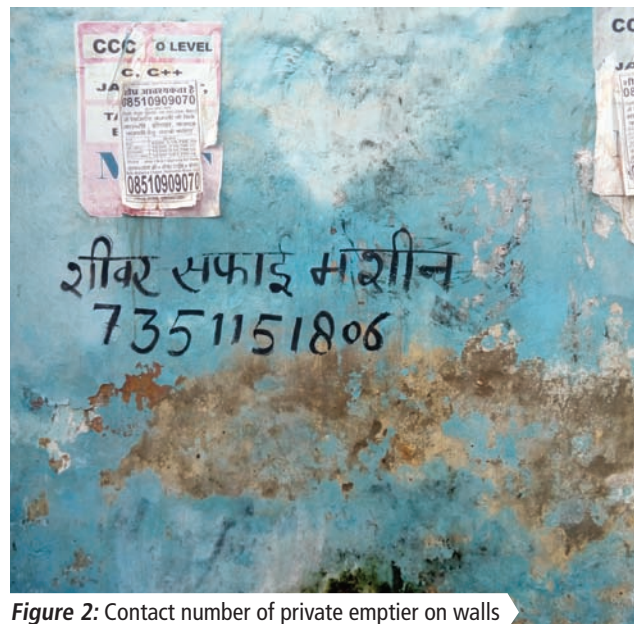


Figure 2: Contact number of private emptier on walls

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

BUDAUN

CITY PROFILE

Population: 159,285

Municipal area: 4.39 sq.km.

Local government:

Nagar Palika Parishad Budaun

Budaun is a city and a seat of Budaun district, Uttar Pradesh, India. It is located near the Ganges. It is the largest producer of wheat in Uttar Pradesh, India and second largest producer of sugarcane and potatoes. It is the leading producer of menthol in the country.

SFD graphic

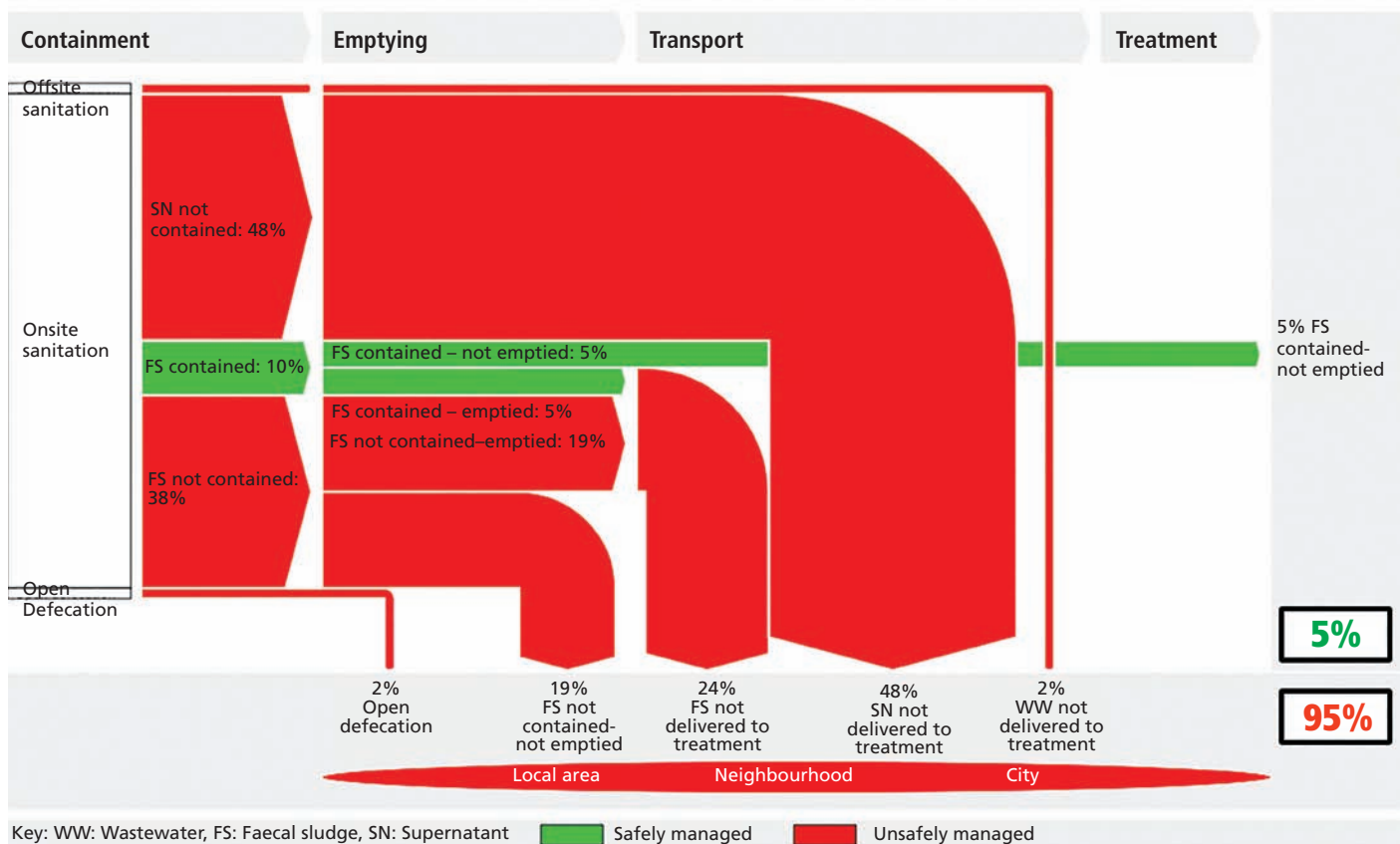
Budaun, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 10 November 2018

Prepared by: CSE



Service outcomes

Containment

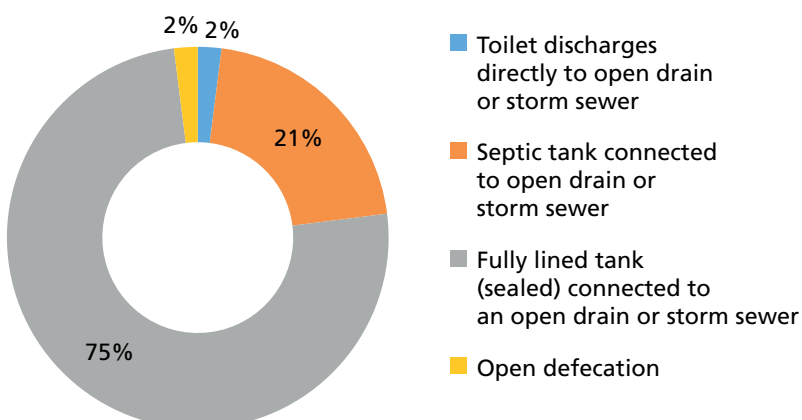


Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	0	1
Licensed / registered	NA	No
Record maintained	NA	No
Fee charged	NA	INR 2,500
No of manual emptiers	50 -60	
Fee charged by manual emptiers	INR 5,000	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per month	10-12	NA
Capacity of vehicle	3,000 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	NA	NA
Generated	15.9 MLD	83 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Night soil discharged in open drain



Figure 5: FS discharged in low lying area



Location of city

Budaun

BULANDSHAHR

CITY PROFILE

Population: 230,024

Municipal area: 37 sq.km.

Local government:

Nagar Palika Parishad Bulandshahr

Bulandshahr is a city in Bulandshahr district in the state of Uttar Pradesh, India. It is the administrative headquarters of Bulandshahr District. This city is part of the Delhi National Capital Region (NCR).

SFD graphic

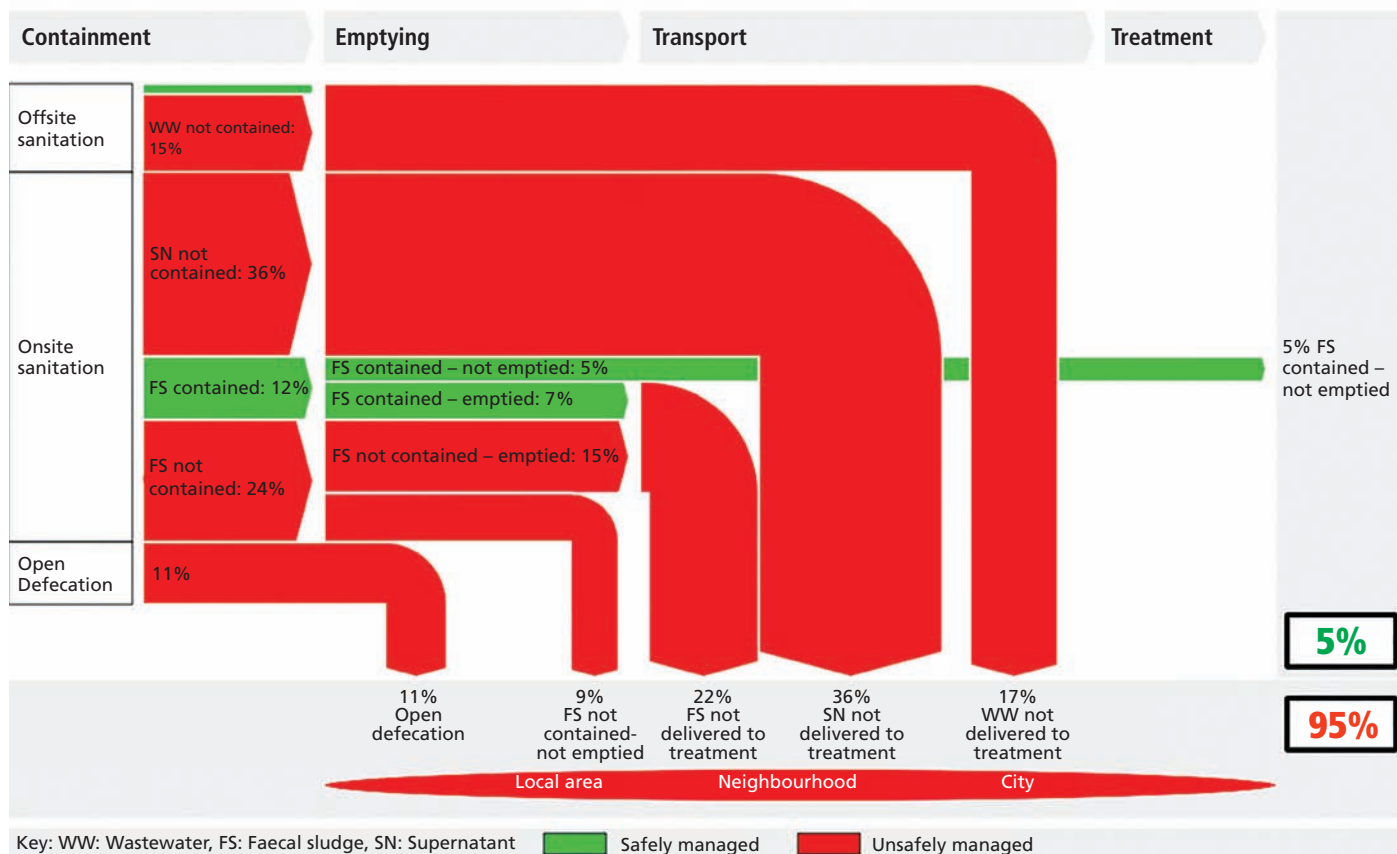
Bulandshahr, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

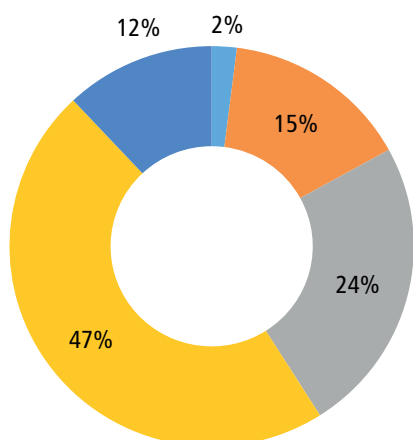
Date prepared: 2 November 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Fully tank of a household under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	6
Licensed / registered	Yes	4
Record maintained	No	No
Fee charged	INR 1,000	INR 1,200 - 1,800
No of manual emptiers	300-350	
Fee charged by manual emptiers	INR 1,800-3,000	



Figure 2: Emptying of tank by government emptier

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	7	1(Defunct)
No of trips per tanker per day	1	0
Capacity of vehicle	5,000 litres	8,000 litres



Figure 3: Private vacuum tanker vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	25 MLD	53 KLD
Treated	No	No
Designated disposal site	Kali River	No



Figure 4: Private desludger discharging on low lying area



Figure 5: Government desludger discharging on low lying area



CHANDAUSI

CITY PROFILE

Population: 114,383

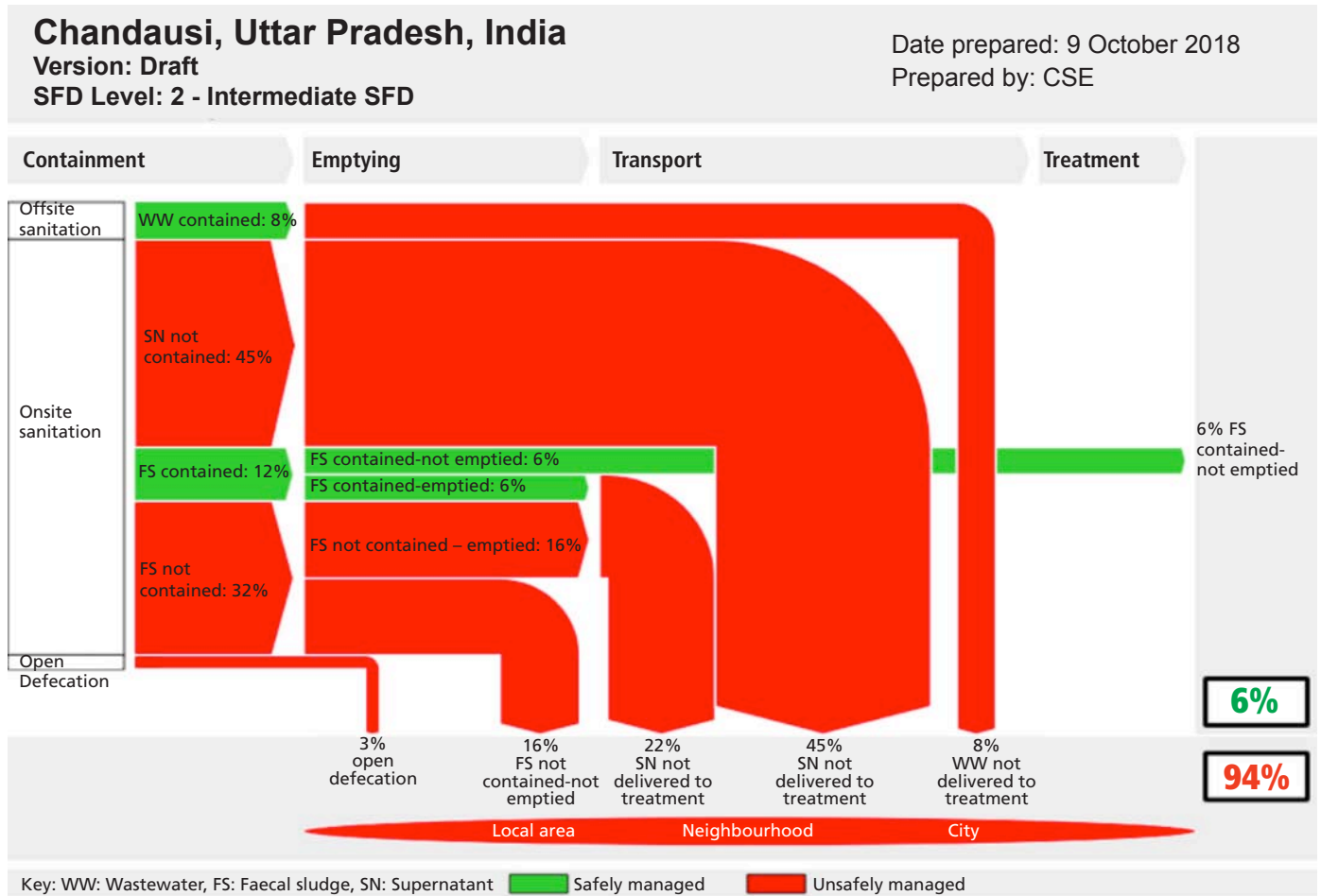
Municipal area: 8.8 sq.km.

Local government:

Nagar Palika Parishad Chandausi

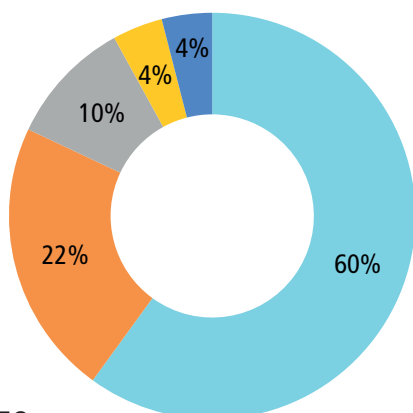
Chandausi is a municipality in Sambhal district in the state of Uttar Pradesh, India. The original name of the city was "Chaand Si", meaning "moon like" (in Indian Poetry the moon is considered to be beautiful). Chandausi is known for mint oil which has become the city's main trade.

SFD graphic



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



Location of city

Chandausi

CHUNAR

CITY PROFILE

Population: 37,185

Municipal area: 14 sq.km.

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

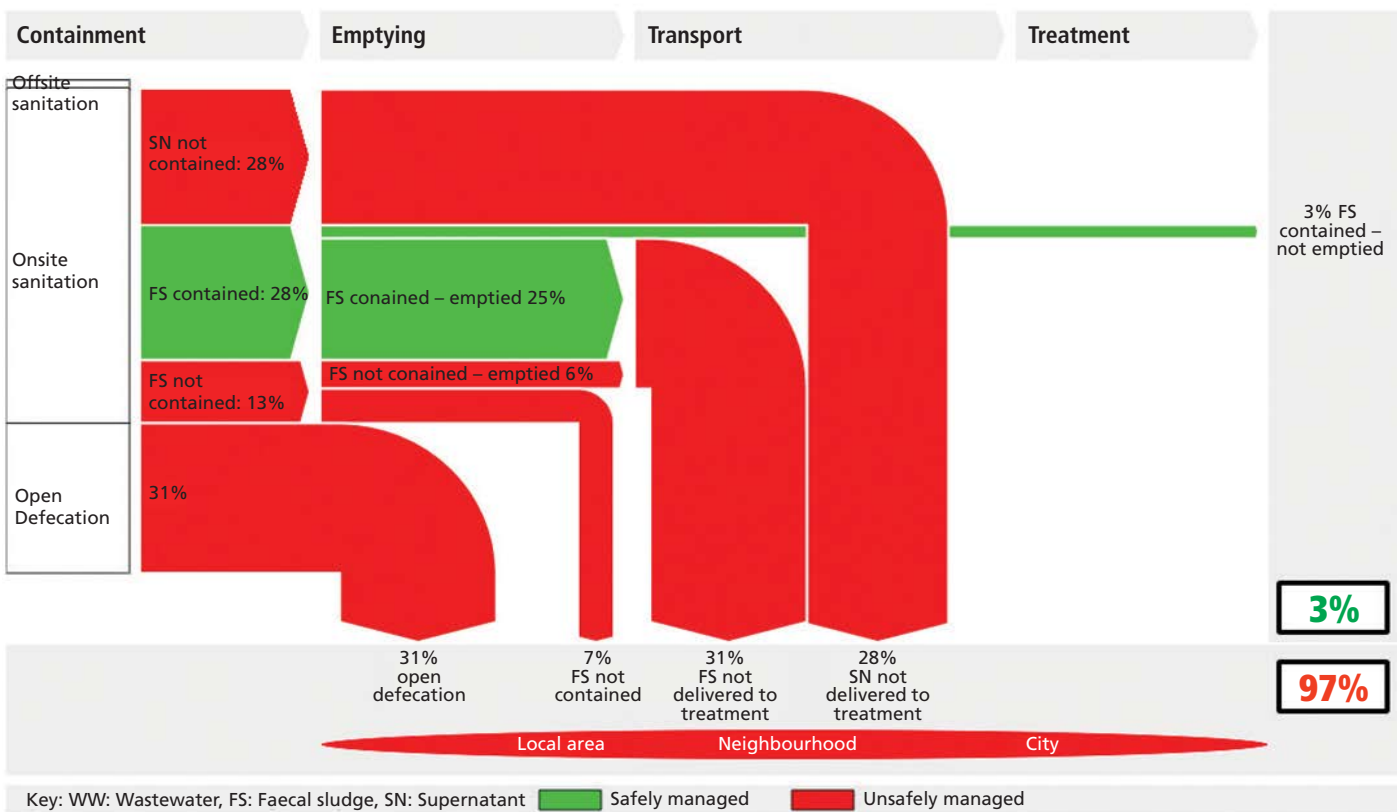
Chunar, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

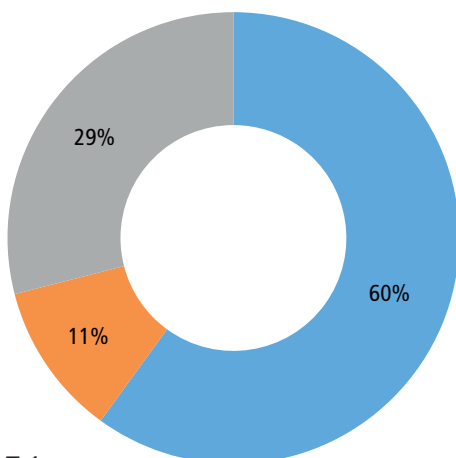
Date prepared: 6th July 2018

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

Source: Data collected by CSE team, October 2016



Location of city

Chunar



Figure 5: Faecal sludge disposal point in drain

DEORIA

CITY PROFILE

Population: 129,479

Municipal area: 16.19 sq.km.

Local government:

Nagar Palika Parishad Deoria

Deoria is a city in the state of Uttar Pradesh, India. The city is situated on the bank of Kurna River. It is one of five tehsils of the Deoria district. Deoria is located 50 km east of Gorakhpur and about 310 km from the state capital Lucknow.

SFD graphic

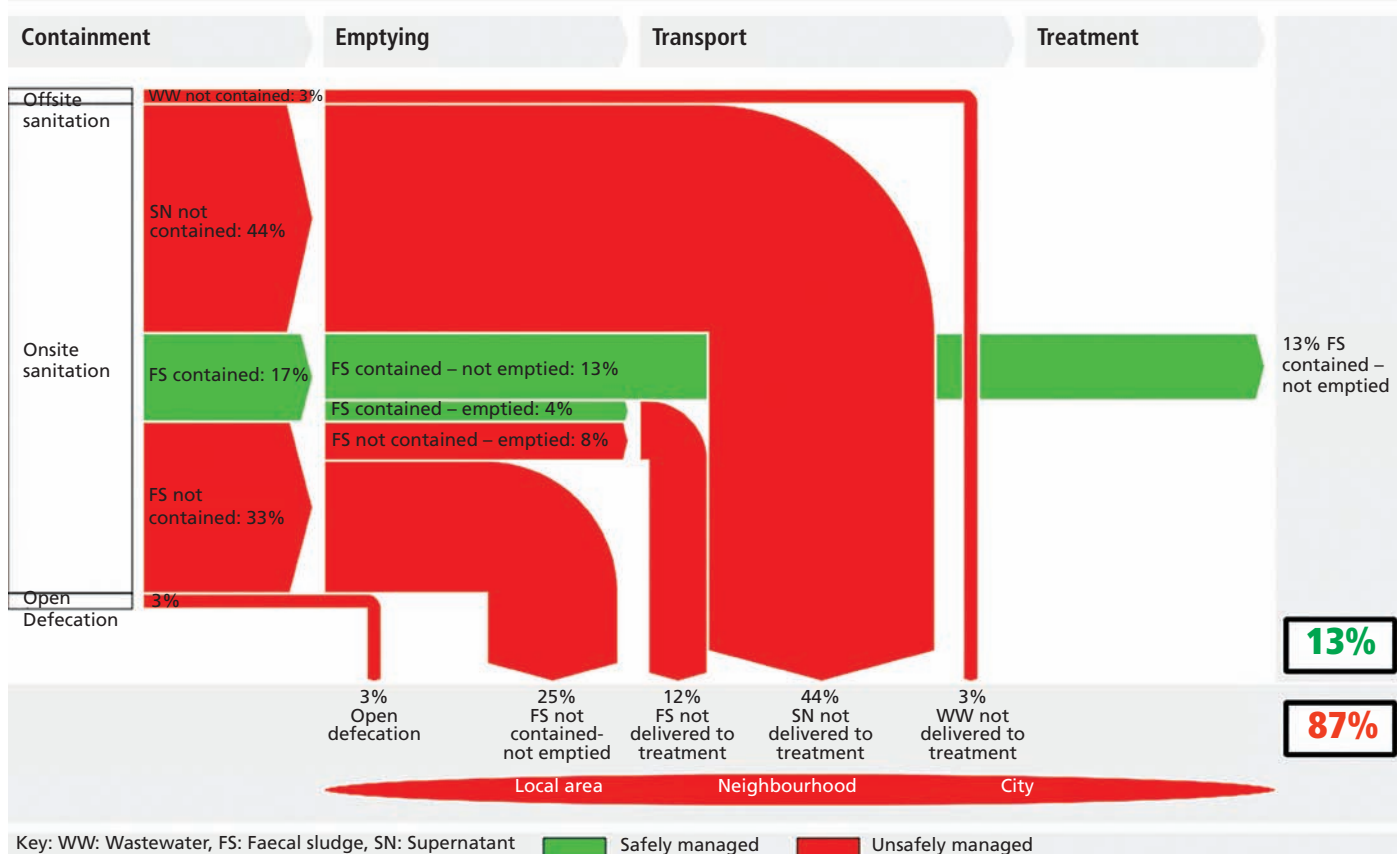
Deoria, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

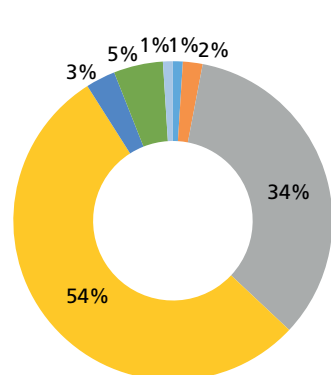
Date prepared: 15 August 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) to an open drain or storm sewer
- Open defecation
- Lined tank with impermeable walls and open bottom, no outlet or overflow, where there is a 'significant risk' of groundwater pollution
- Unlined pit, no outlet or overflow, where there is a 'significant risk' of groundwater pollution



Figure 1: Shankar balram tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	0	2
Licensed / registered	NA	No
Record maintained	NA	No
Fee charged	NA	INR 1,200-1,800
No of manual emptiers	300-350	
Fee charged by manual emptiers	INR 1,800-3,000	

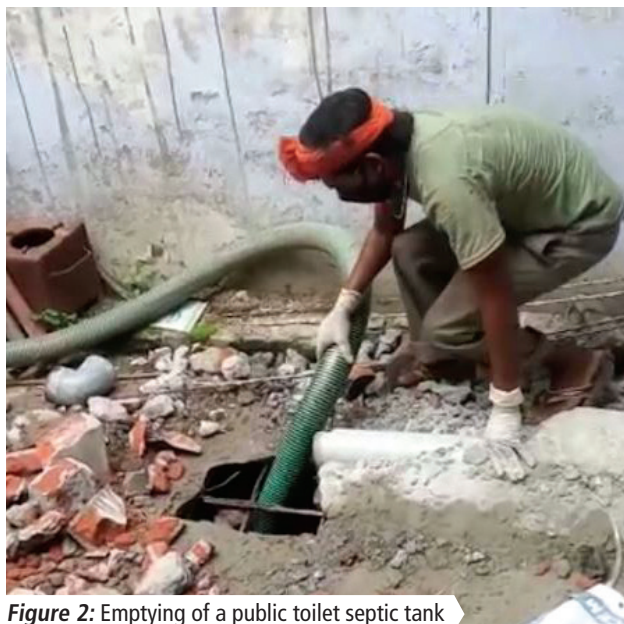


Figure 2: Emptying of a public toilet septic tank

Transport

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



Figure 3: Private 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 MLD	60 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: Manual tank emptiers with equipments

Source: Data collected by CSE team, September 2018



Location of city

Deoria



Figure 5: FS discharged in agricultural field

ETAH

CITY PROFILE

Population: 118,517

Municipal area: 13 sq.km.

Local government:

Etah Nagar Palika Parishad

Etah is a municipality town which is also the district headquarters of Etah district of Uttar Pradesh state, India. It is situated at the midpoint of Kanpur-Delhi Highway and is known historically for being a centre of the Revolt of 1857. Etah is famous for its Yagyashala that is located at Gurukul Vidyalaya. It is considered to be world's second largest Yagyashala.

SFD graphic

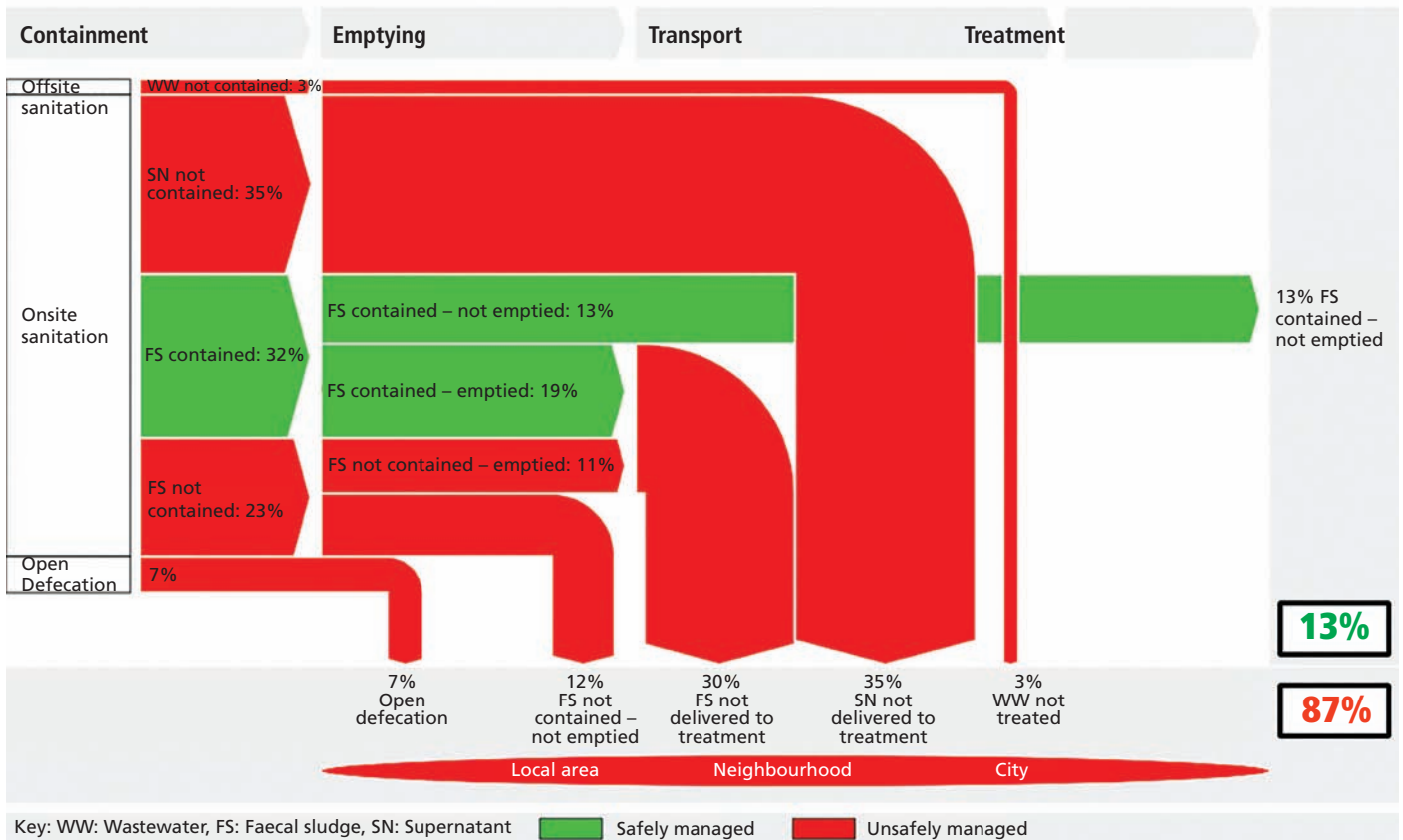
Etah, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

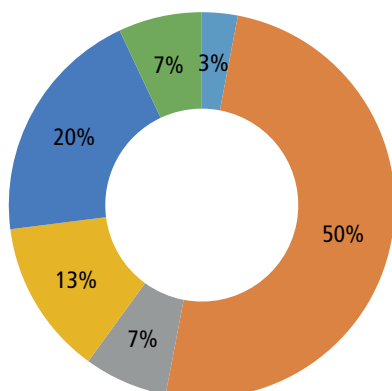
Date prepared: 25 September 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Septic tank connected to soak pit
- Septic tank connected to open water body
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Septic tank of a public toilet

Emptying

Service provided by	Government	Private operator
No of vehicles	3	2
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 500 - 1,500	INR 800-2,000
No of manual emptiers	could not be tracked	
Fee charged by manual emptiers	could not be tracked	



Figure 2: SN and WW discharged in open ground

Transport

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



Figure 3: Govt. tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	11.8 MLD	59 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged directly in nullah



Figure 5: Night soil disposed in nullah



Location of city

ETAWAH

CITY PROFILE

Population: 256,000

Municipal area: 23 sq.km.

Local government:

Etawah Nagar Palika Parishad

Etawah is a city on the banks of Yamuna River in the state of Uttar Pradesh in India. It is the administrative headquarters of Etawah District and is about 160 km west of Kanpur. The city was an important center for the Indian Rebellion of 1857.

SFD graphic

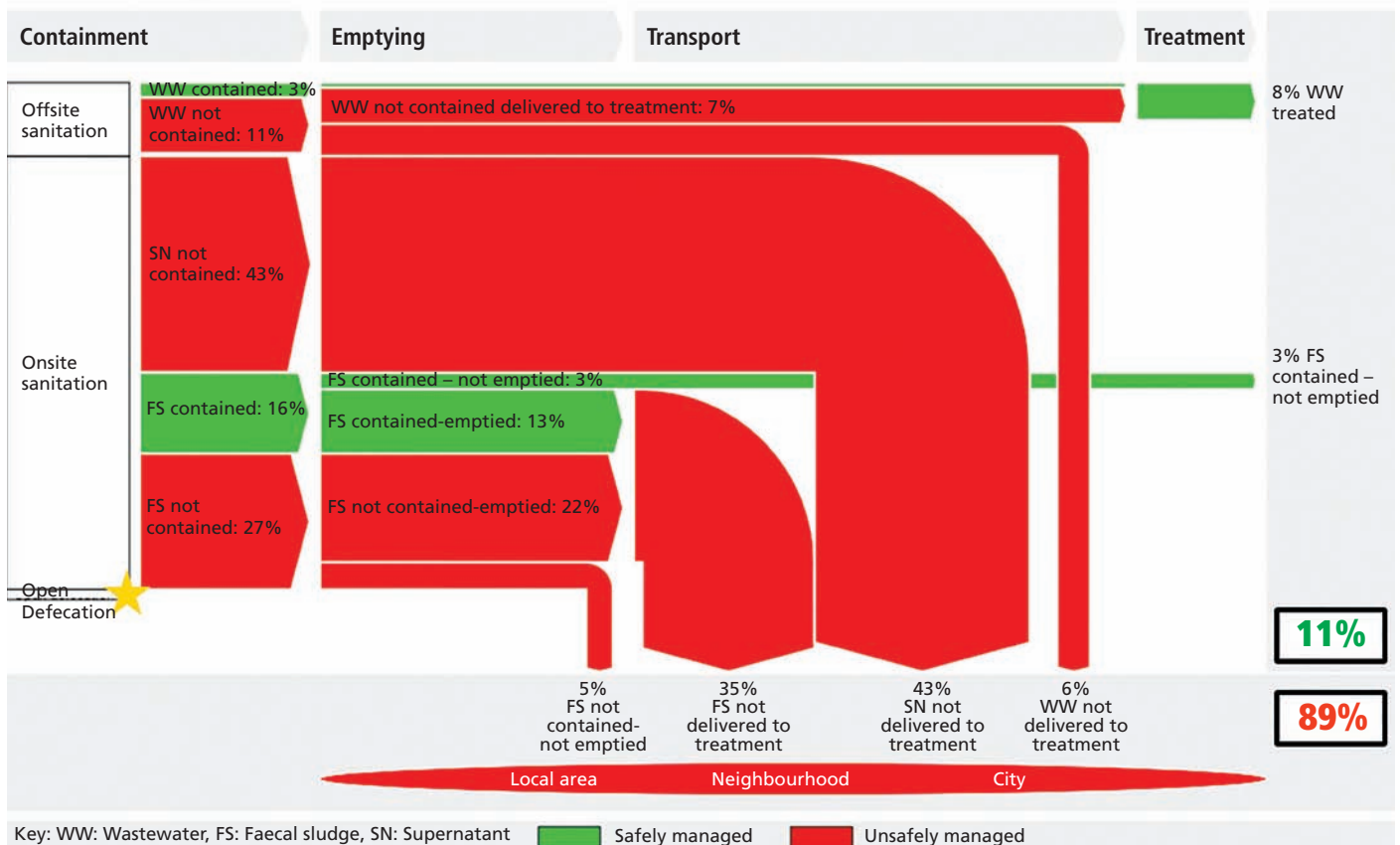
Etawah, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 9 November 2018

Prepared by: CSE



Service outcomes

Containment

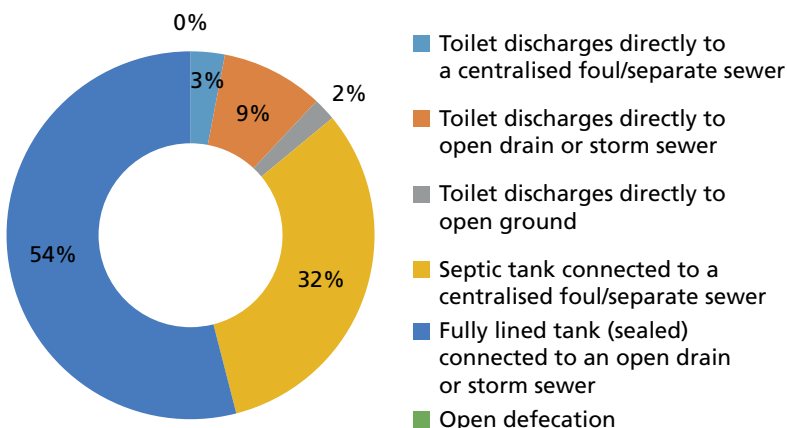


Figure 1: Outlet of septic tank connected to open drain

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	500 and more	
Fee charged by manual emptiers	INR 3,000-6,000	



Figure 2: Fully lined tank under construction

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per week	1	NA
Capacity of vehicle	2,000 litres	NA



Figure 3: Sewage discharged in open ground

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	25 MLD	60 KLD
Treated	16 MLD	No
Designated disposal site	River	Drains



Figure 4: FS disposal point for manual scavengers

Source: Data collected by CSE team, September 2018



Location of city



Figure 5: Polishing pond at STP

FARRUKHABAD

CITY PROFILE

Population: 276,581

Municipal area: 19.11 sq.km.

Local government:

Farrukhabad Nagar Palika Parishad

Farrukhabad is a city in the state of Uttar Pradesh in northern India. It was the capital of former princely state Farrukhabad. It is located at a distance of 191 kms from the state capital Luckow. This town is famous for cloth printing and Potato market.

SFD graphic

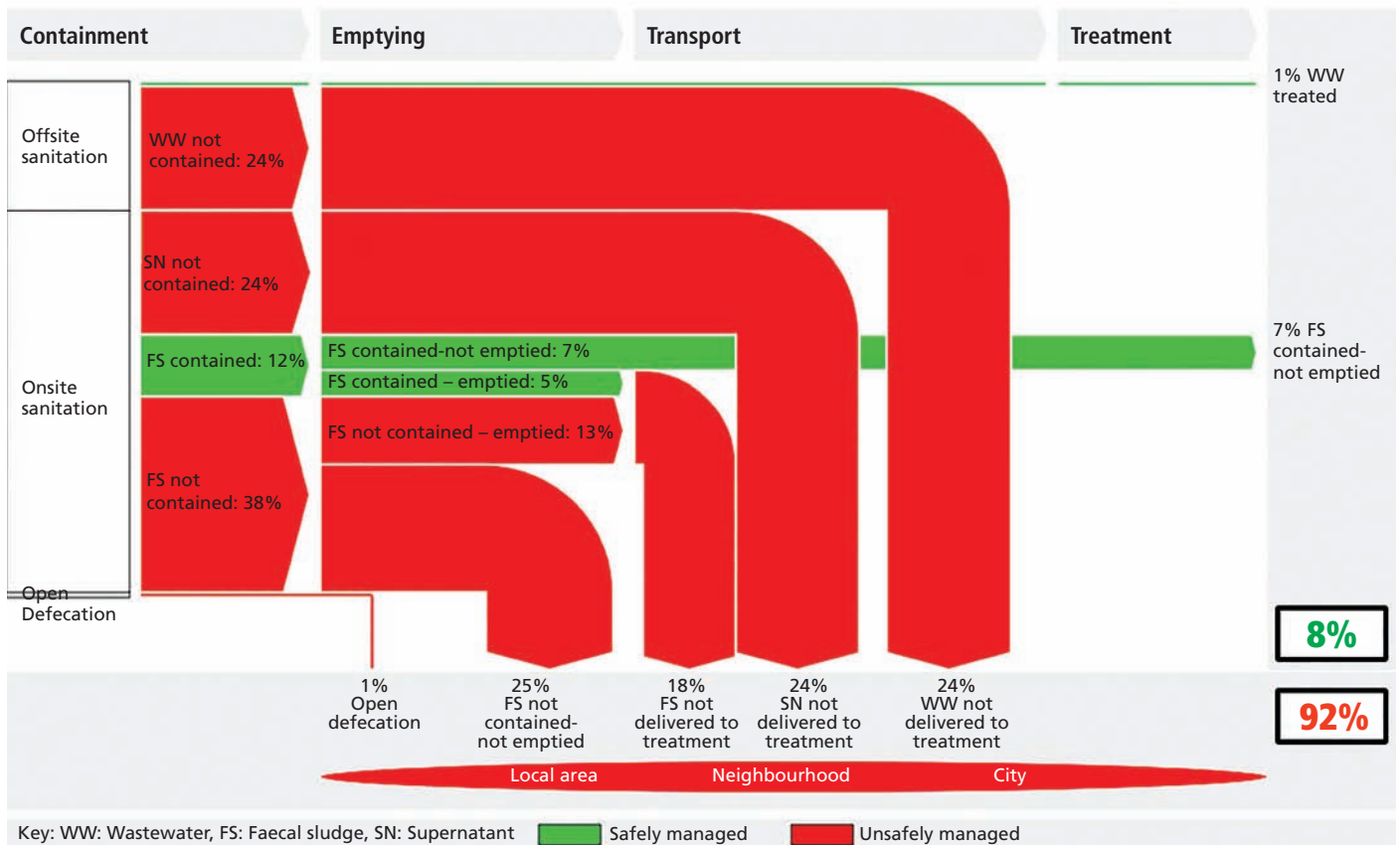
Farrukhabad, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

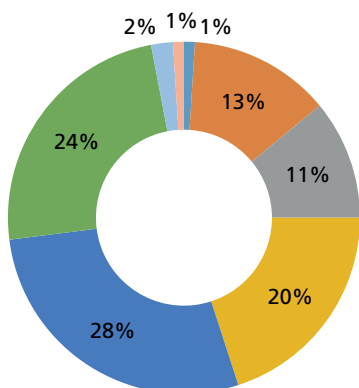
Date prepared: 25 October 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised combined sewer
- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to open ground
- Unlined pit, no outlet or overflow
- Open defecation



Figure 1: Septic tank outlet connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	5	0
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 1,000	NA
No of manual emptiers	50-100	
Fee charged by manual emptiers	INR 3,000-6,000	



Figure 2: Vacuum tanker used for emptying

Transport

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



Figure 3: Sewage transported via drains

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	43 MLD	114 KLD
Treated	0.75 MLD	No
Designated disposal site	River Ganga	No



Figure 4: FS discharged at STP



Figure 5: Sewage of city terminating in river Ganga

Source: Data collected by CSE team, October 2018



Location of city

Farrukhabad

FATEHPUR

CITY PROFILE

Population: 193,193

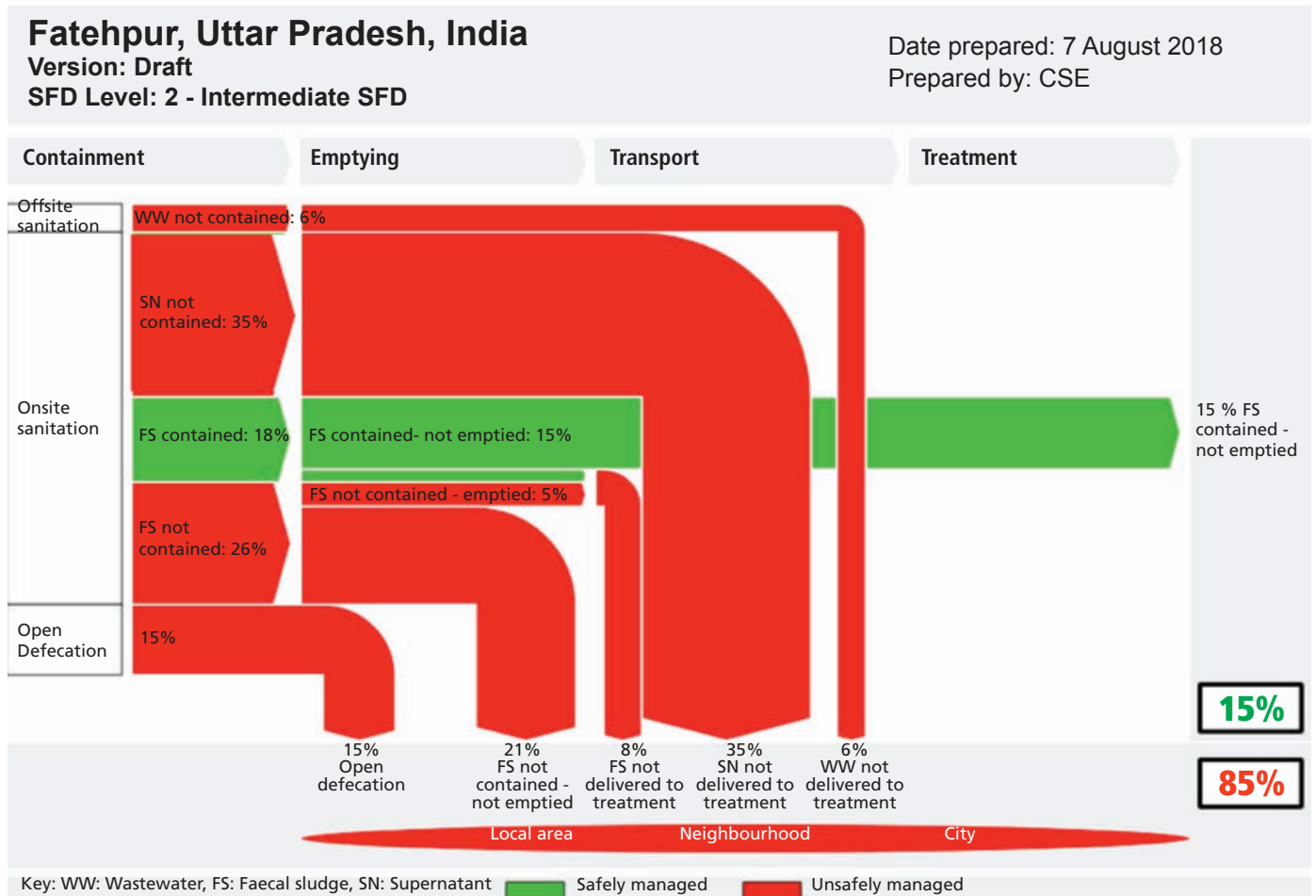
Municipal area: 56.98 sq.km.

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

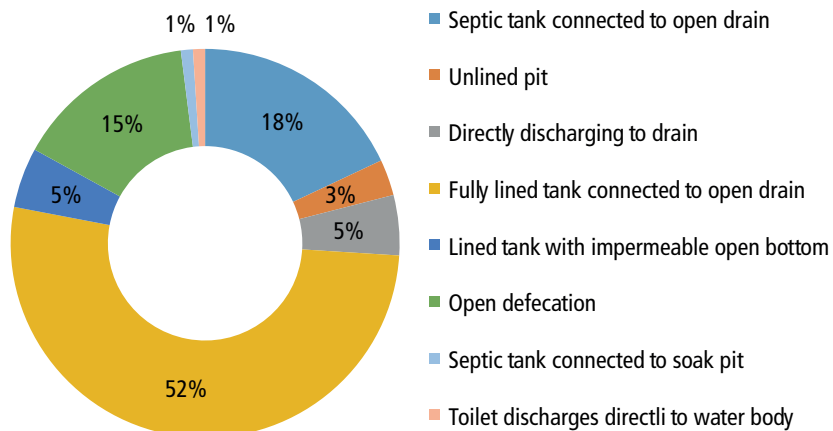


Figure 1: Septic tank under construction

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



Location of city

Fatehpur

FIROZABAD

CITY PROFILE

Population: 603,797

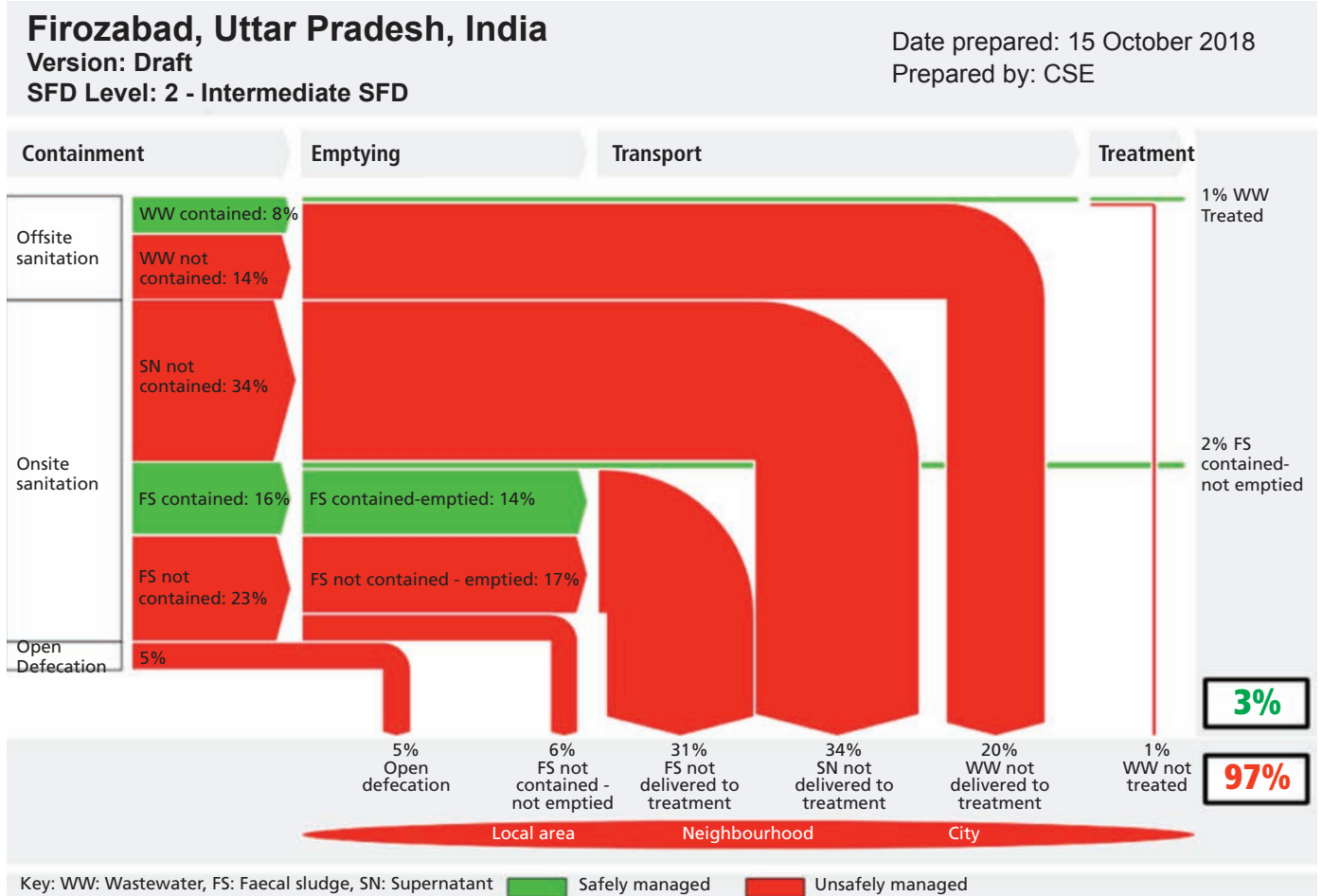
Municipal area: 34.90 sq.km.

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

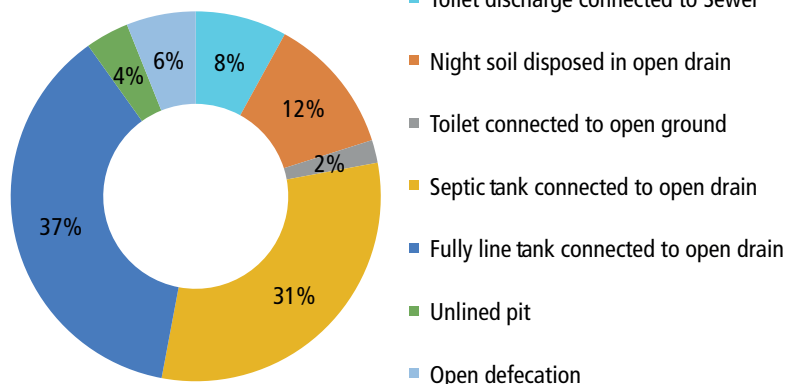


Figure 1: Supernatant of a tank discharges into open drain

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.

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

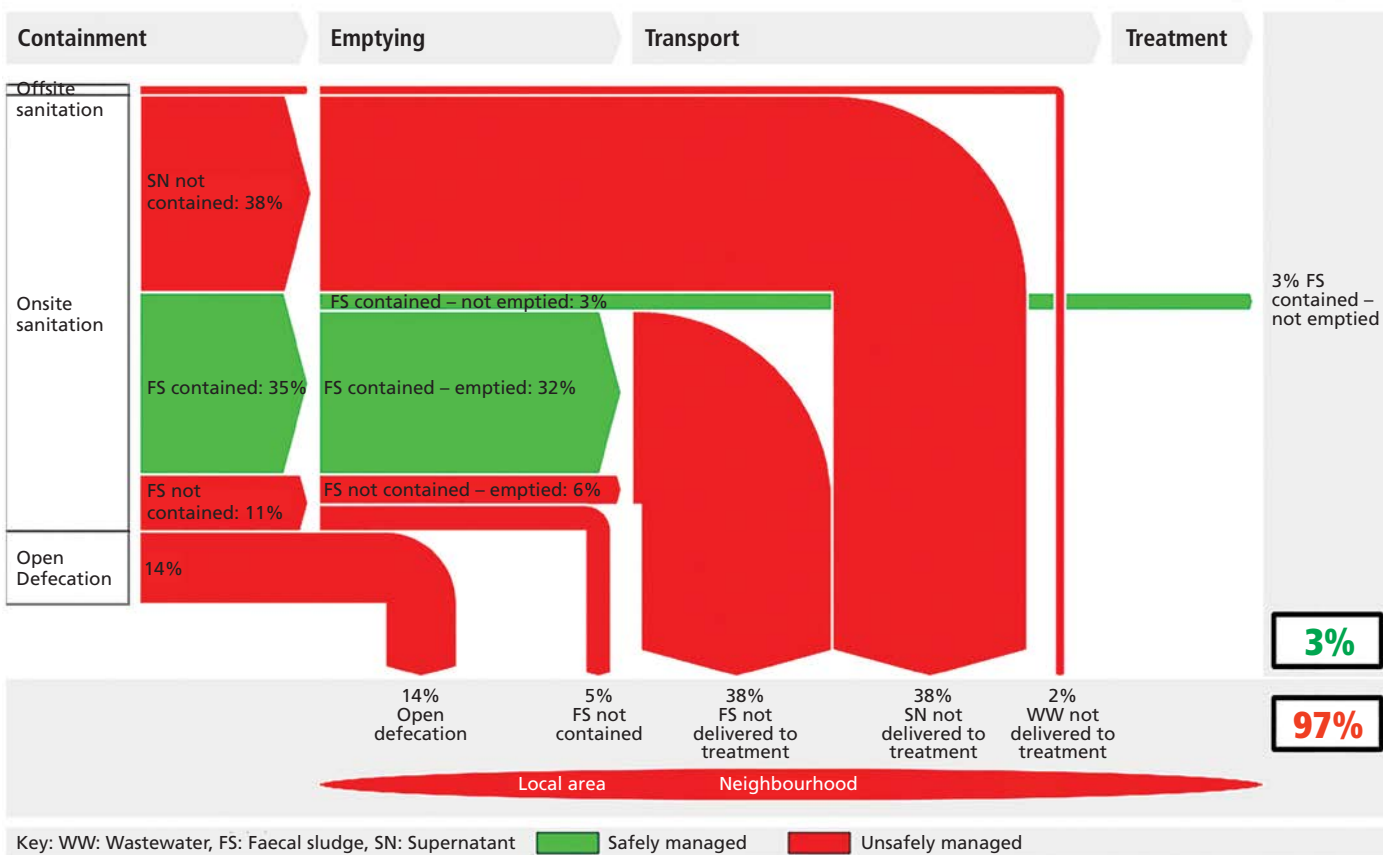
Gangaghat, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

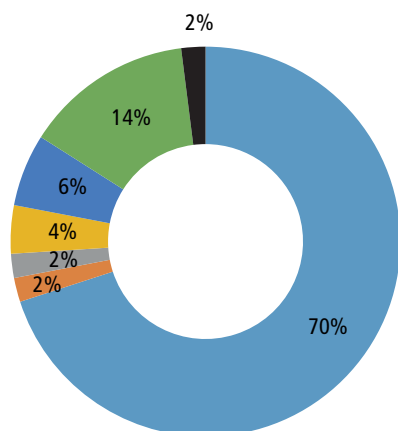
Date prepared: 7 July 2018

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: WW discharged in open plot

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



Location of city

Gangaghat

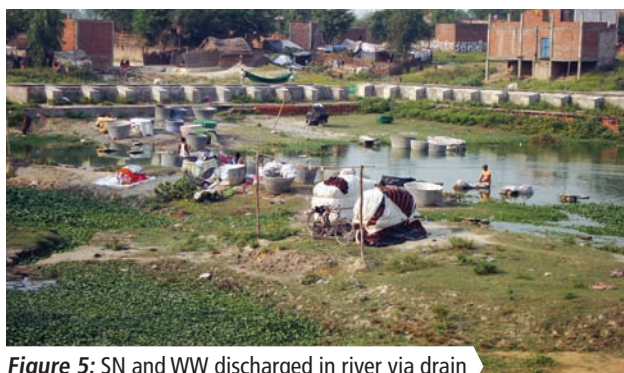


Figure 5: SN and WW discharged in river via drain

GHAZIABAD

CITY PROFILE

Population: 1,648,643
Municipal area: 220 sq.km.
Local government:
 Ghaziabad Nagar Nigam

Ghaziabad is a city in the Indian state of Uttar Pradesh. It is sometimes referred to as the "Gateway of UP" since it acts as one of the major routes to enter the state of Uttar Pradesh from the national capital of India. Hindon River flows through the city which divides it into two halves.

SFD graphic

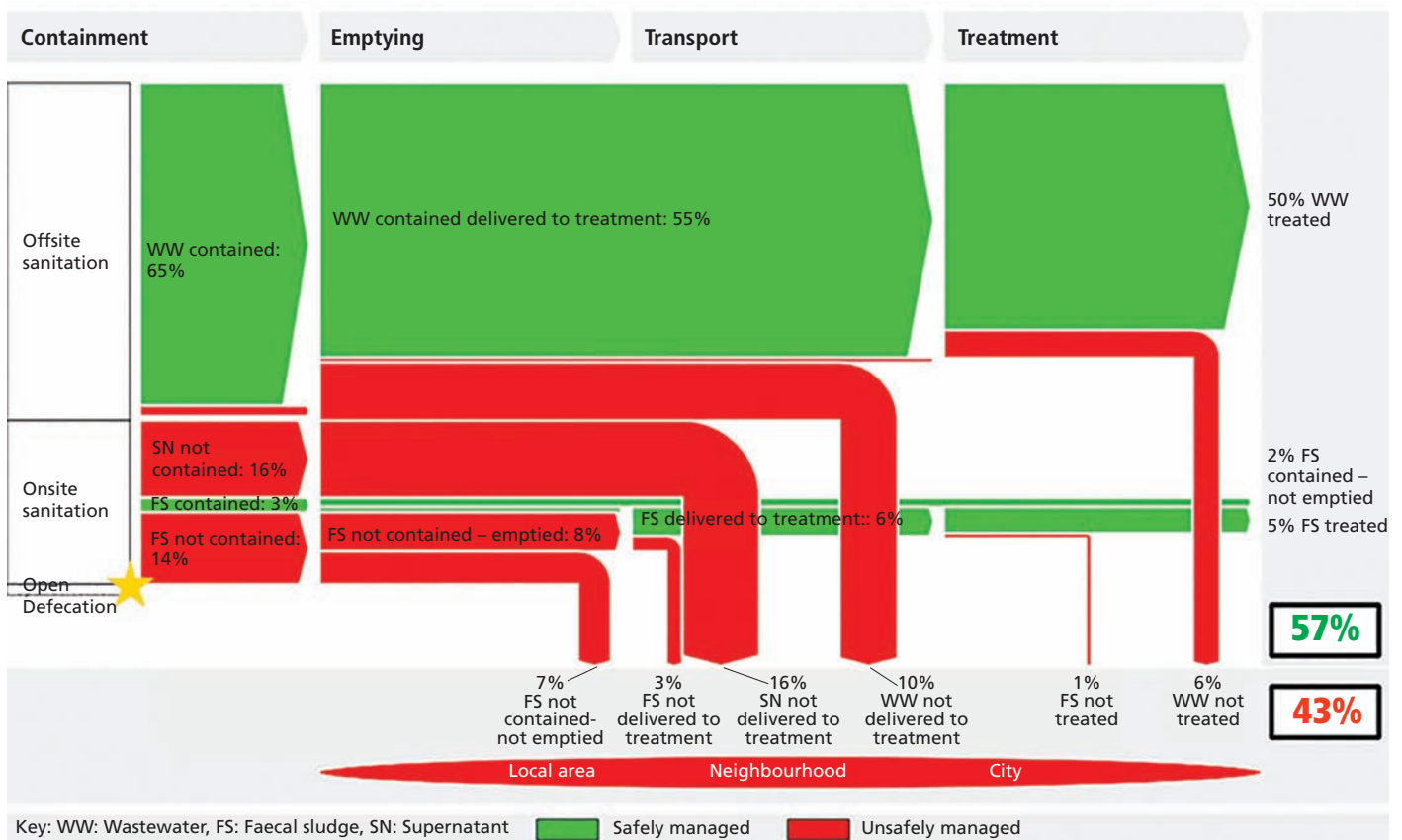
Ghaziabad, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 8 November 2018

Prepared by: CSE



Service outcomes

Containment

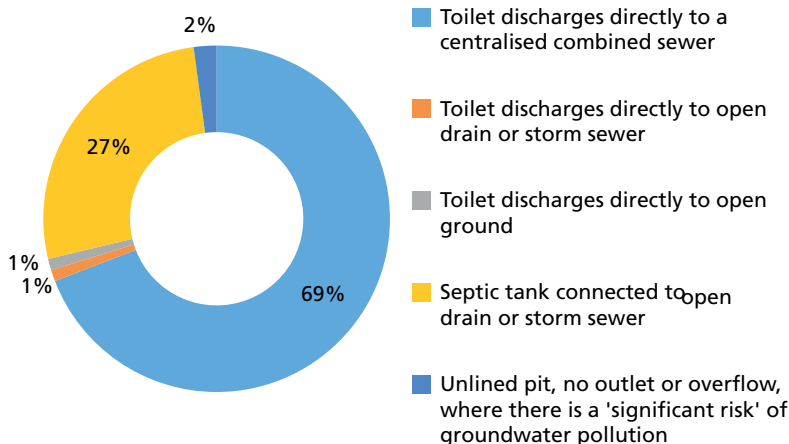


Figure 1: Septic tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	0	25
Licensed / registered	NA	Yes
Record maintained	NA	Yes
Fee charged	NA	INR 1,200 - 1,500
No of manual emptiers	Could not be tracked	
Fee charged by manual emptiers	Could not be tracked	



Figure 2: Govt. vehicle used for emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	10	15
No of trips per tanker per day	2-3	2-3
Capacity of vehicle	4,000 liters	6,000 litres



Figure 3: Registered and licensed private emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	Yes
Type of facility	STP	Co-treatment at STP
Generated	312 MLD	202 KLD
Treated	281 MLD	10 KLD
Designated disposal site	Yes	Yes



Figure 4: Designated FS disposal site



Figure 5: Sewage pumping station

Source: Data collected by CSE team, October 2018



Location of city

GHAZIPUR

CITY PROFILE

Population: 110,698

Municipal area: 20 sq.km.

Local government:

Nagar Palika Parishad, Ghazipur

Ghazipur is a town in Uttar Pradesh state in northern India. It is also the district headquarters of Ghazipur district. The region of Ghazipur is famous mainly for the production of its unique rose scented spray called Gulab Jal. Ghazipur is well known for its opium factory. It is the largest factory of its kind in the country and indeed the world.

SFD graphic

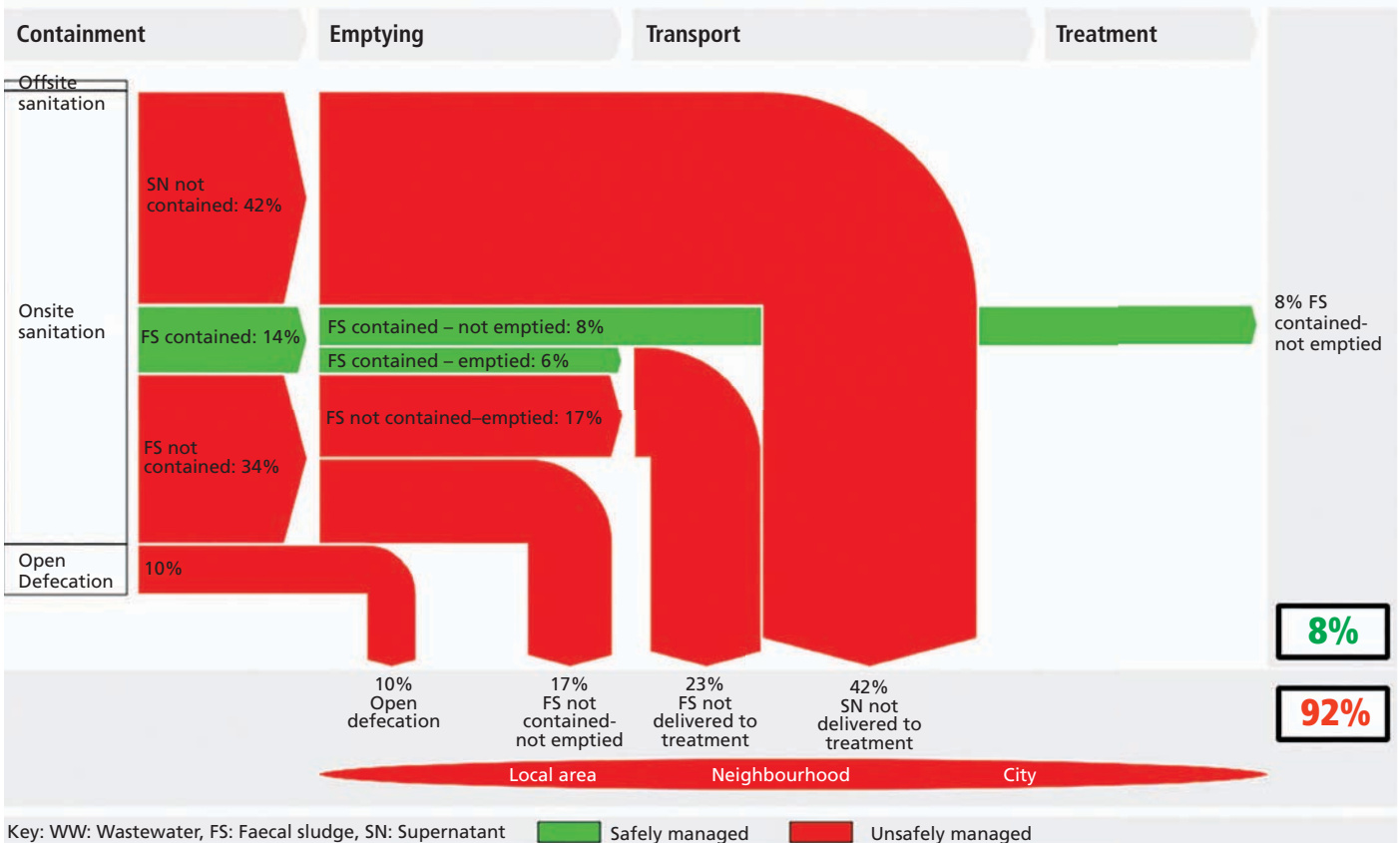
Ghazipur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 28 November 2018

Prepared by: CSE



Service outcomes

Containment

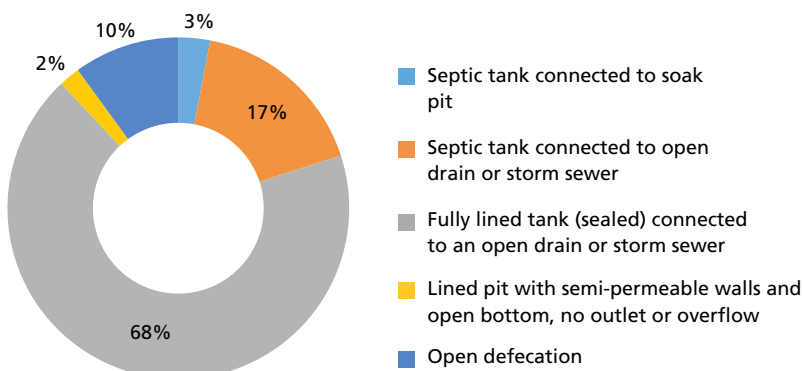


Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	1	4
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 5,000	INR 3,000 - 7,000
No of manual emptiers	10-15	
Fee charged by manual emptiers	INR 4,000 - 8,000	



Figure 2: Emptying of a septic tank of a household

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	0	5
No of trips per tanker per month	NA	5-10
Capacity of vehicle	NA	3,000 litres



Figure 3: Govt. truck mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	18 MLD	55 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged in low lying area



Figure 5: FS disposal site

Source: Data collected by CSE team, September 2018



Location of city

Ghazipur

GONDA

CITY PROFILE

Population: 114,046

Municipal area: 24.62 sq.km.

Local government:

Nagar Palika Parishad Gonda

Gonda is a city and municipal board of Gonda district in the Indian state of Uttar Pradesh. It is situated 120 km north east of the state capital Lucknow. Gonda is a vibrant historic city of in Devipatan Division of India.

SFD graphic

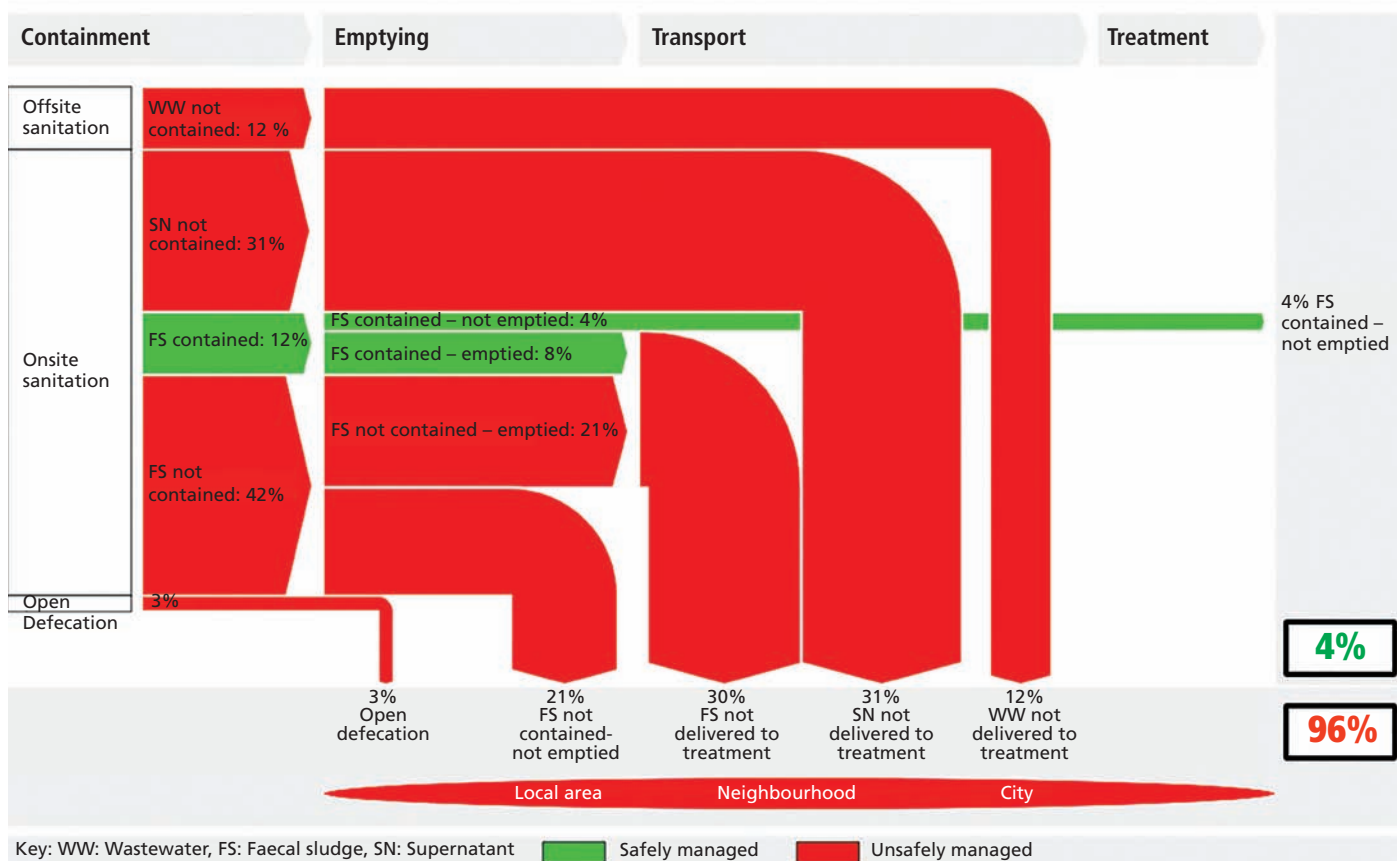
Gonda, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

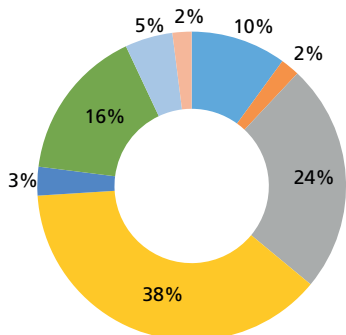
Date prepared: 15 August 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation
- Septic tank connected to soak pit, where there is a 'significant risk' of groundwater pollution
- Lined tank with impermeable walls and open bottom, no outlet or overflow, where there is a 'significant risk' of groundwater pollution
- Unlined pit, no outlet or overflow, where there is a 'significant risk' of groundwater pollution



Figure 1: Septic tank of a household under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	8
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	1,000	1,200 - 1,800
No of manual emptiers	200-300	
Fee charged by manual emptiers	1,800-3,000	



Figure 2: Emptying of tank by private emptier

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	9	1 (Defunct)
No of trips per tanker per day	1	0
Capacity of vehicle	5,000 litres	8,000 litres



Figure 3: Government vacuum tanker vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	7 MLD	53 KLD
Treated	0	No
Designated disposal site	No	No



Figure 4: Private desludger discharging FS in field

Source: Data collected by CSE team, August 2018



Figure 5: WW and SN flowing in drains

GORAKHPUR

CITY PROFILE

Population: 673,446

Municipal area: 141.016 sq.km.

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

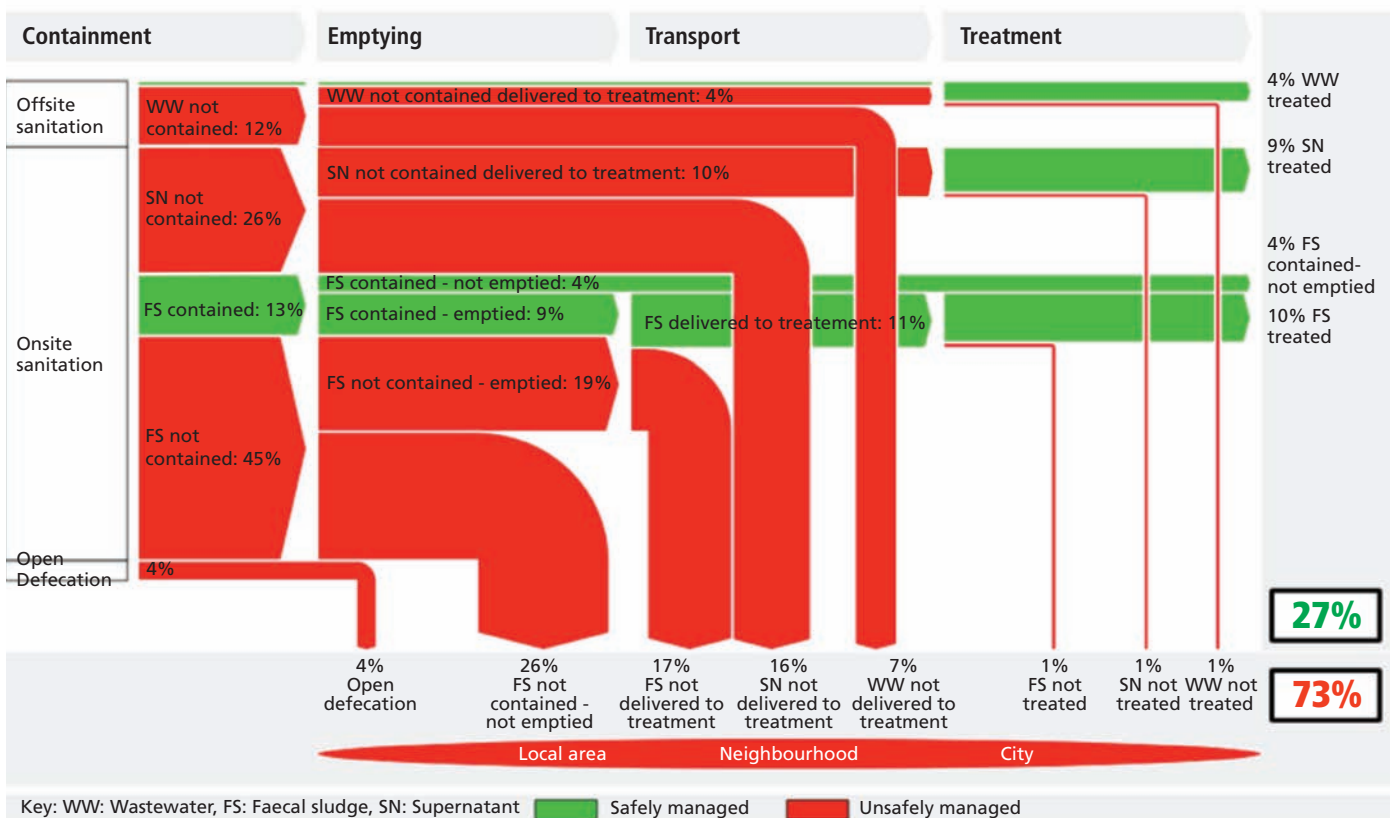
Gorakhpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 11 September 2018

Prepared by: CSE



Service outcomes

Containment

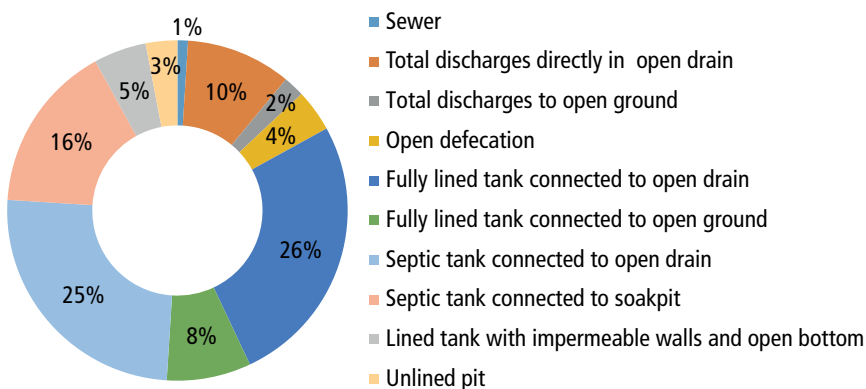


Figure 1: Septic tank connected to open drain

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

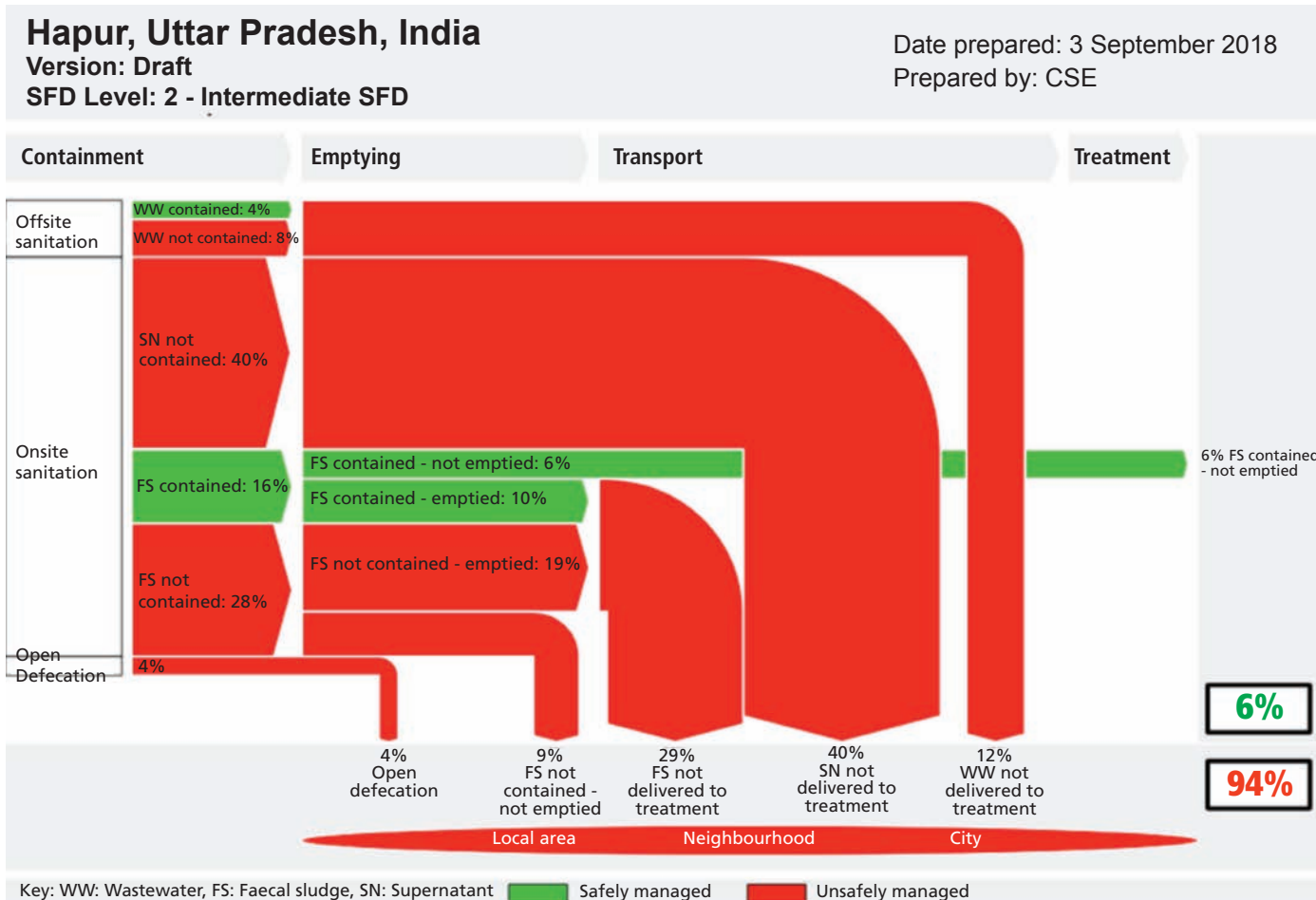
HAPUR

CITY PROFILE

Population: 262,983
Municipal area: 14 sq.km.
Local government:
 Hapur Nagar Palika Parishad

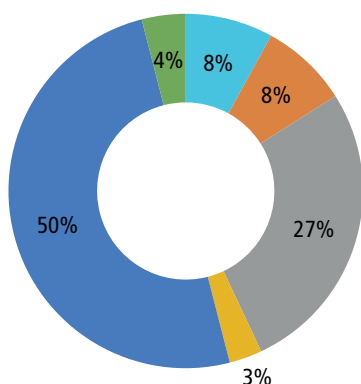
Hapur was administratively a part of Ghaziabad District in Uttar Pradesh State. Now Hapur is a new district carved out from Ghaziabad district, Uttar Pradesh, India. Geographically Hapur is situated at 28° 44' N latitude and 77° 47' E Longitude.

SFD graphic



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

Source: Data collected by CSE team, September 2018



Figure 5: Discharge of faecal sludge in open drain

HARDOI

CITY PROFILE

Population: 126,890

Municipal area: 6.4 sq.km.

Local government:

Hardoi Nagar Palika Parishad

Hardoi is a city in Hardoi district in the Indian state of Uttar Pradesh. It is the administrative headquarters of Hardoi district. Hardoi is located at 110 km from Lucknow (capital of Uttar Pradesh) and 394 from New Delhi (capital of India).

SFD graphic

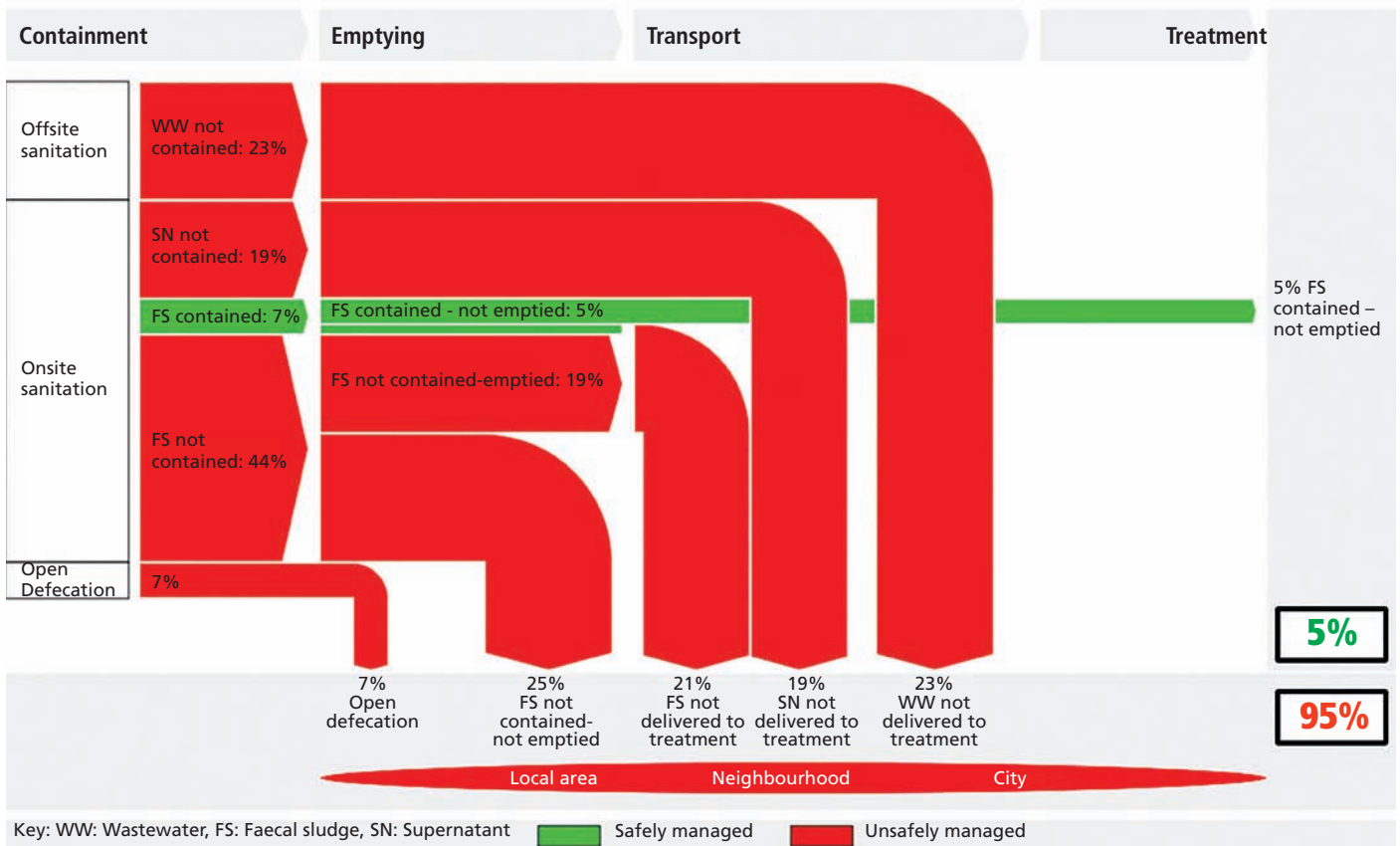
Hardoi, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 29 October 2018

Prepared by: CSE



Service outcomes

Containment

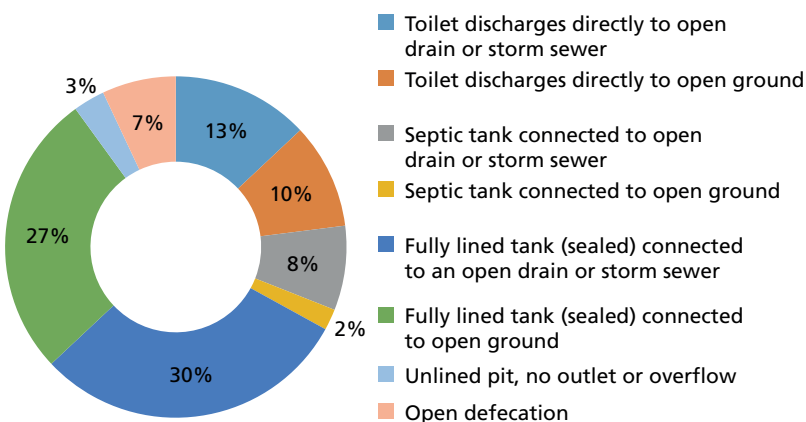


Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	3 (only 1 functional)	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 800-2,000
No of manual emptiers	2,000 and more	
Fee charged by manual emptiers	INR 3,000-6,000	



Figure 2: Opening cap for easy emptying of a septic tank

Transport

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



Figure 3: Govt. truck mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	27 MLD	12 KLD
Treated	No	No
Designated disposal site	NA	No



Figure 4: FS discharged in city outskirts



Figure 5: Sewage from household flowing in open ground

Source: Data collected by CSE team, October 2018



HASTINAPUR

CITY PROFILE

Population: 58,452

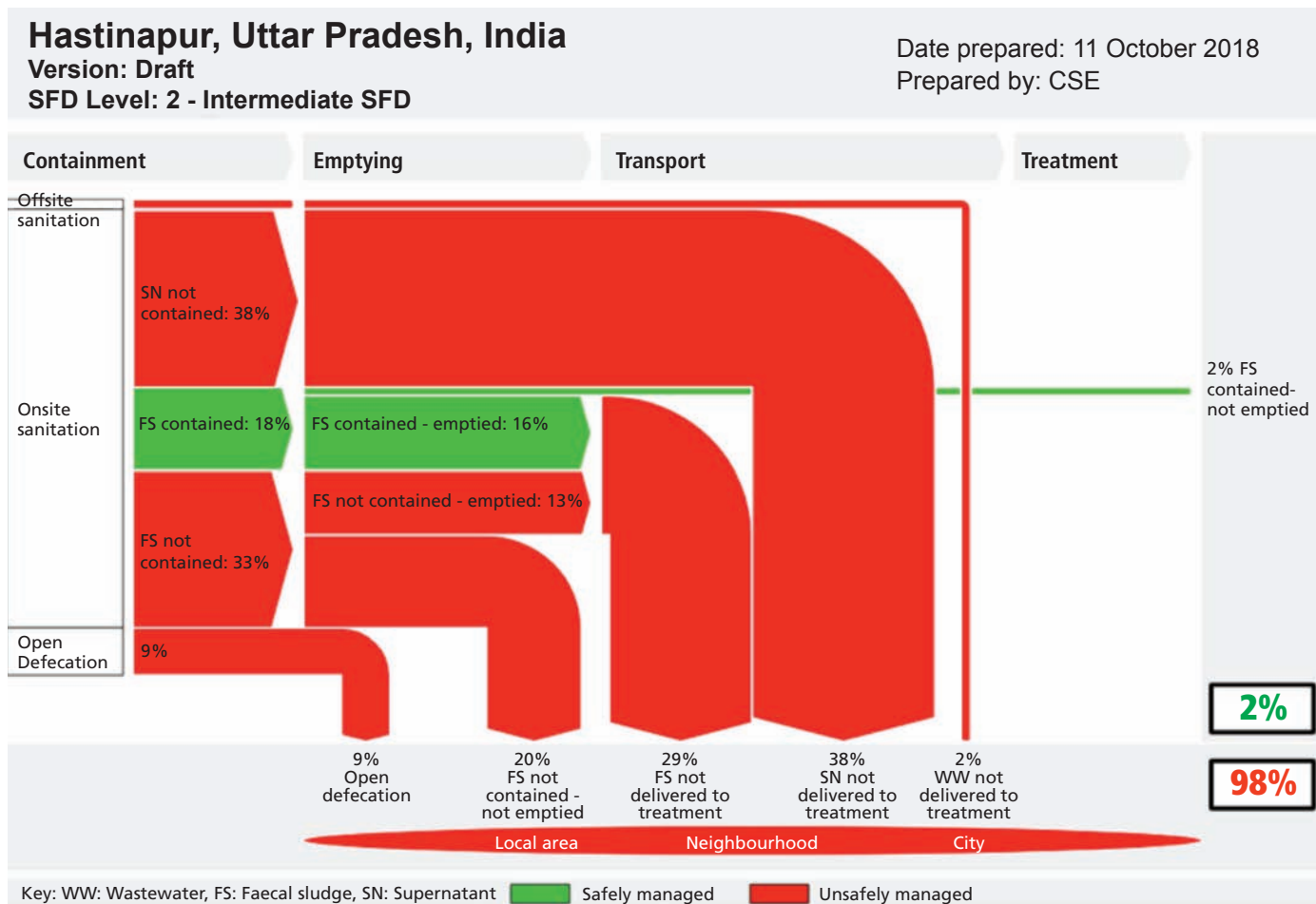
Municipal area: 56.98 sq.km.

Local government:

Nagar Palika Parishad Fatehpur

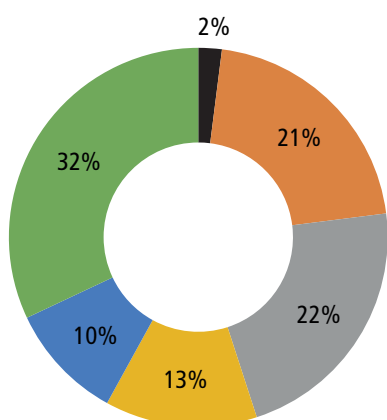
Hastinapur is a city in Meerut district in the Indian state of Uttar Pradesh. It has been the silent witness to the majestic, grandeur, royal conflicts and princely anecdotes of Pandavas & Kauravas. It was also known as capital city of Pandavas and Kauravas at the time of Mahabharata.

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

Source: Data collected by CSE team, September 2018



Figure 5: Discharge of FS into open drain

HATHRAS

CITY PROFILE

Population: 135,594

Municipal area: 8 sq.km.

Local government:

Nagar Palika Parishad Hathras

Hathras is a city in Hathras district (formerly known as Mahamaya Nagar district) in the Indian state of Uttar Pradesh. Hathras falls under the Brij region of Northern India and was famous for its Industrial, literature related, and cultural activities as a part of Aligarh.

SFD graphic

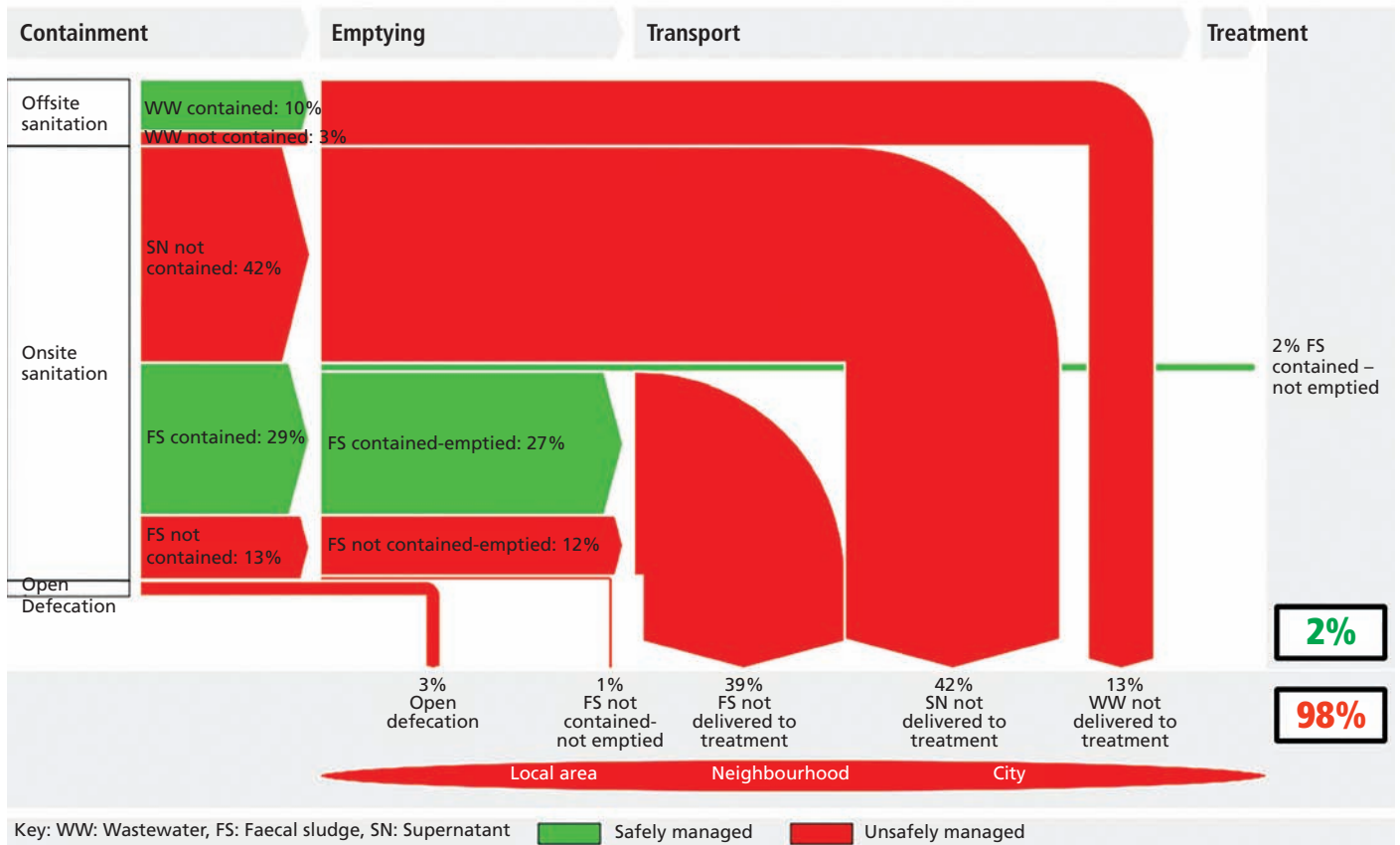
Hathras, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

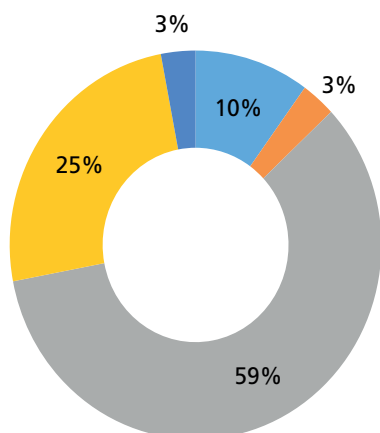
Date prepared: 17 October 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Septic tank having outlet connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	0	4
Licensed / registered	NA	No
Record maintained	NA	No
Fee charged	NA	INR 2,500 - 3,000
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	4	0
No of trips per tanker per day	1 - 3	NA
Capacity of vehicle	3,000 - 5,000 litres	NA



Figure 3: Tractor mounted government emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	13.5 MLD	63 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Disposal of FS into drain

Source: Data collected by CSE team, October 2018



Location of city

Hathras



Figure 5: WW going into Karban river

JAUNPUR

CITY PROFILE

Population: 180,362

Municipal area: 25.3 sq.km.

Local government:

Nagar Palika Parishad, Jaunpur

Jaunpur is a city in Jaunpur district in the Indian state of Uttar Pradesh, India. The city is also the district headquarter of Jaunpur district. It is located 228 km southeast of state capital Lucknow.

SFD graphic

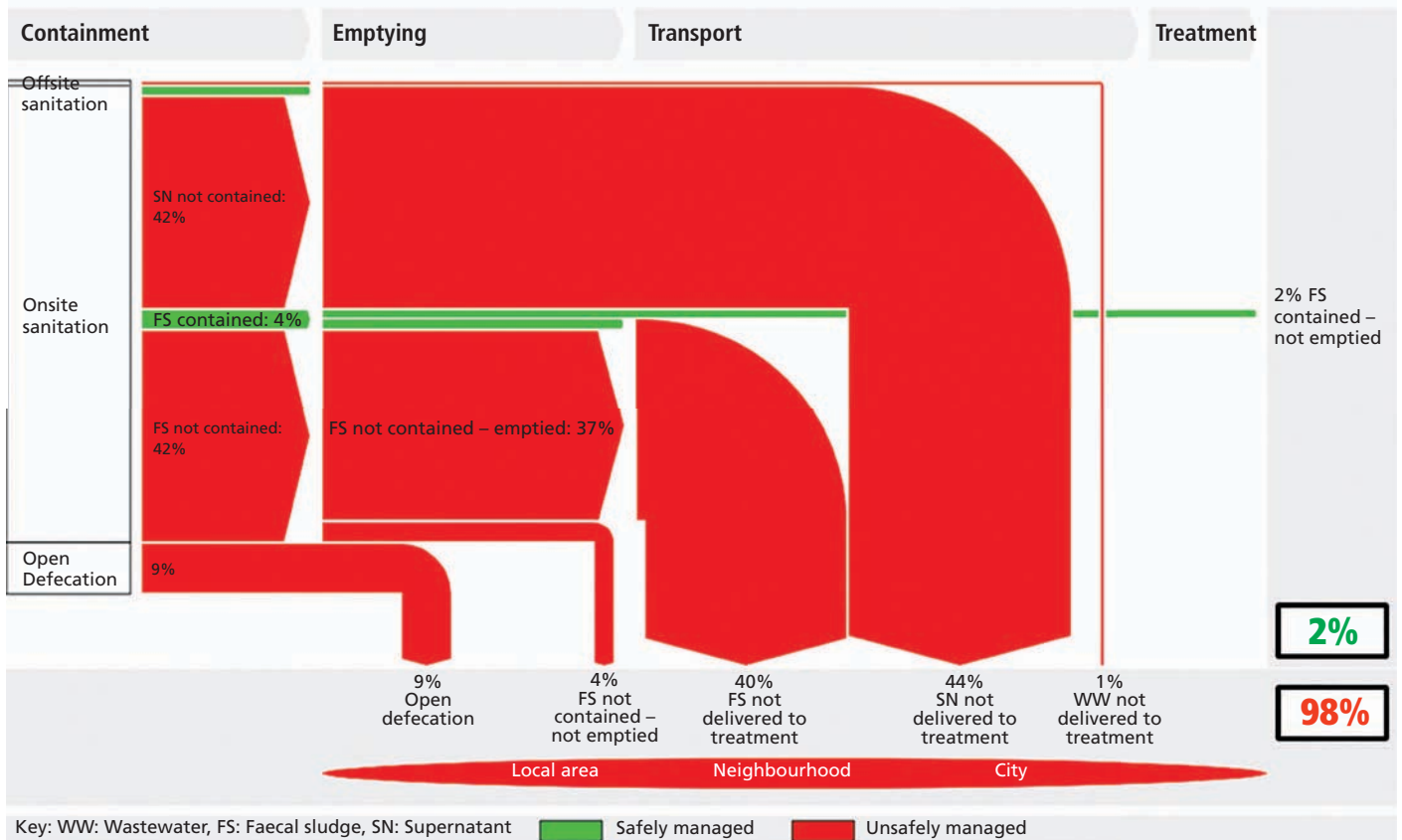
Jaunpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 28 August 2018

Prepared by: CSE



Service outcomes

Containment

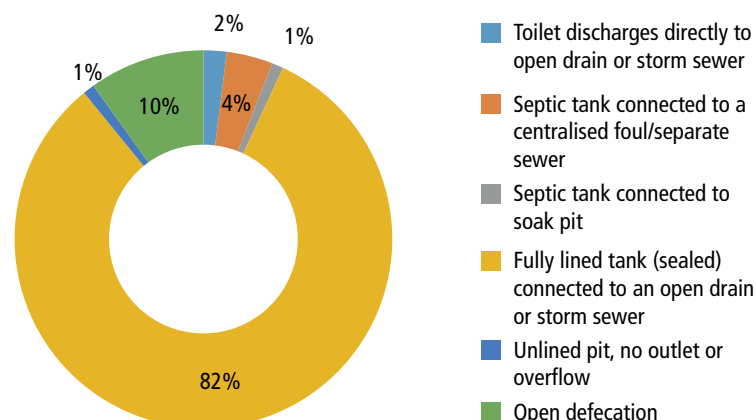


Figure 1: Septic tank connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	1	1
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 2,000	INR 4,000
No of manual emptiers	10-20	
Fee charged by manual emptiers	INR 6,000-8,000	



Figure 2: Unclogging of sewerage network

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	0
No of trips per tanker per month	5-10	NA
Capacity of vehicle	3,000 litres	NA



Figure 3: Govt. tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	18 MLD	96 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged in low lying area

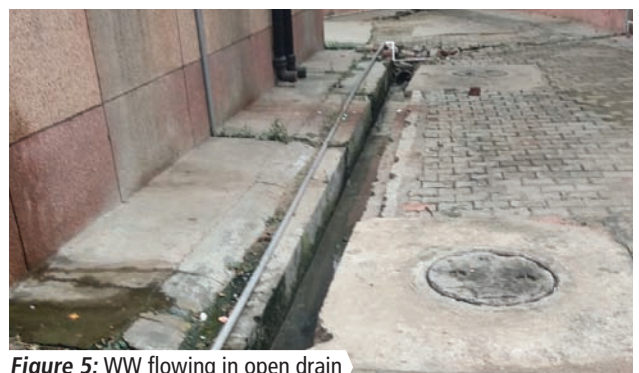


Figure 5: WW flowing in open drain

Source: Data collected by CSE team, August 2018



Location of city

Jaunpur

JHANSI

CITY PROFILE

Population: 507,293

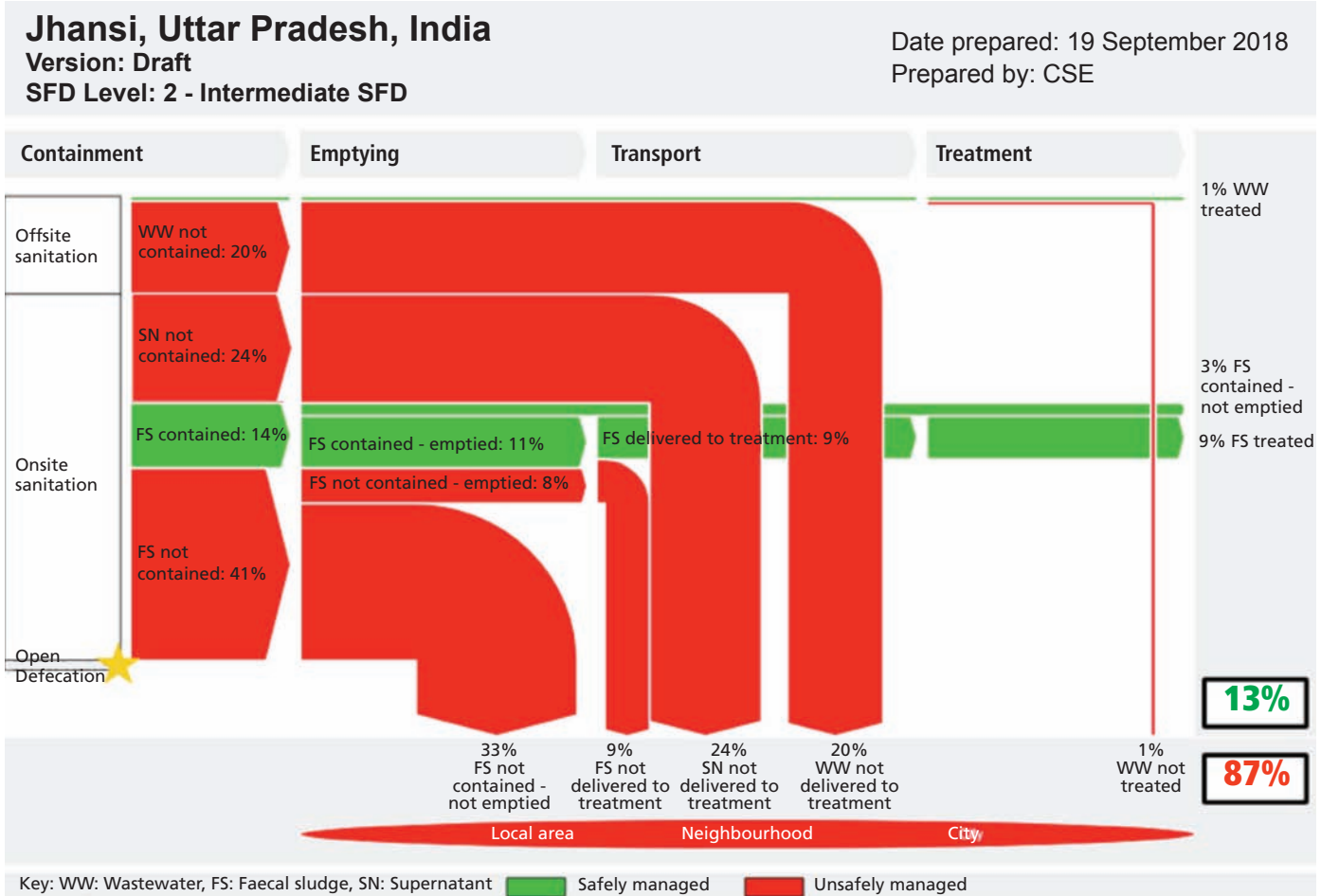
Municipal area: 169 sq.km.

Local government:

Jhansi Municipal Corporation

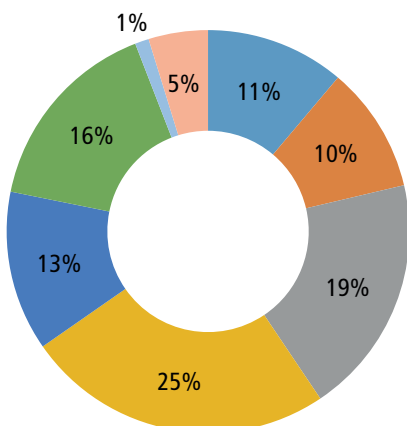
Jhansi is one of the prominent cities in Uttar Pradesh much famous for its historical value. It lies in the region Bundelkhand on the banks of Pauj River and Betwa River at an average elevation of 285 meters. This city has given two gems to our Nation, in the field of sport and in the shield of patriotism.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

SFD graphic



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



Location of city

Jhansi

KANPUR

CITY PROFILE

Population: 2,765,348

Municipal area: 260 sq.km.

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 the river Ganga in the northern side and river Pandu on the southern side.

SFD graphic

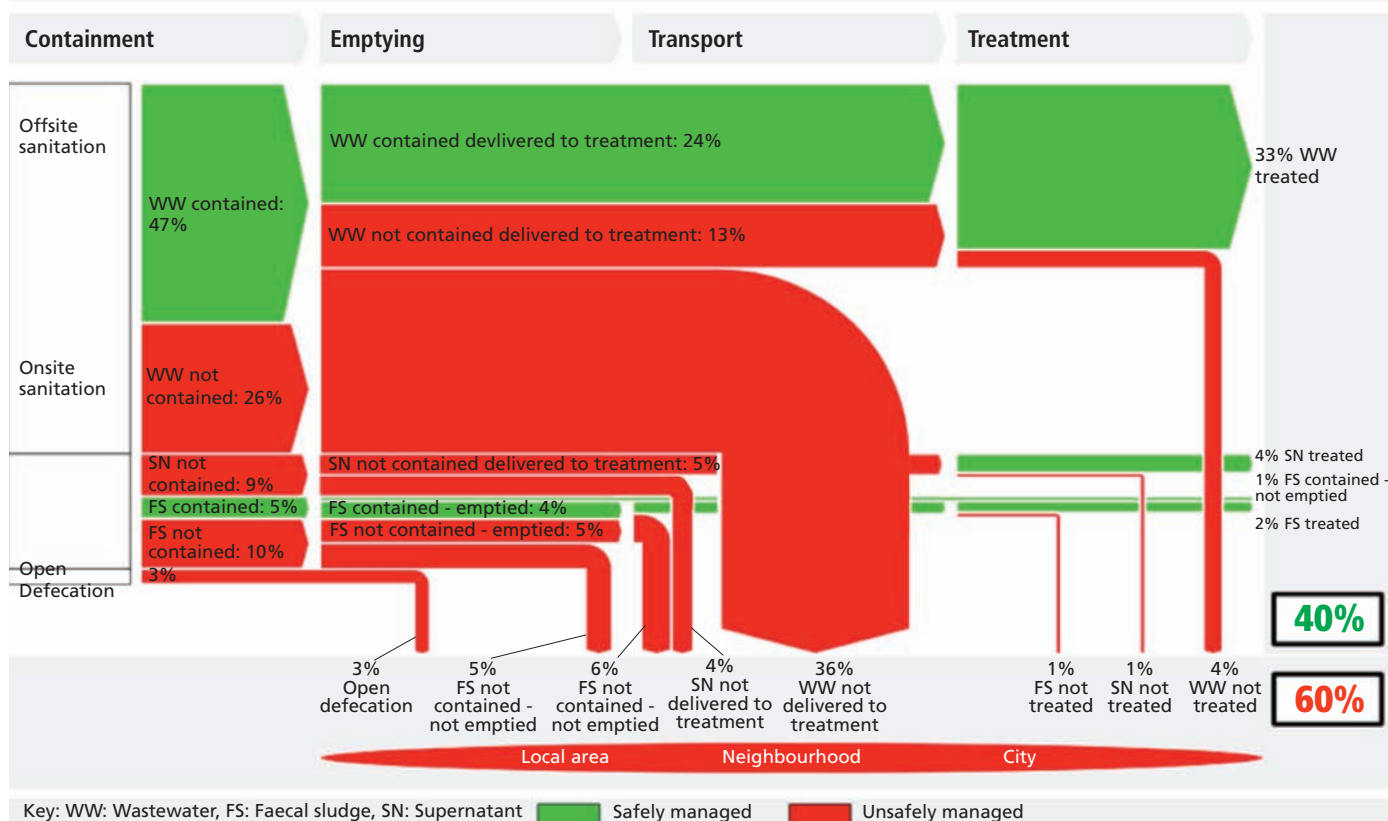
Kanpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

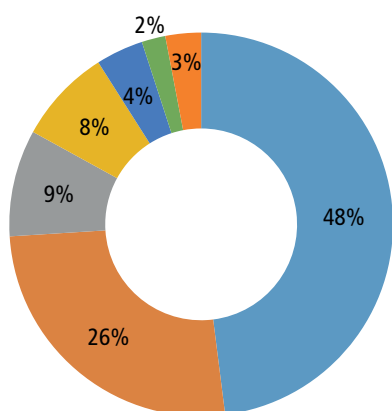
Date prepared: 2 August 2018

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



Location of city

Kanpur

KASGANJ

CITY PROFILE

Population: 101,277

Municipal area: 21.18 sq.km.

Local government:

Nagar Palika Parishad Kasganj

Kasganj is a city and the district headquarters of Kasganj district in the Indian state of Uttar Pradesh. Situated on the banks of river Kali, the town is in proximity of the Himalayan foothills. The city was established here because it represented a centre-point in the road connections between various small, ancient cities of District Etah.

SFD graphic

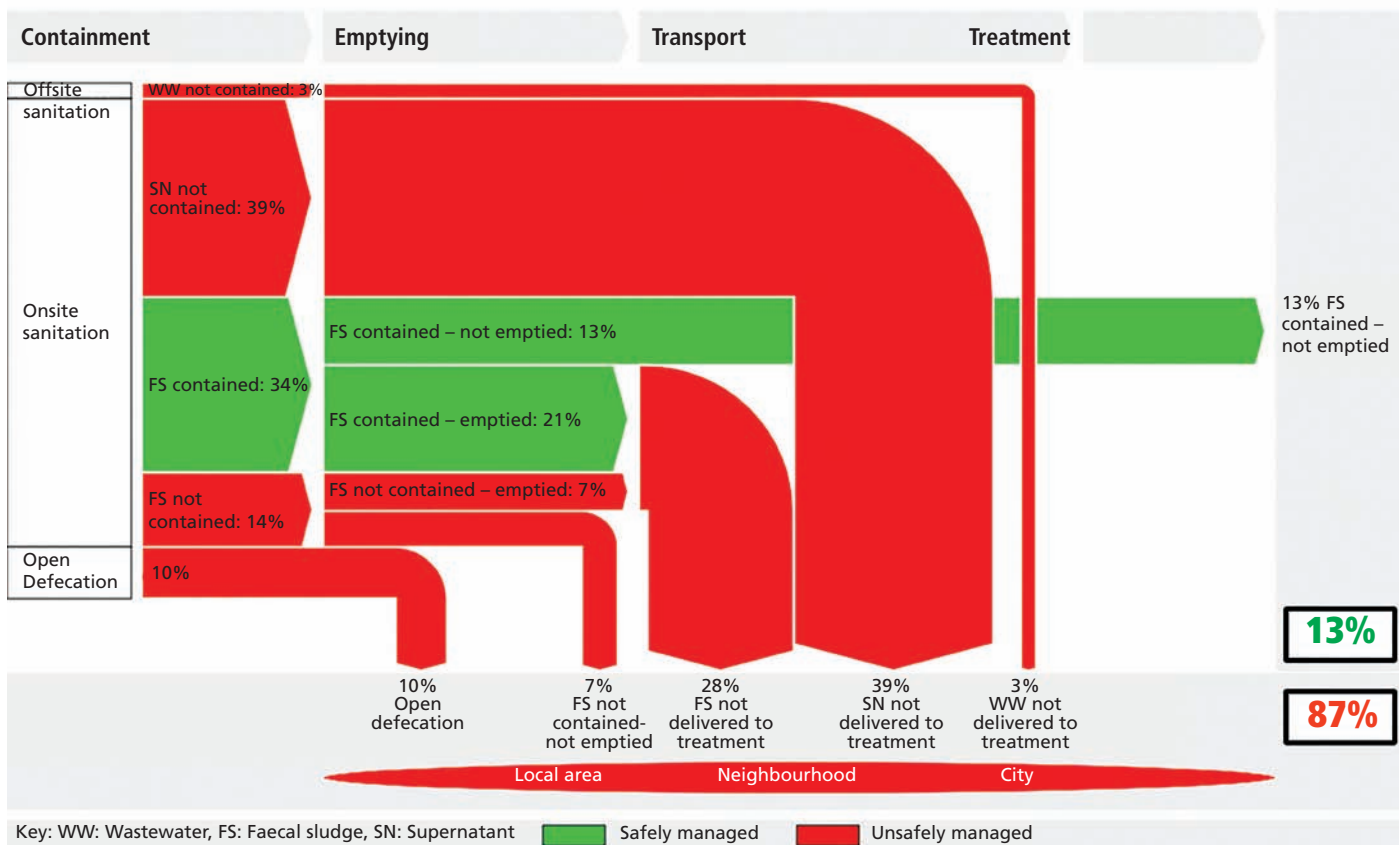
Kasganj, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

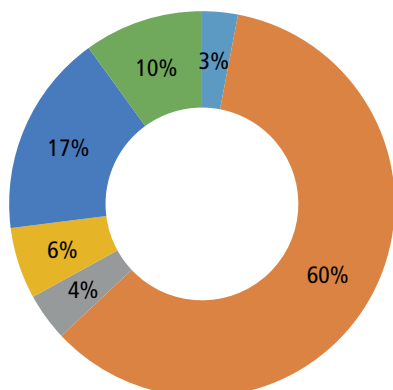
Date prepared: 8 August 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Septic tank connected to soak pit
- Septic tank connected to open water body
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	2	2
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 500-1,500	INR 800-2,000
No of manual emptiers	could not be tracked	
Fee charged by manual emptiers	could not be tracked	



Figure 2: SN discharging in open drain

Transport

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



Figure 3: Sewage from households disposed in open ground

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	10 MLD	50 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: SN flowing in open drains



Figure 5: FS disposal point for manual scavengers

Source: Data collected by CSE team, August 2018



Location of city

Kasganj

KHURJA

CITY PROFILE

Population: 121,207

Municipal area: 16.7 sq.km.

Local government:

Nagar Palika Parishad Khurja

Khurja is a city in the Bulandshahr district in the Indian state of Uttar Pradesh. It is situated around 85 km from Delhi. Khurja supplies a large portion of the ceramics used in the country, hence it is sometimes called the ceramic city.

SFD graphic

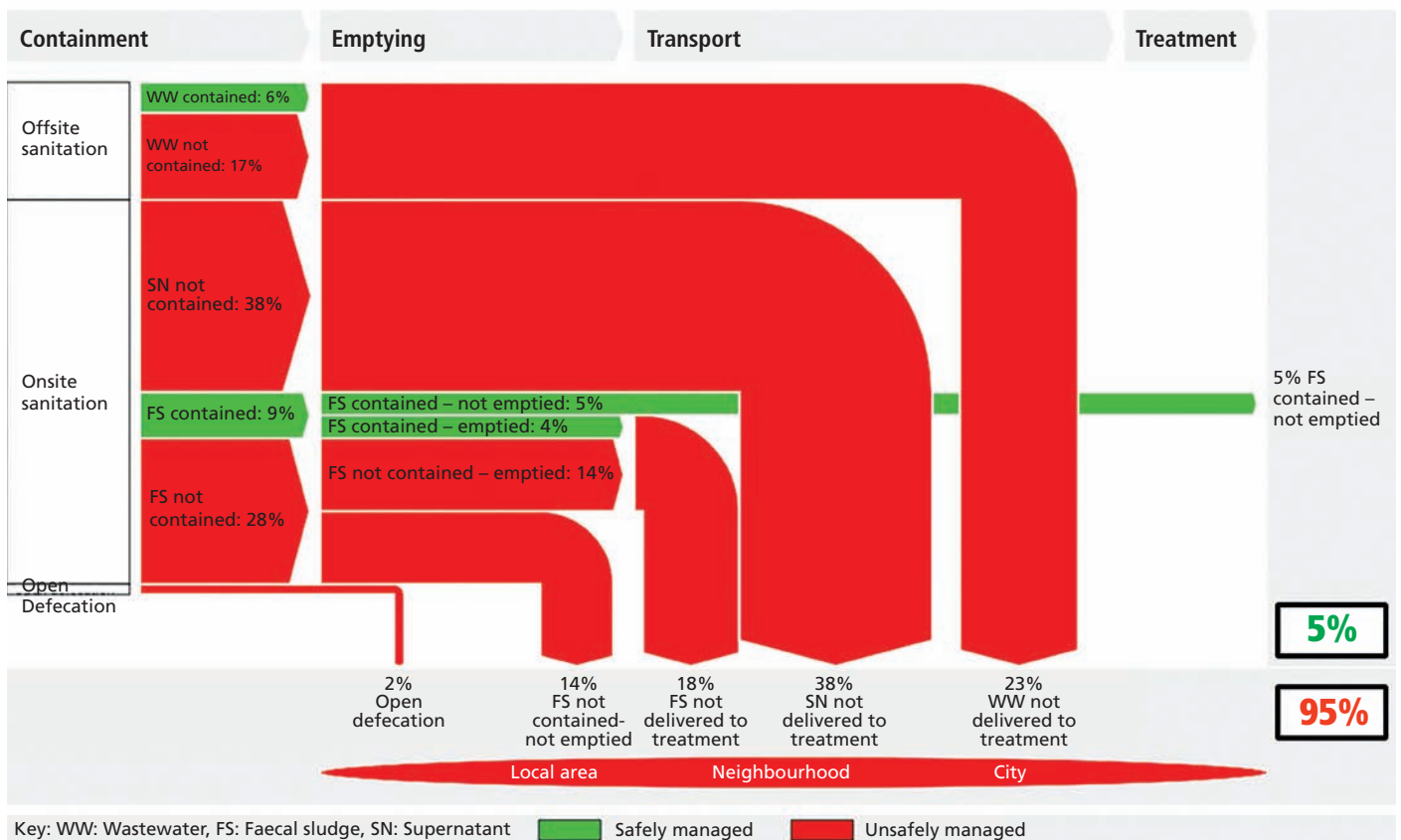
Khurja, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 12 November 2018

Prepared by: CSE



Service outcomes

Containment

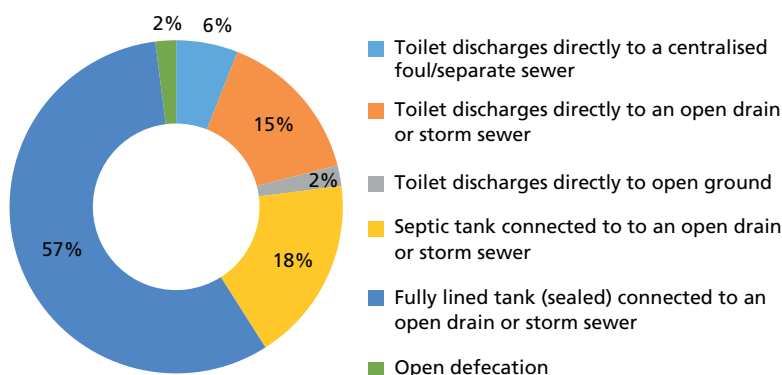


Figure 1: Septic tank of a household connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	1	2
Licensed / registered	Yes	1
Record maintained	No	No
Fee charged	INR 1,000	INR 1,200 - 1,800
No of manual emptiers	250-300	
Fee charged by manual emptiers	INR 1,800-3,000	



Figure 2: Emptying of tank by private emptier

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	3	1
No of trips per tanker per day	1	0
Capacity of vehicle	5,000 litres	8,000 litres



Figure 3: Government vacuum tanker non-functional

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	15 MLD	51 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: Private desludger discharging FS on low lying area

Source: Data collected by CSE team, November 2018



Location of city



Figure 5: WW and SN flowing in nullah

LAKHIMPUR

CITY PROFILE

Population: 151,993

Municipal area: 70 sq.km.

Local government:

Nagar Palika Parishad Lakhimpur

Lakhimpur is a city in the Lakhimpur Kheri district of Uttar Pradesh, India. The city is the administrative headquarter of the district, which is the largest district in terms of area in the state. It shared its border with the neighbouring country Nepal. Lakhimpur city is 124 km from the state capital Lucknow.

SFD graphic

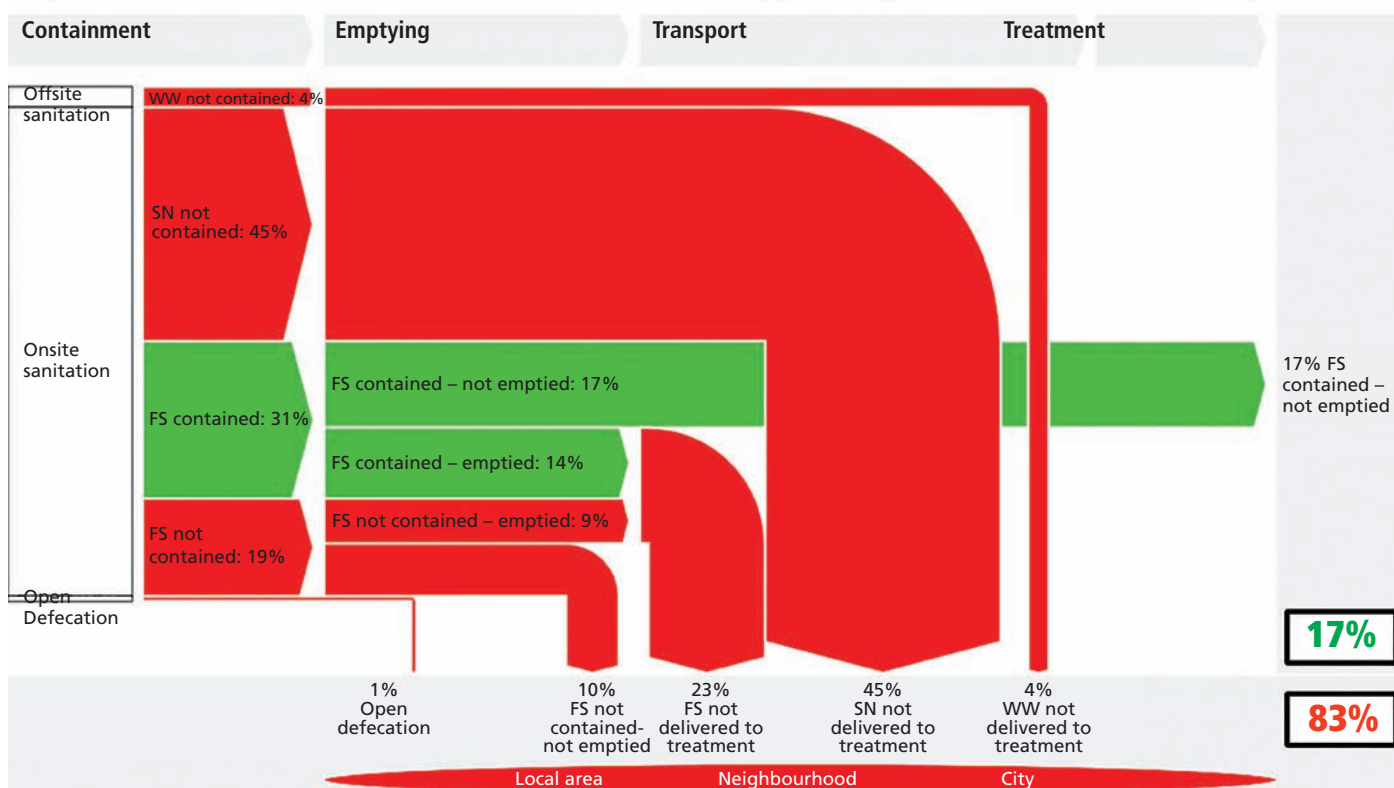
Lakhimpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 3 October 2018

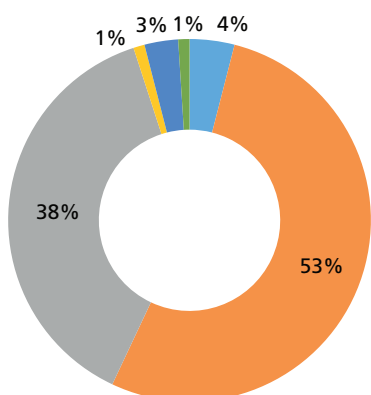
Prepared by: CSE



Key: WW: Wastewater, FS: Faecal sludge, SN: Supernatant Safely managed Unsafely managed

Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Lined tank with impermeable walls and open bottom, no outlet or overflow
- Unlined pit, 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	3	1
Licensed / registered	Yes	No
Record maintained	Yes	Yes
Fee charged	INR 1,200-1,500	INR 800 - 1,200
No of manual emptiers	30	
Fee charged by manual emptiers	INR 2,000-3,500	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	4	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	18 MLD	80 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged in low lying area



Figure 5: FS and solid waste dumping site



LALITPUR

CITY PROFILE

Population: 133,305

Municipal area: 22.35 sq.km.

Local government:

Lalitpur Nagar Palika Parishad

Lalitpur is a city and in Lalitpur District in the Indian state of Uttar Pradesh. It is also district headquarters of Lalitpur district. Lalitpur city is located at a distance of 411 km away from the capital city Lucknow.

SFD graphic

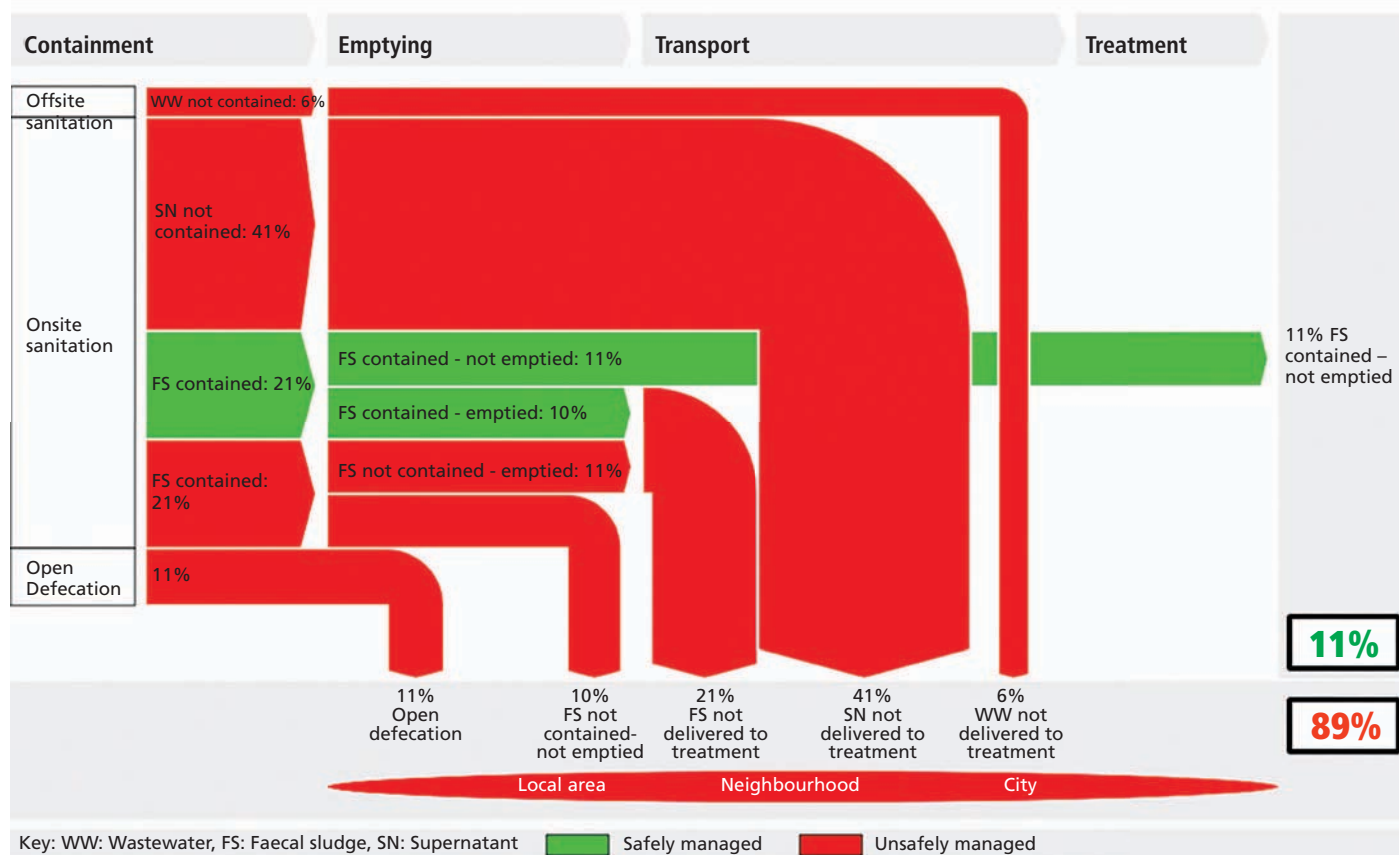
Lalitpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

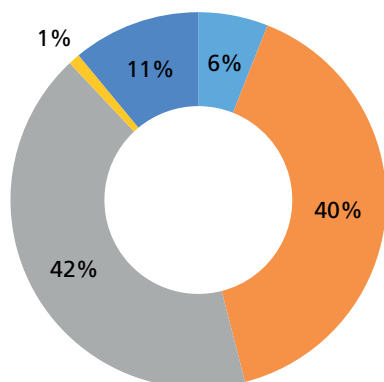
Date prepared: 6 November 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Unlined pit, no outlet or overflow
- Open defecation

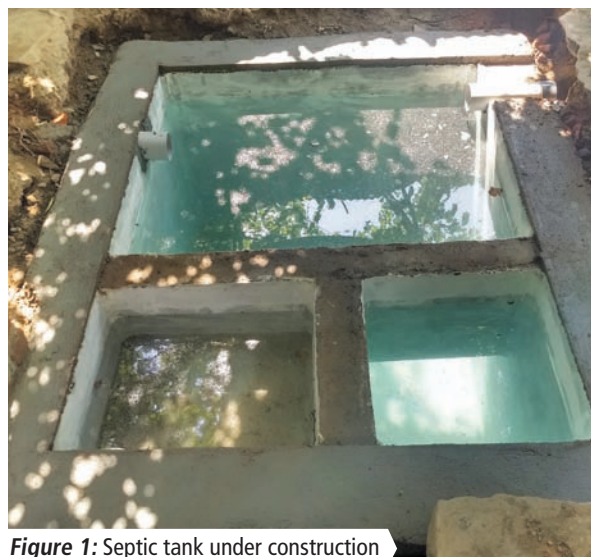


Figure 1: Septic tank under construction

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	250-300	
Fee charged by manual emptiers	INR 2,000-5,000	



Figure 2: Emptying of a septic tank

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	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	13.33 MLD	61 KLD
Treated	No	No
Designated disposal site	No	No

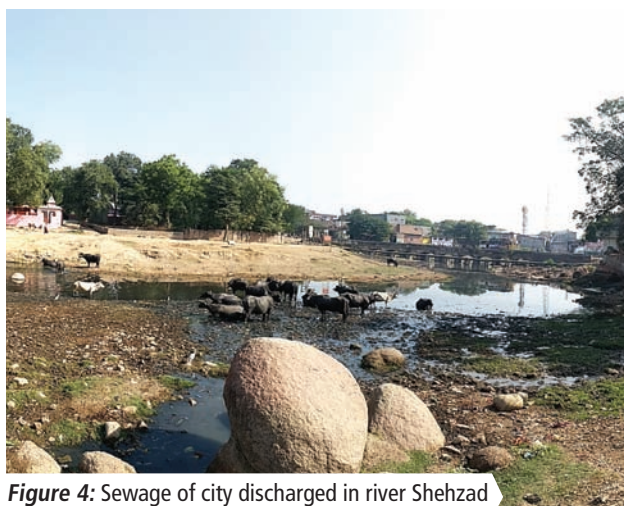


Figure 4: Sewage of city discharged in river Shehzad



Figure 5: FS discharged in low lying area

Source: Data collected by CSE team, November 2018



Location of city

Lalitpur

LONI

CITY PROFILE

Population: 516,082

Municipal area: 34.68 sq.km.

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

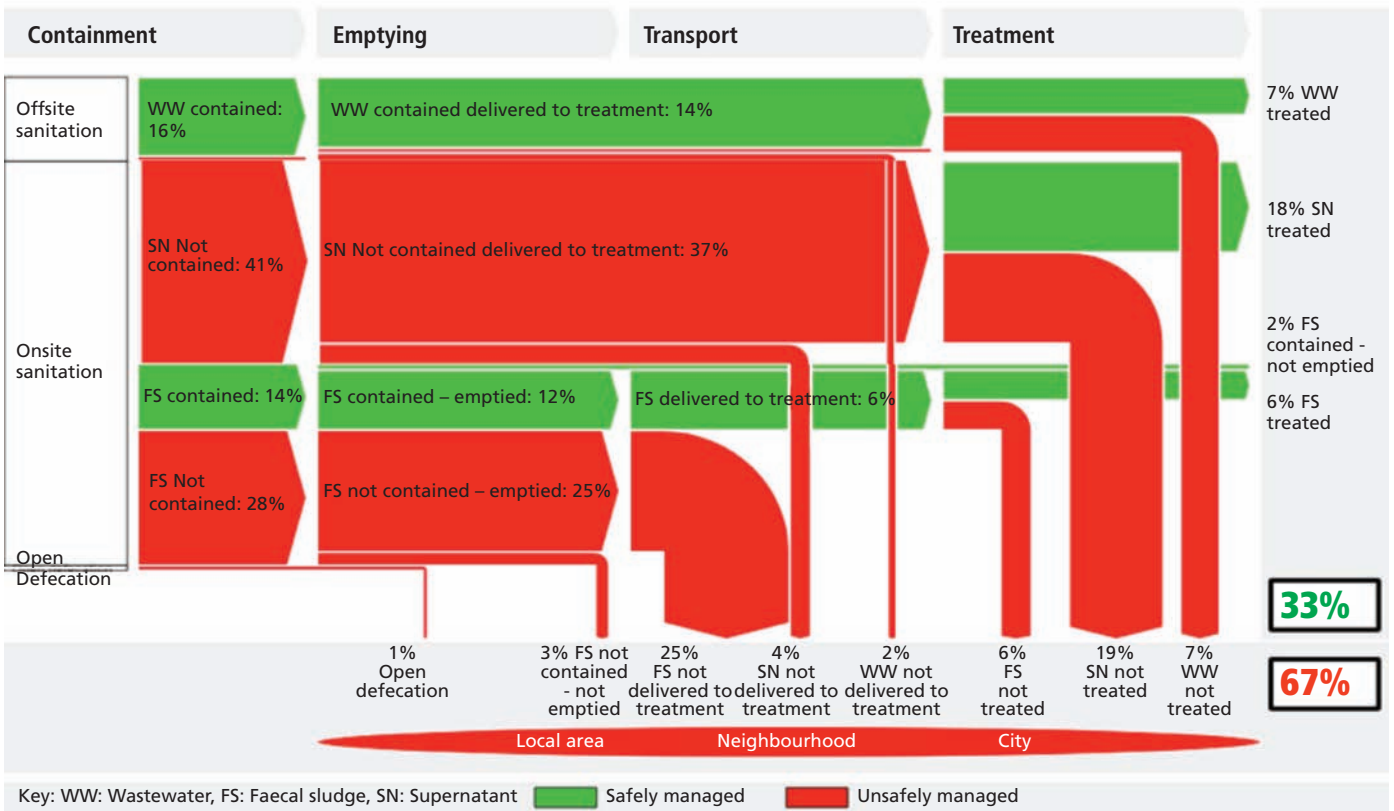
Loni, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

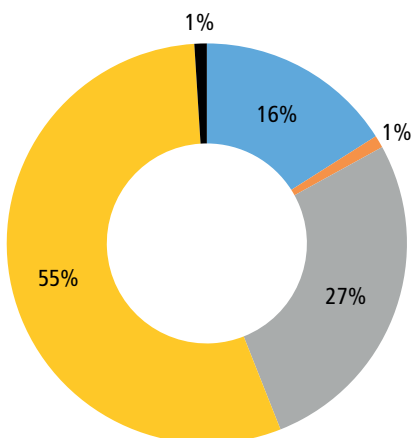
Date prepared: 8 August 2018

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
- Open defecation



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

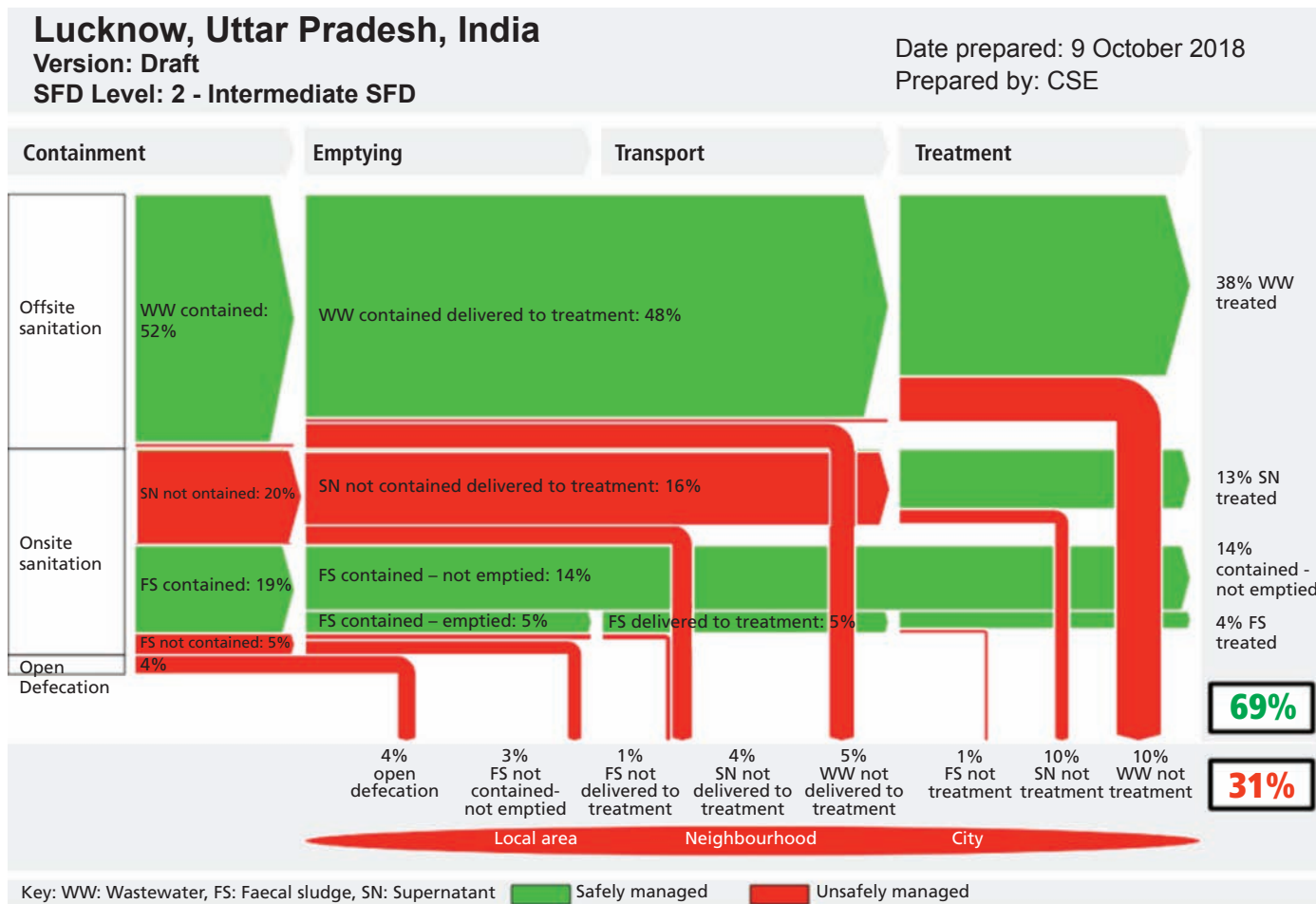
Municipal area: 350 sq.km.

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



Service outcomes

Containment

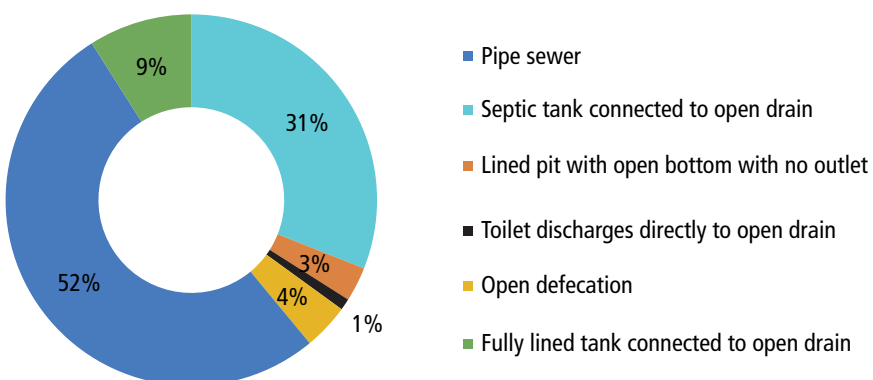


Figure 1: Septic tank connected to open drain

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



Location of city

Lucknow



Figure 5: Faecal sludge discharged into sewer manhole

MAINPURI

CITY PROFILE

Population: 117,327

Municipal area: 27.60 sq.km.

Local government:

Mainpuri Nagar Palika Parishad

Mainpuri is a city in Mainpuri district in the Indian state of Uttar Pradesh. It is the administrative headquarters of the Mainpuri district and is situated to the north-east of Agra and is 270 km from New Delhi. Mainpuri forms part of ancient legendary region of Lord Krishna's land called Braj.

SFD graphic

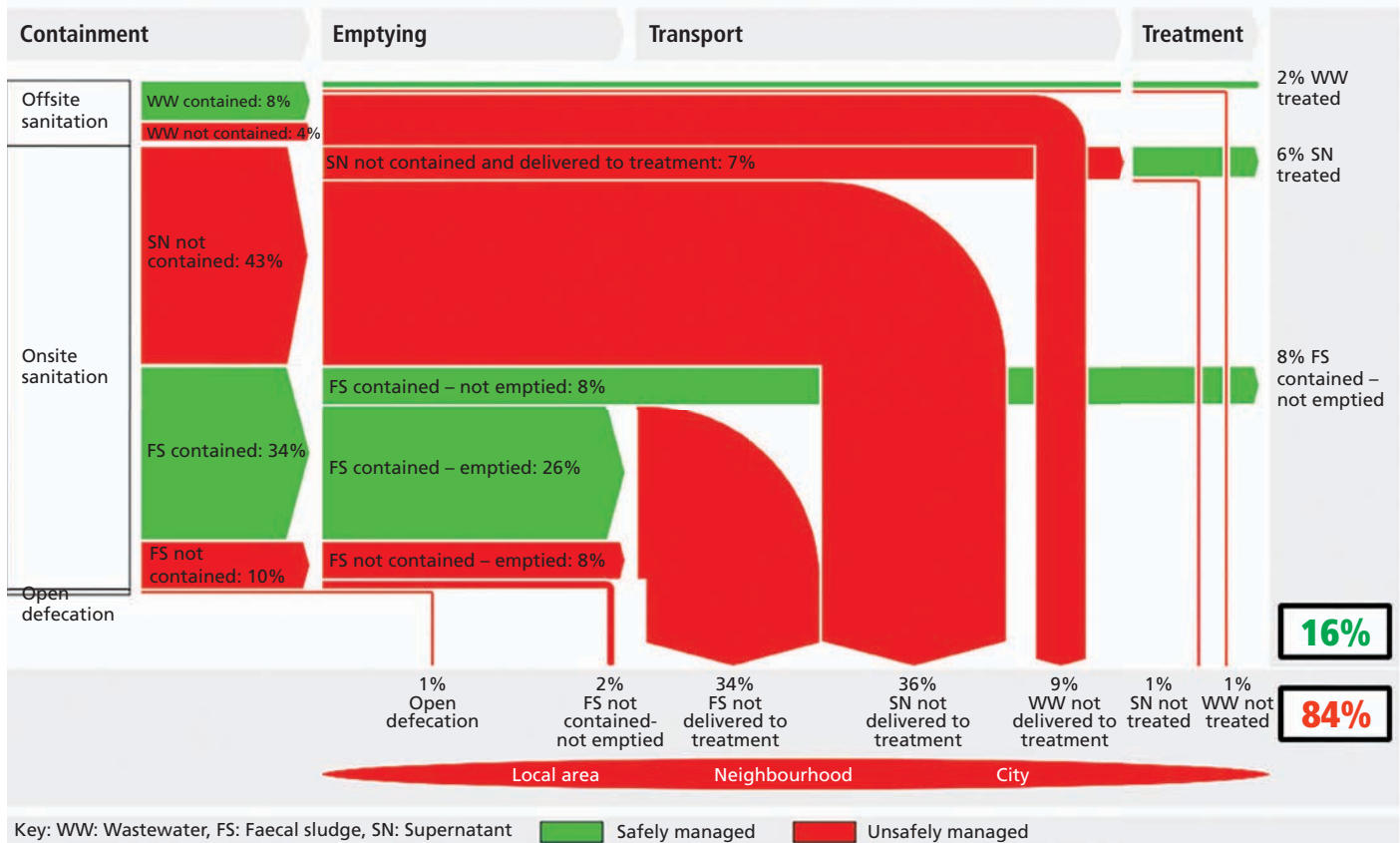
Mainpuri, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

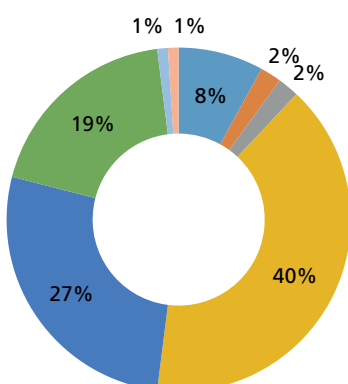
Date prepared: 6 November 2018

Prepared by: CSE



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 open ground
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to a centralised foul/ separate sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Unlined pit, no outlet or overflow
- Open defecation



Figure 1: Twin pit system under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	3 (only 1 functional)	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 800-2,000
No of manual emptiers	2,000 and more	
Fee charged by manual emptiers	INR 3,000-6,000	



Figure 2: Government vacuum tanker used for emptying

Transport

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



Figure 3: SN and WW transported to Isan river via drain

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	27 MLD	25 KLD
Treated	No	No
Designated disposal site	NA	No



Figure 4: 3 MLD STP at Awas Vikas colony



Figure 5: FS disposal point in open ground

Source: Data collected by CSE team, September 2018



Location of city

Mainpuri

MATHURA-VRINDAVAN

CITY PROFILE

Population: 626,808

Municipal area: 161.4 sq.km.

Local government:

Mathura-Vrindavan Nagar Palika Parishad

Mathura-Vrindavan is a city in Uttar Pradesh, northern India. It is located on the banks of the Yamuna river, approximately 150 km south of Delhi. The city is dotted with magnificent temples, most of them dedicated to Lord Krishna, the city's presiding deity and its first citizen. It is an important pilgrimage destination of the Hindus and is one of the seven sacred cities of India.

SFD graphic

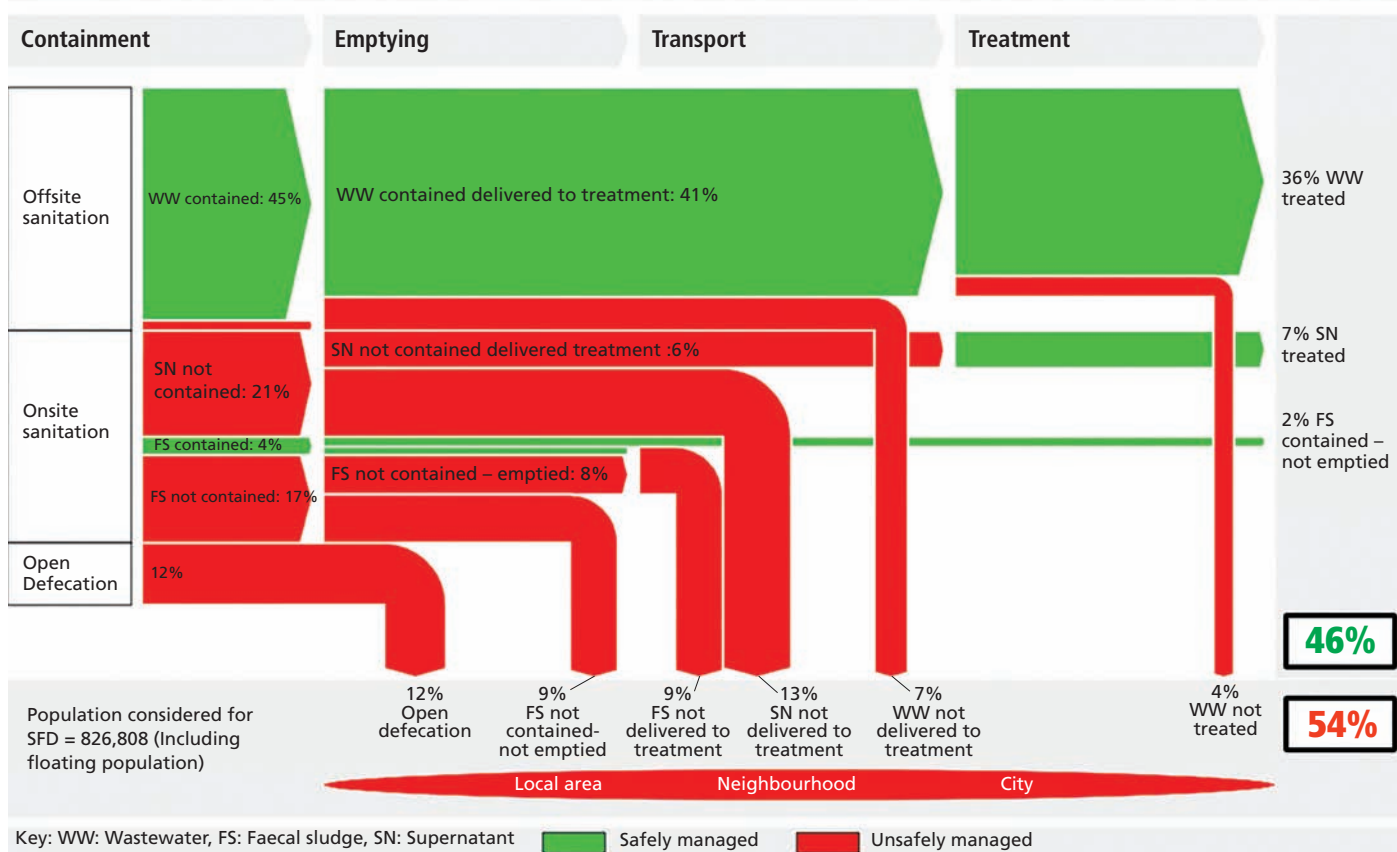
Mathura-Vrindavan, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

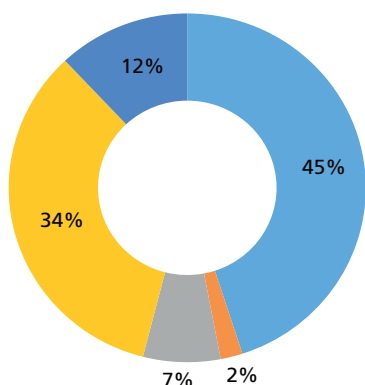
Date prepared: 26 October 2018

Prepared by: CSE



Service outcomes

Containment



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



Figure 1: Shankar balram model tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	2	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 750	INR 600-700
No of manual emptiers	0	
Fee charged by manual emptiers	NA	



Figure 2: Government tanker used for emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	7	0
No of trips per tanker per week	2-3	NA
Capacity of vehicle	2,000-3,500 litres	NA



Figure 3: Private 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	76 KLD
Treated	46.20 MLD	No
Designated disposal site	Yes	Yes (only for govt. vehicles)



Figure 4: Night soil disposed in nullah



Figure 5: 16 MLD STP at Laxmi Nagar

Source: Data collected by CSE team, October 2018



Location of city

Mathura-Vrindavan

MAUNATH BHANJAN

CITY PROFILE

Population: 278,745

Municipal area: 39 sq.km.

Local government:

Nagar Palika Parishad, Maunath Bhanjan

Mau, now known as Maunath Bhanjan, is a town located in Uttar Pradesh, India. This town is the headquarters of the Mau district. It belongs to Azamgarh Division. The city is situated 326 kms west of state capital, Lucknow.

SFD graphic

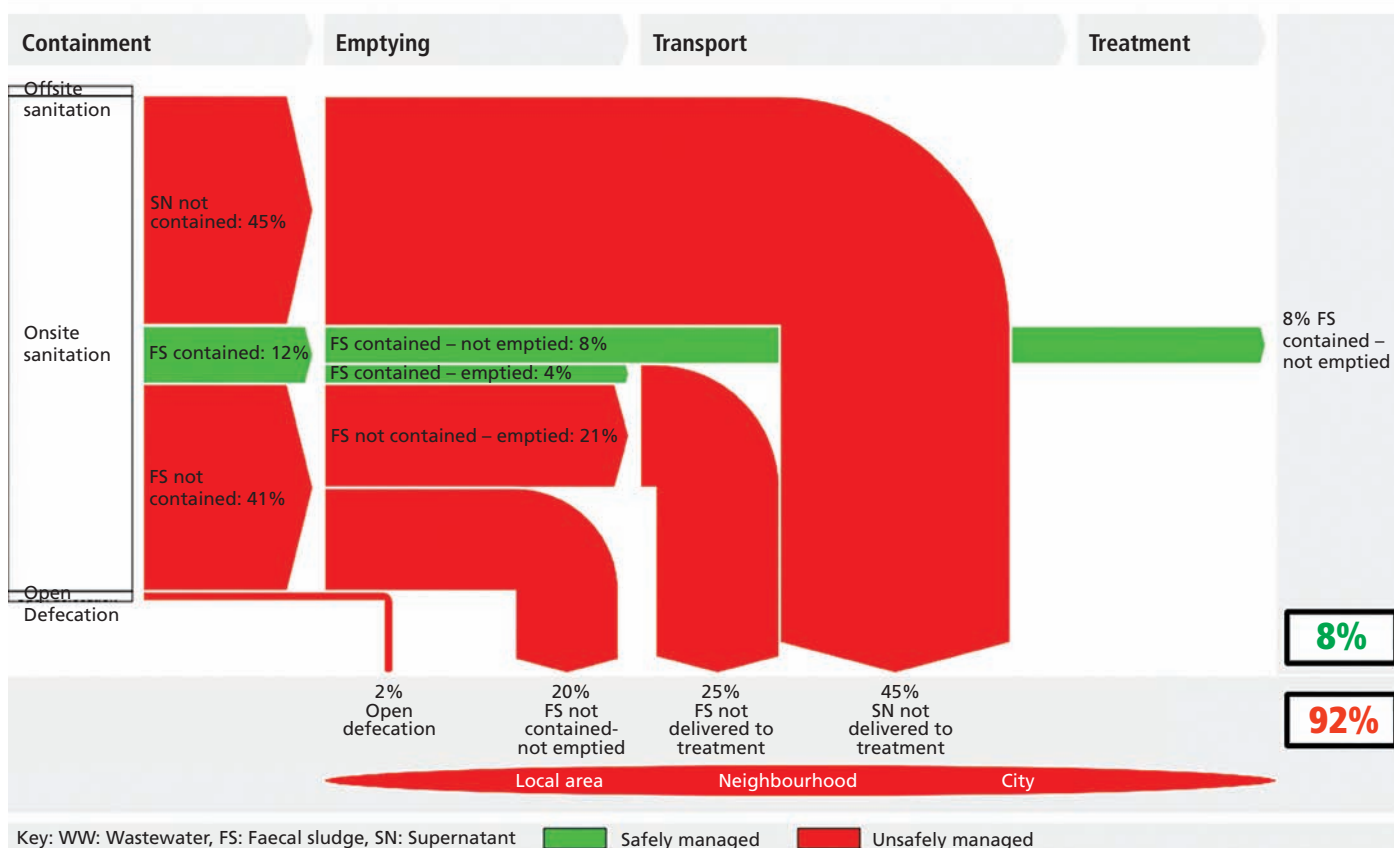
Maunath Bhanjan, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

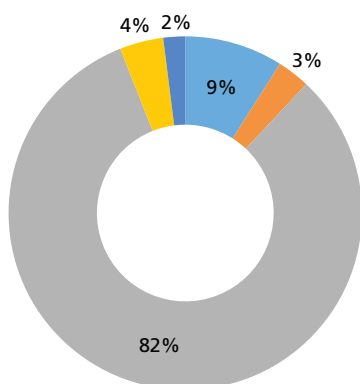
Date prepared: 15 November 2018

Prepared by: CSE



Service outcomes

Containment



- Septic tank connected to an open drain or storm sewer
- Septic tank connected to soak pit
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Lined pit with semi-permeable walls and open bottom, no outlet or overflow
- Open defecation



Figure 1: Fully lined tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	could not be tracked
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 3,500
No of manual emptiers	1,500	
Fee charged by manual emptiers	INR 4,000-6,000	



Figure 2: Emptying of a public toilet septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	1	0
No of trips per tanker per week	4	NA
Capacity of vehicle	4,000 litres	NA



Figure 3: Govt. tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	27 MLD	152 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: Sewage disposed in open ground



Figure 5: FS discharged in low lying area

Source: Data collected by CSE team, October 2018



Location of city

Maunath Bhanjan

MEERUT

CITY PROFILE

Population: 1,305,429

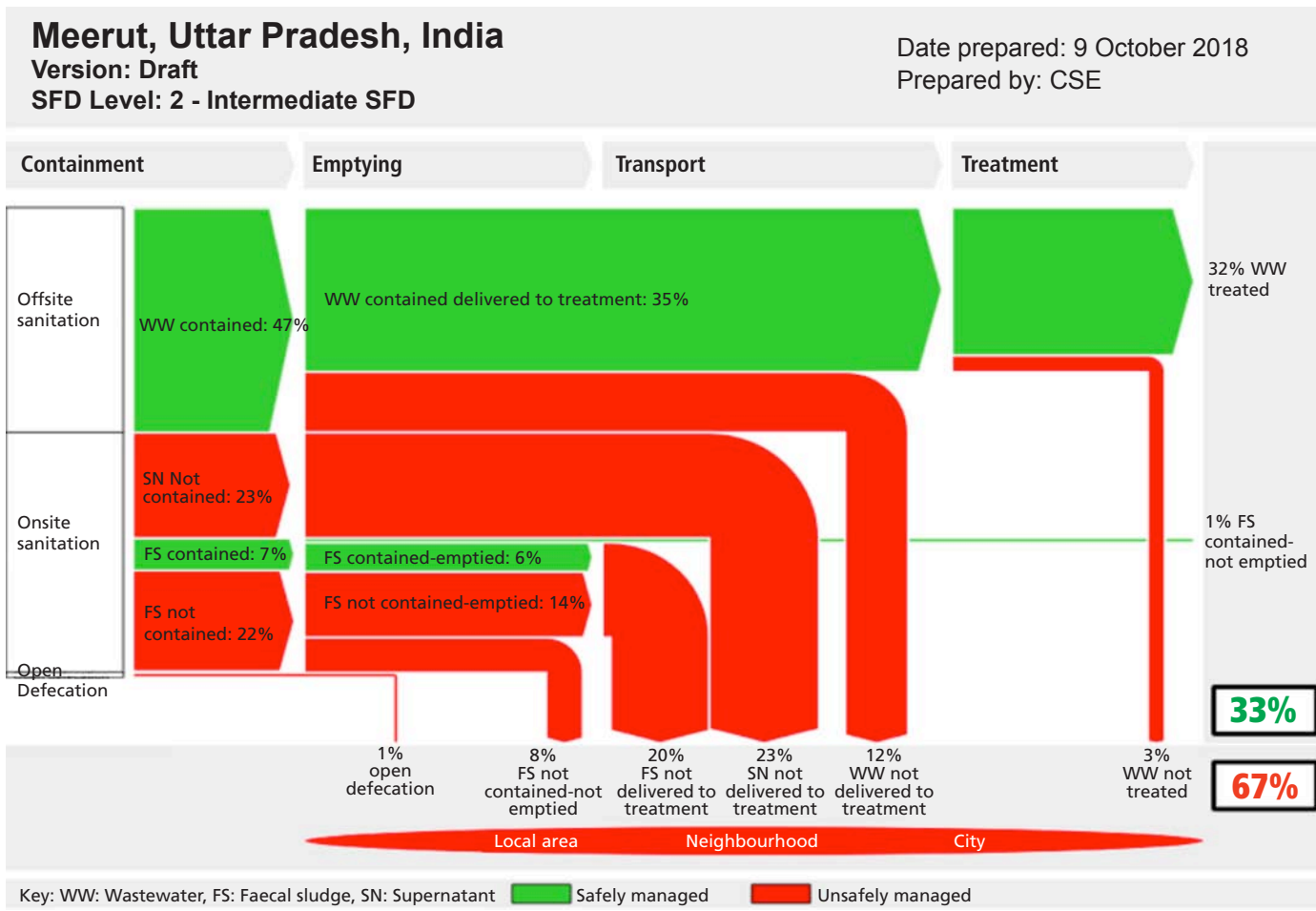
Municipal area: 141.94 sq.km.

Local government:

Meerut Municipal Corporation

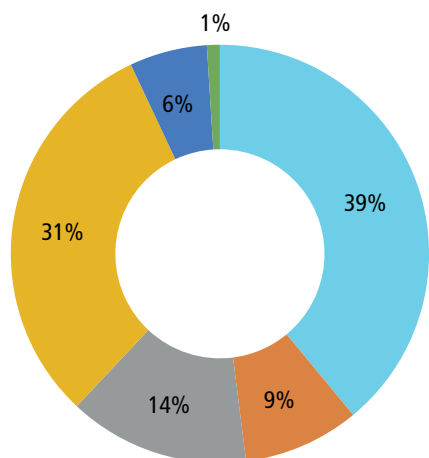
Meerut is a city in the Indian state of Uttar Pradesh and is the district headquarters. City also holds historic importance with settlements dating back to the Indus Valley civilization, have been found in and around the city. The city lies in the indo-Gangetic plains 70 km northeast of the national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

SFD graphic



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



MIRZAPUR

CITY PROFILE

Population: 233,691

Municipal area: 38.85 sq.km.

Local government:

Nagar Palika Parishad Mirzapur

Mirzapur is a city in Uttar Pradesh, India. The city is surrounded by several hills and is the headquarters of Mirzapur district. It is known for its carpets and brassware industries. It is also famous for the holy shrine of Vindhyachal.

SFD graphic

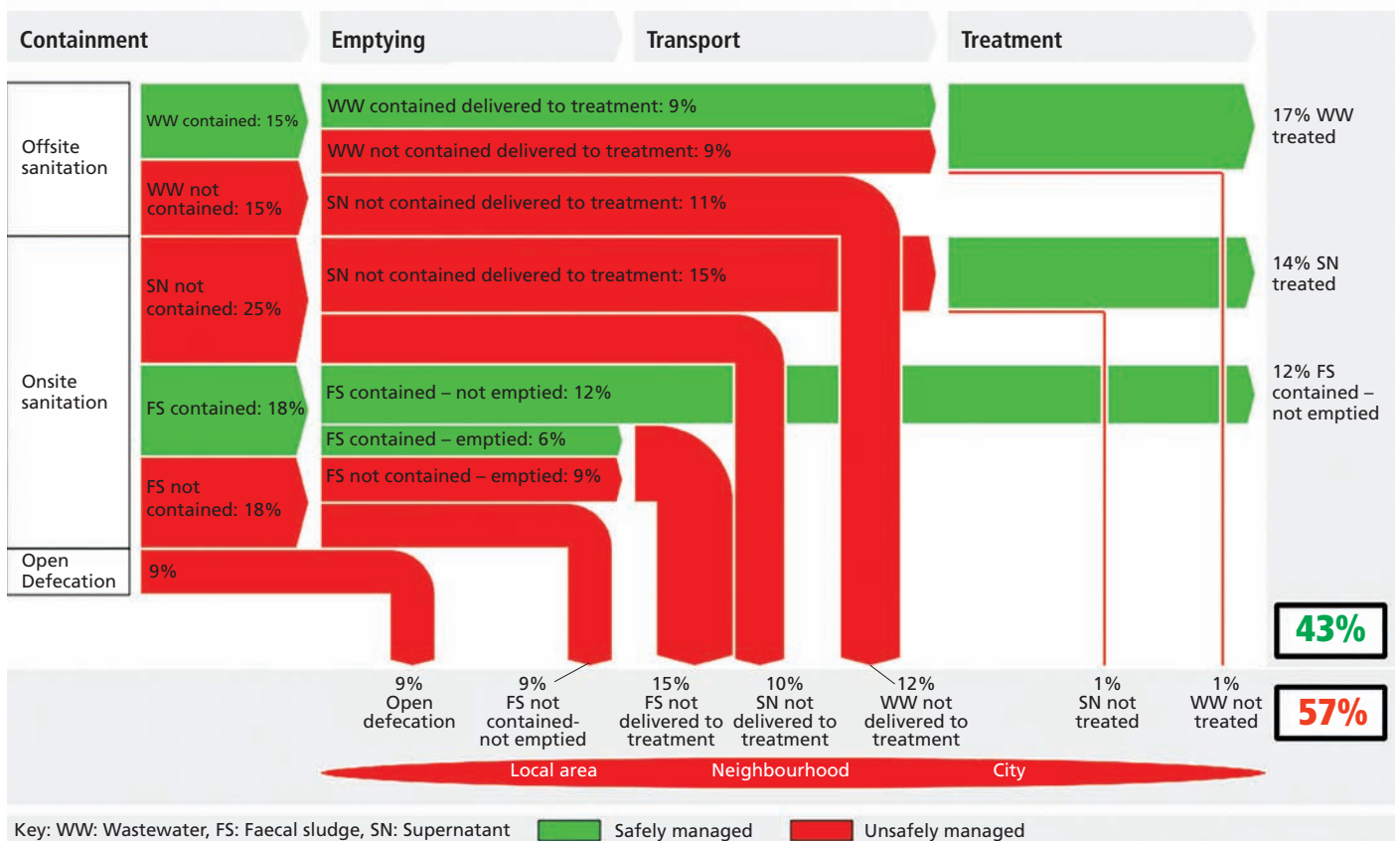
Mirzapur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

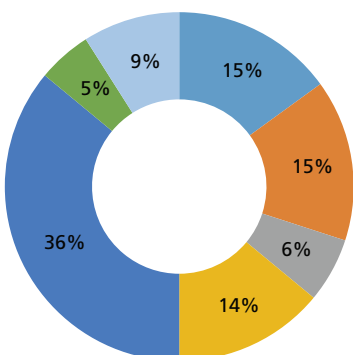
Date prepared: 16 November 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised combined sewer
- Toilet discharges directly to a centralised combined sewer
- Septic tank connected to soak pit
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Lined pit with semi-permeable walls and open bottom, no outlet or overflow
- Open defecation



Figure 1: Containment of a household under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	could not be tracked
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 3,000	NA
No of manual emptiers	50-60	
Fee charged by manual emptiers	INR 500-15,000	



Figure 2: Emptying of a public toilet septic tank

Transport

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



Figure 3: Govt. tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	32 MLD	99 KLD
Treated	18	No
Designated disposal site	No	No



Figure 4: 14 MLD sewage treatment plant

Source: Data collected by CSE team, October 2018



Figure 5: Sewage of city reaching river Ganges

MODINAGAR

CITY PROFILE

Population: 130,168

Municipal area: 14 sq.km.

Local government:

Nagar Palika Parishad Modinagar

Modinagar is a town in Ghaziabad district in the Indian state of Uttar Pradesh. Modinagar is situated on the Delhi-Haridwar highway NH-58 between Meerut and Ghaziabad. The town is located at the distance of about 54 kilometers from national capital New Delhi and 560 kilometer from state capital Lucknow.

SFD graphic

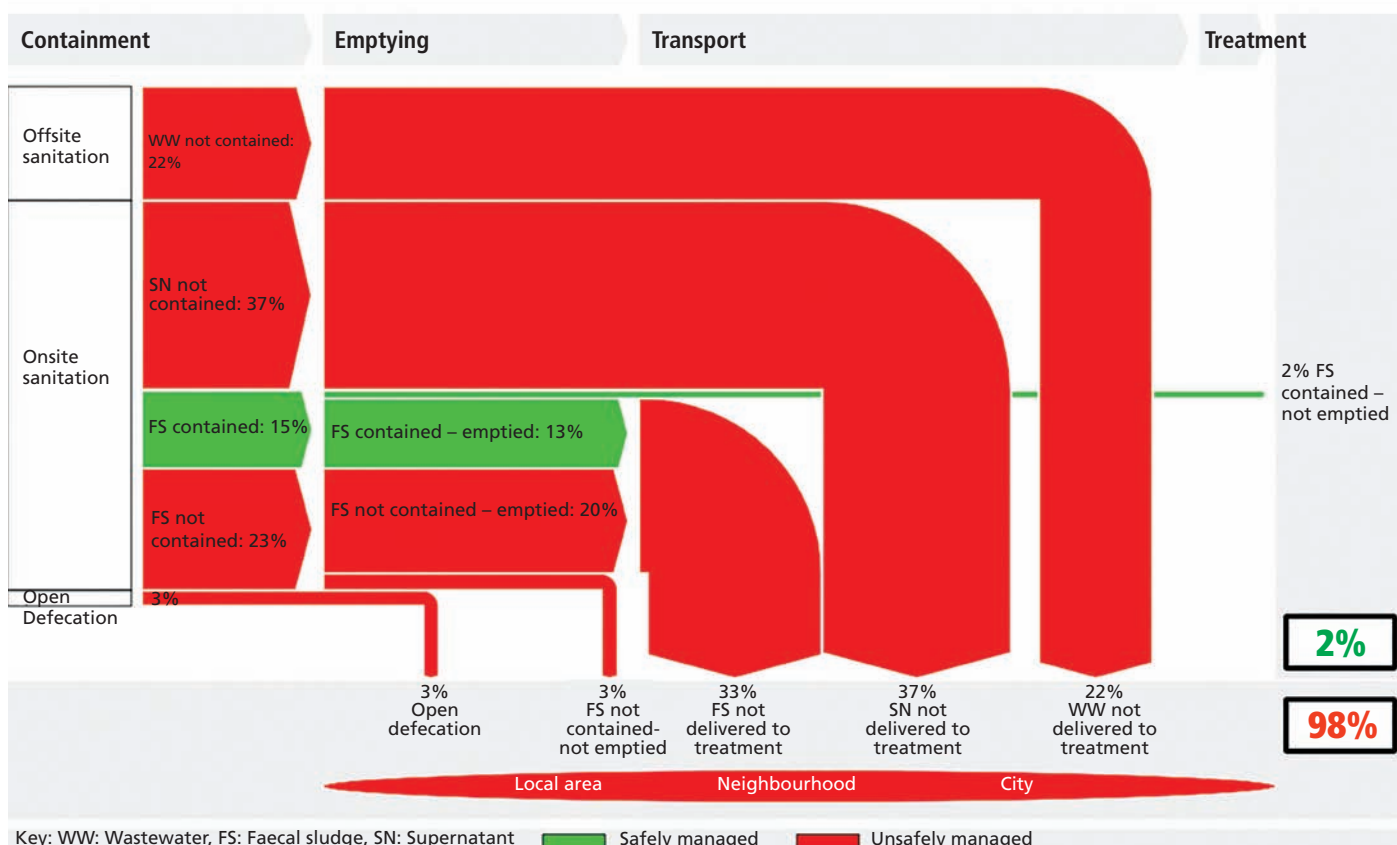
Modinagar, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

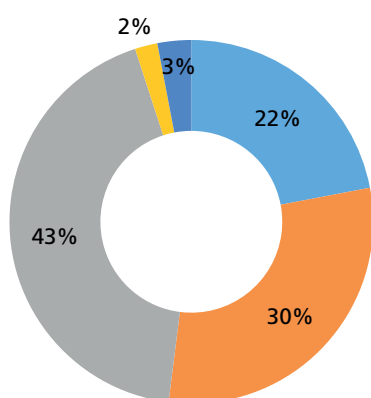
Date prepared: 6 November 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to open ground
- Open defecation



Figure 1: Night soil disposed in open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	1	3
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 800-1,000	INR 1,200
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	4	0
No of trips per tanker per day	3-4	NA
Capacity of vehicle	4,000-6,000 litres	NA



Figure 3: Private vacuum tanker stationed road side

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	14 MLD	55 KLD
Treated	0	No
Designated disposal site	Open drain	Open drain and dumping site



Figure 4: WW and SN flowing in nullah



Figure 5: Sewage reaching river via drains

Source: Data collected by CSE team, August 2018



MORADABAD

CITY PROFILE

Population: 887,871

Municipal area: 70 sq.km.

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: 2 - Intermediate SFD

Date prepared: 9 October 2018

Prepared by: CSE



Service outcomes

Containment

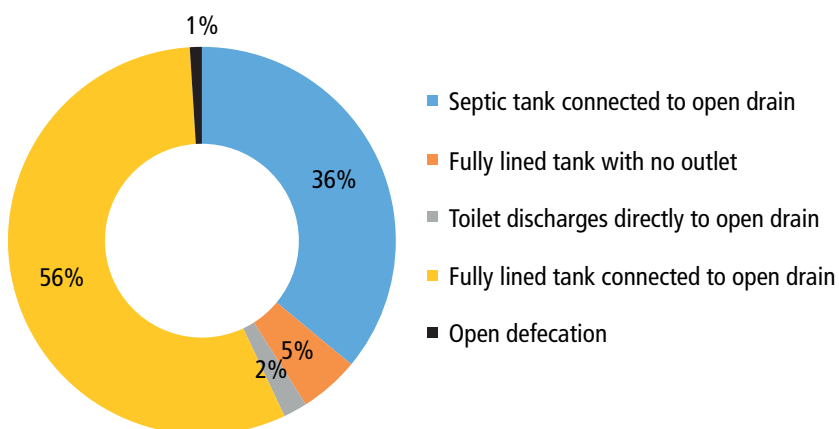


Figure 1: Two chambered septic tank

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



Location of city

Moradabad

MUZAFFARNAGAR

CITY PROFILE

Population: 392,768

Municipal area: 12 sq.km.

Local government:

Nagar Palika Prishad Muzaffarnagar

Muzaffarnagar is a city in the Indian state of Uttar Pradesh and is a part of National Capital Region. This city is part of Delhi Mumbai Industrial Corridor and Amritsar Delhi Kolkata Industrial Corridor. Sugar and jaggery production are important industries in the district.

SFD graphic

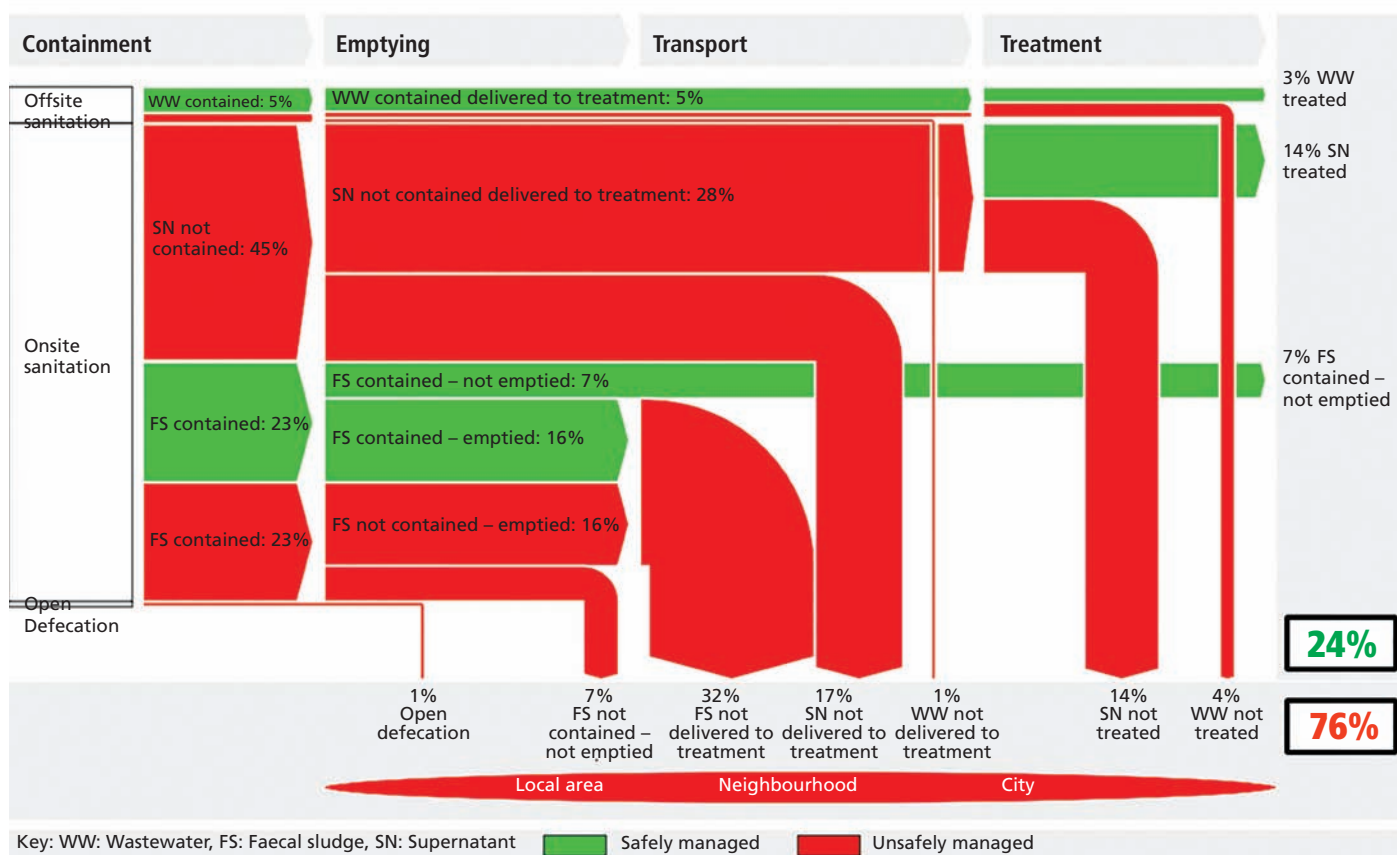
Muzaffarnagar, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

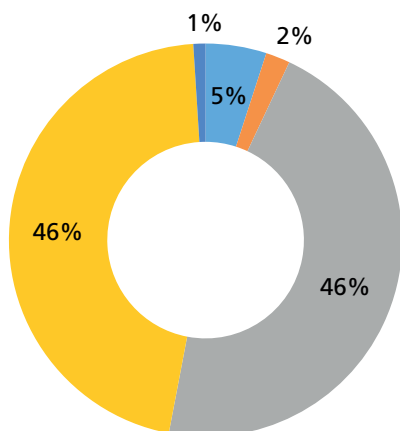
Date prepared: 30 October 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed connected to an open drain or storm sewer)
- Open defecation



Figure 1: Septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	3	6
Licensed / registered	Yes	0
Record maintained	No (only used for jetting purpose)	No
Fee charged	NA	INR 1,000-1,200
No of manual emptiers	80-100	
Fee charged by manual emptiers	INR 1,500-1,800	



Figure 2: Laying of sewer network in progress

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	6	3
No of trips per tanker per day	2-3	NA
Capacity of vehicle	4,500 - 5,000 litres	6,000 - 8,000 litres



Figure 3: Government owned jetting machine

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	49 MLD	201 KLD
Treated	32.5 MLD	No
Designated disposal site	Drain	Open drain



Figure 4: Stabilisation pond at STP

Muzaffarnagar
Location of city



Figure 5: Sewage reaching river via drains

ORAI

CITY PROFILE

Population: 190,575

Municipal area: 20.86 sq.km.

Local government:

Nagar Palika Parishad Orai

Orai is a city and headquarter of the Jalaun district in the state of Uttar Pradesh in India. It is situated at NH-27 midway between Jhansi and Kanpur. Orai has been named after a saint (Rishi) Uddalak because he worshipped there and has historical value because of its location, which is between Jhansi, Mahoba and Kalpi.

SFD graphic

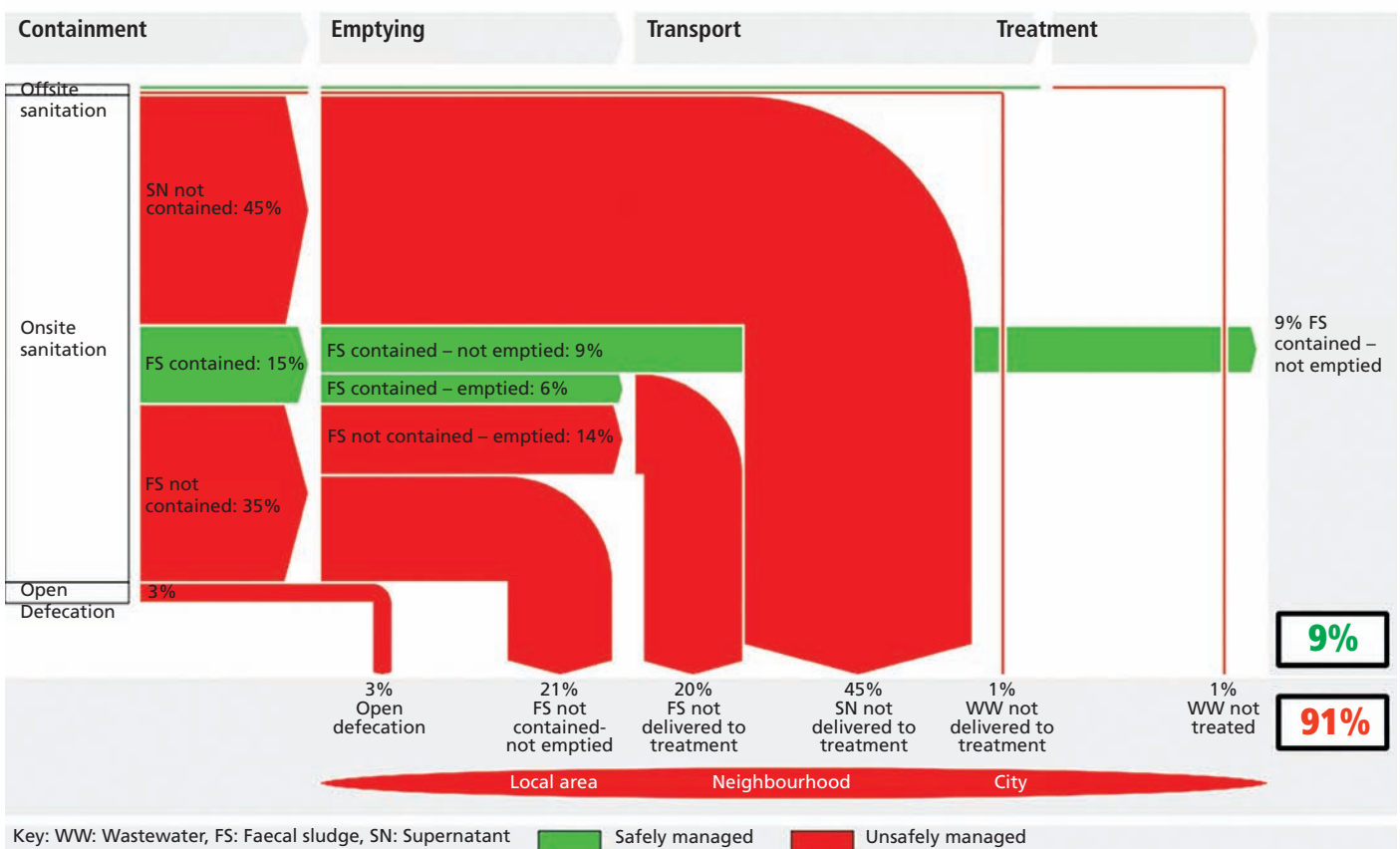
Orai, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

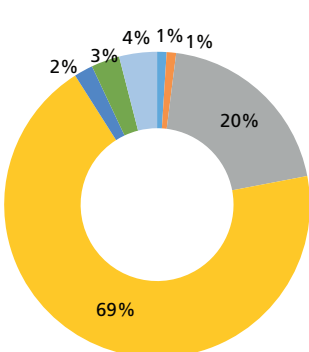
Date prepared: 23 October 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/ separate sewer
- Toilet discharges directly to an open drain or storm sewer
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Lined tank with impermeable walls and open bottom, no outlet or overflow
- Unlined pit, no outlet or overflow
- Open defecation



Figure 1: Fully tank having outlet connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	1	3
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000-1,200	INR 1,000 - 1,500
No of manual emptiers	30-45	
Fee charged by manual emptiers	INR 1,200-2,500	



Figure 2: Sewage pumping station

Transport

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



Figure 3: SN and WW transported via nullah

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	19 MLD	100 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharge point



Location of city



Figure 5: Untreated waste WW flowing in Sai river

PILIBHIT

CITY PROFILE

Population: 127,988

Municipal area: 9.97 sq.km.

Local government:

Nagar Palika Parishad Pilibhit

Pilibhit is the north-eastern most district of Bareilly division, Uttar Pradesh, India. It was also known as Bansuri Nagari - the land of flutes, for making and exporting roughly 95 per cent of India's flutes. Pilibhit is formerly known as "Hafizabad". It is situated in the Rohilkhand region of the sub-Himalayan Plateau belt next to foothills of Sivalik Range on the boundary of Nepal.

SFD graphic

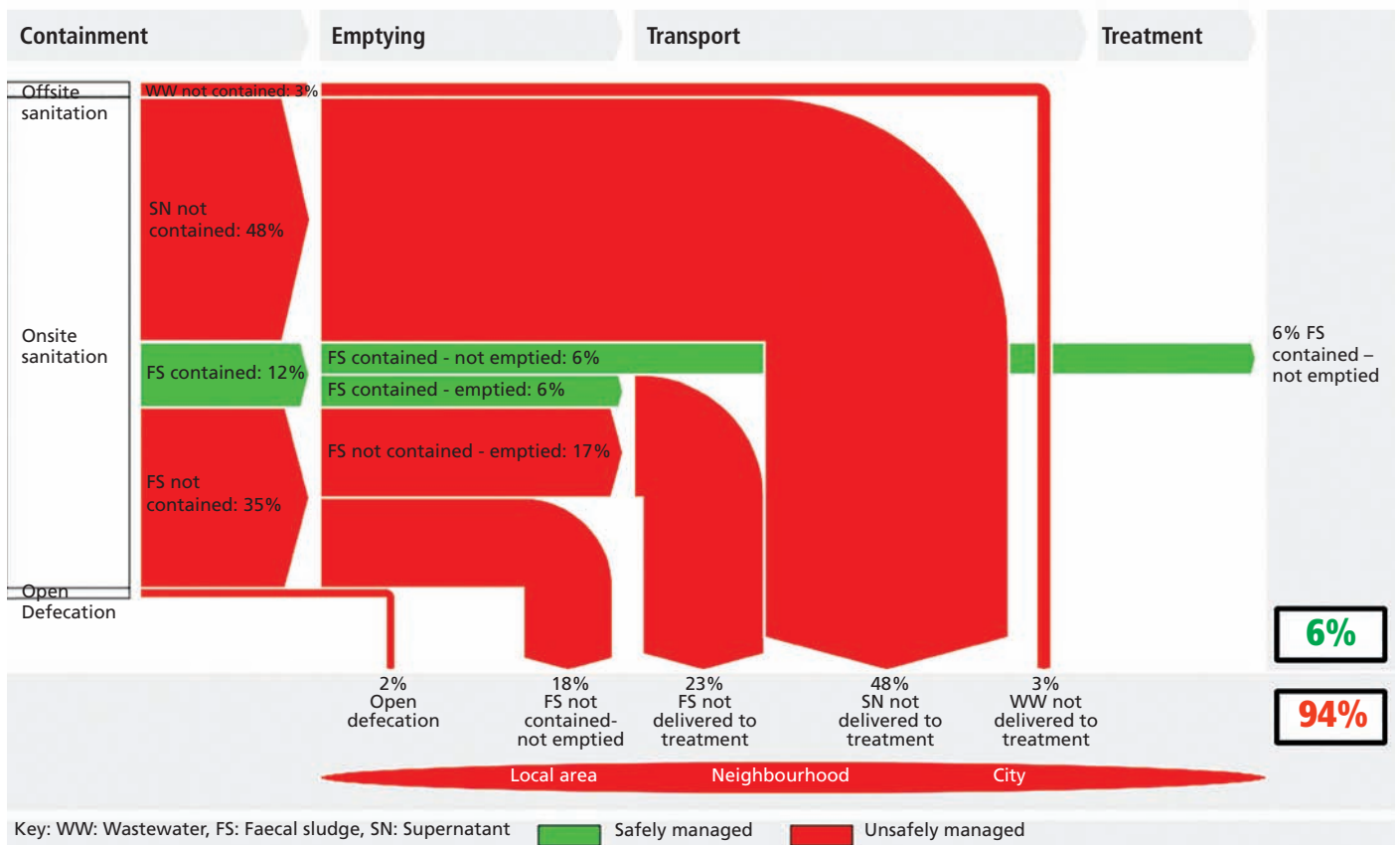
Pilibhit, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

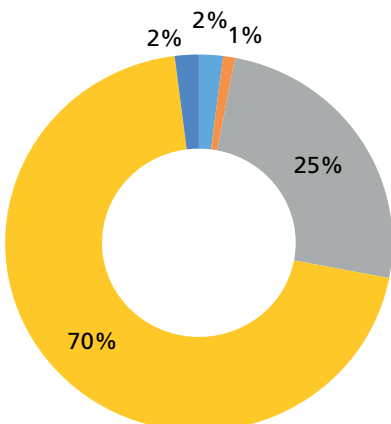
Date prepared: 14 November 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Septic tank having outlet connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	2	0
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 700	NA
No of manual emptiers	200 - 300	
Fee charged by manual emptiers	INR 3,000 - 5,000	



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	5-6	NA
Capacity of vehicle	6,000 litres	NA



Figure 3: Hand driven cycle cart used by manual scavenger

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	12.7 MLD	68 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Discharge of FS near trenching ground



Figure 5: SN & WW flowing into open drain

Source: Data collected by CSE team, September 2018



Location of city

Pilibhit

PRAYAGRAJ

CITY PROFILE

Population: 1,112,544

Municipal area: 350 sq.km.

Local government:

Prayagraj Municipal Corporation

Allahabad, also known as Prayagraj 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

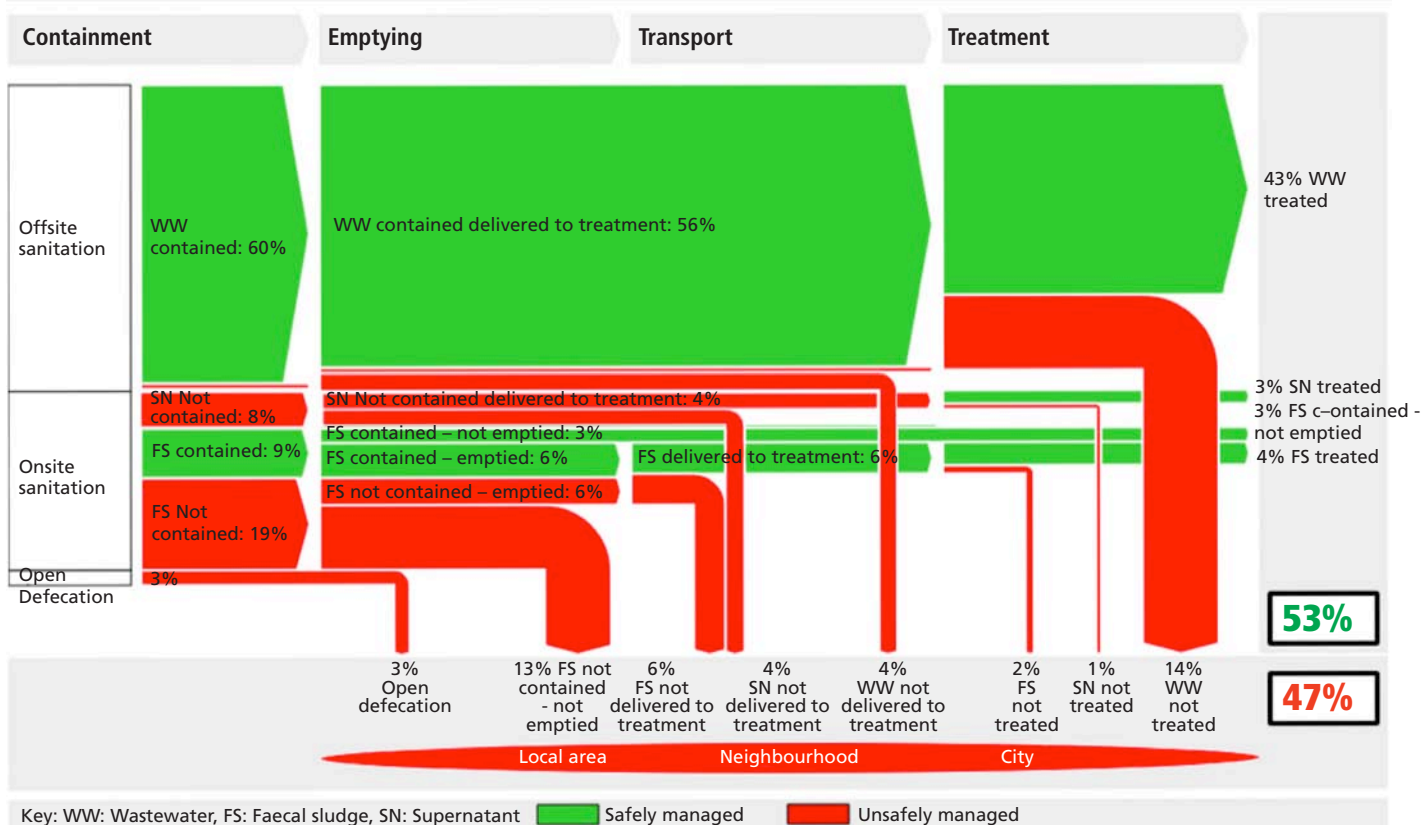
Prayagraj, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

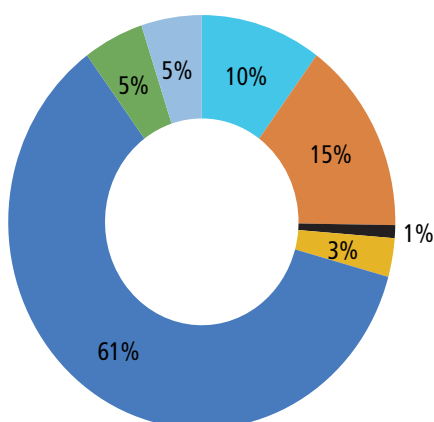
Date prepared: 26 July 2018

Prepared by: CSE



Service outcomes

Containment



- Pipe sewer
- Septic tank connected to open drain
- Lined tank with impermeable walls and open bottom
- Toilet discharges directly to open drain
- Open defecation



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

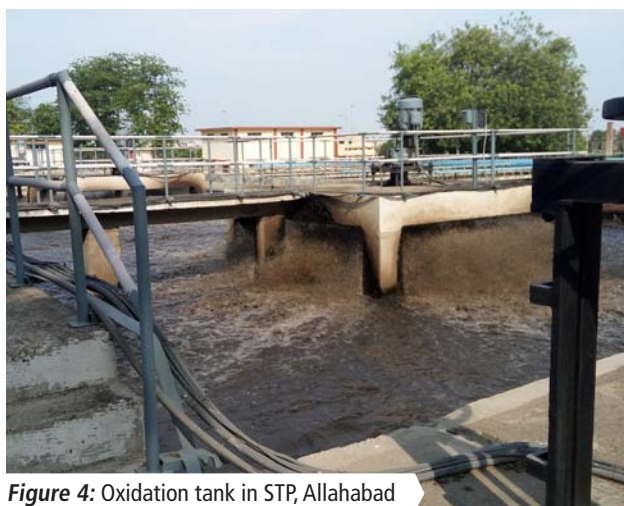


Figure 4: Oxidation tank in STP, Allahabad

Source: Data collected by CSE team, July 2018



Location of city

Prayagraj (Allahabad)



Figure 5: Supernatant and WW discharged into river Ganga

PT DEEN DAYAL UPADHYAYA NAGAR

CITY PROFILE

Population: 109,650

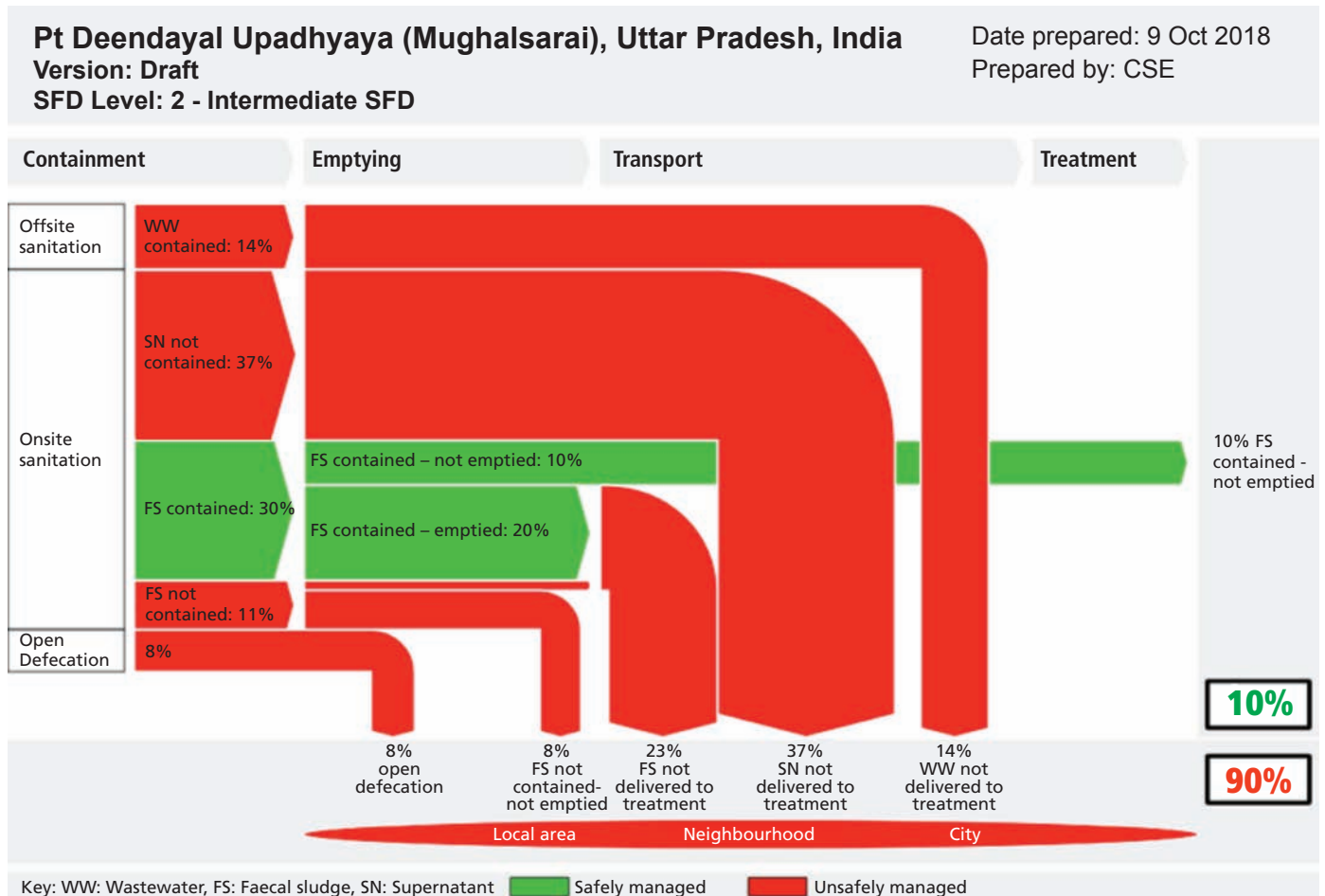
Municipal area: 16.55 sq.km.

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

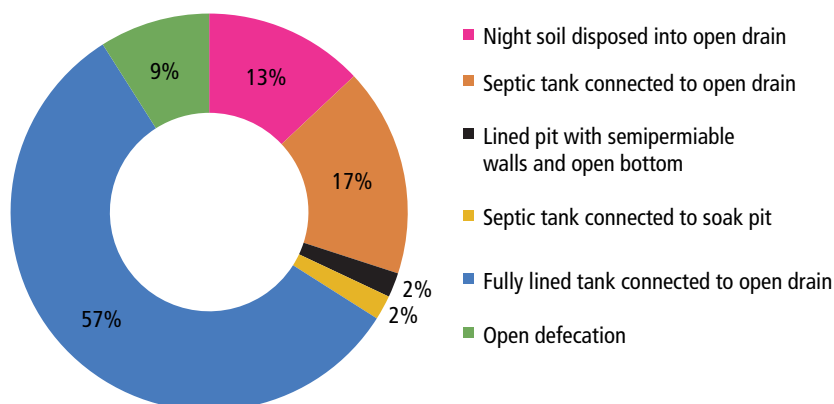


Figure 1: Shankar Balram containment system

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



Location of city

Pt Deen Dayal Upadhyaya Nagar
(Mughal Sarai)

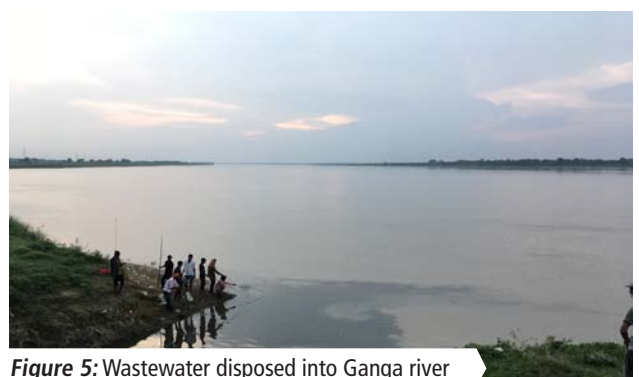


Figure 5: Wastewater disposed into Ganga river

RAEBARELI

CITY PROFILE

Population: 191,316

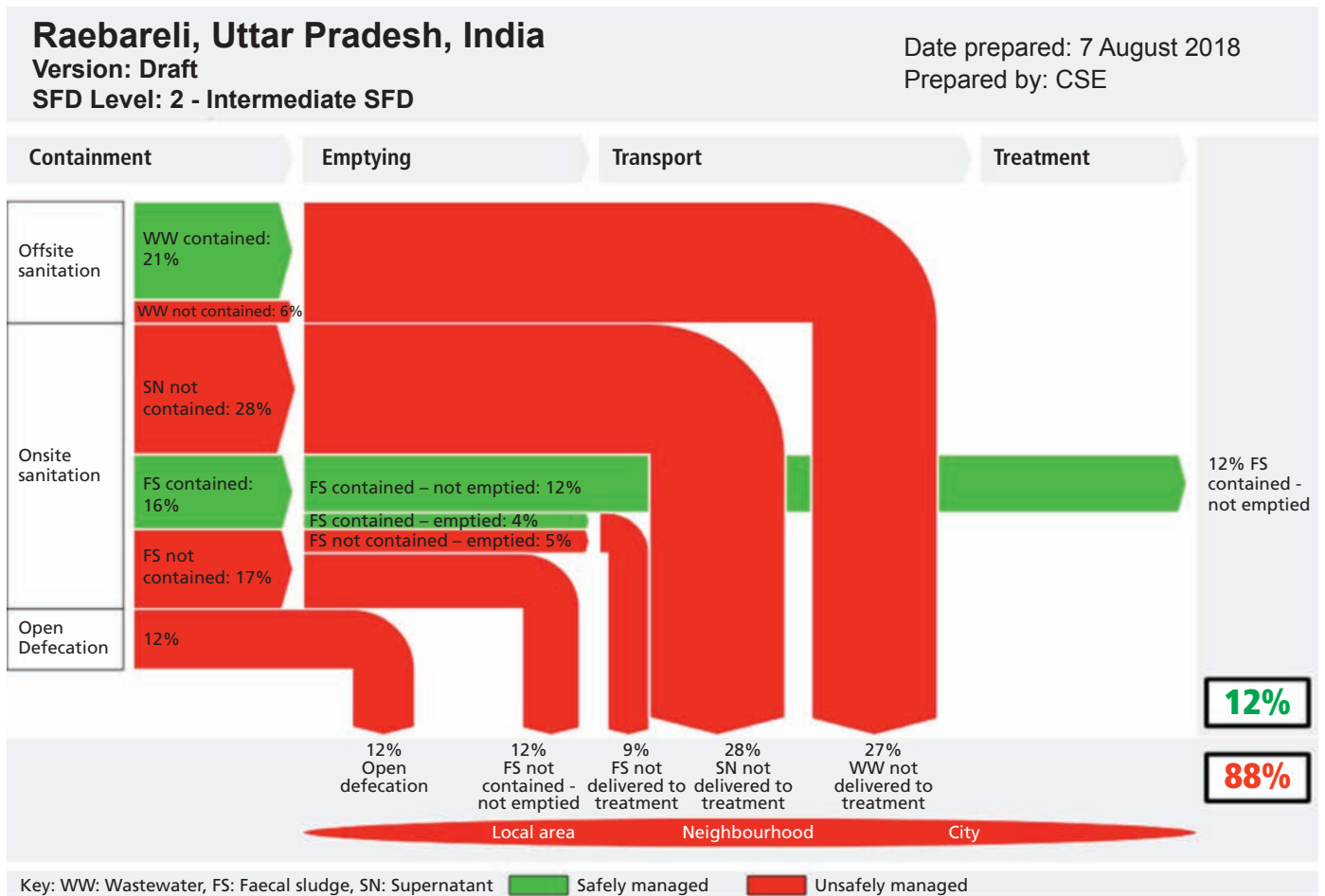
Municipal area: 50.12 sq.km.

Local government:

Raebareli 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

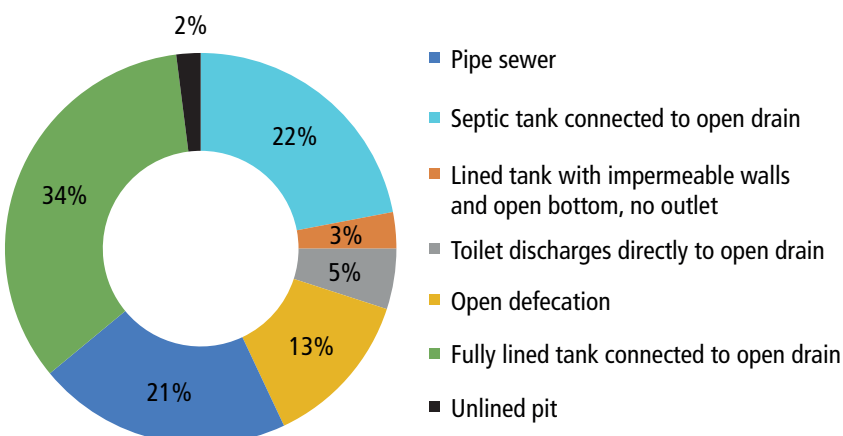


Figure 1: Septic tank of a household

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



Location of city

Raebareli



Figure 5: Supernatant and WW discharged in Sot river

RAMNAGAR

CITY PROFILE

Population: 49,132

Municipal area: 4 sq.km.

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

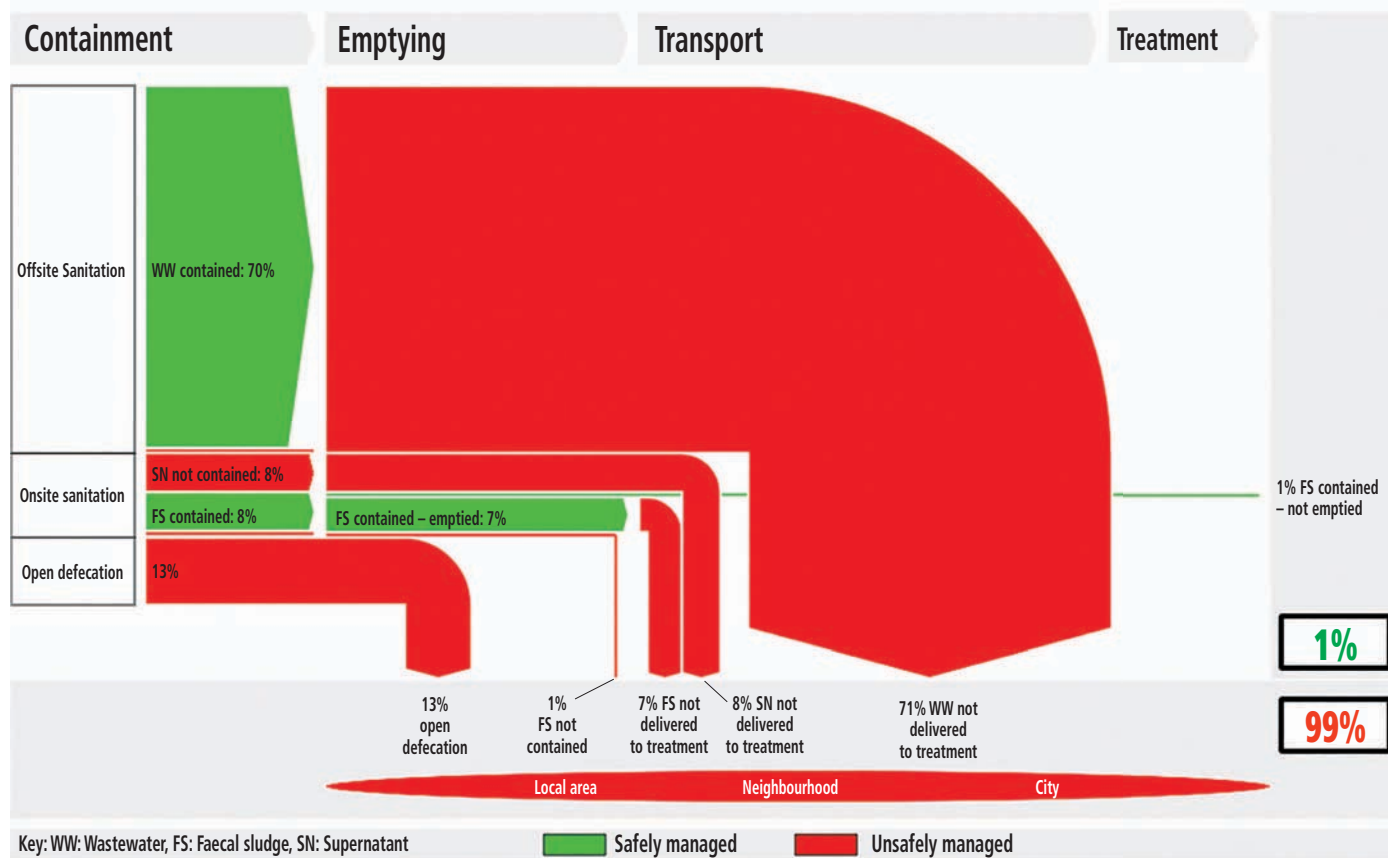
Ramnagar, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 7 July 2018

Prepared by: CSE



Service outcomes

Containment

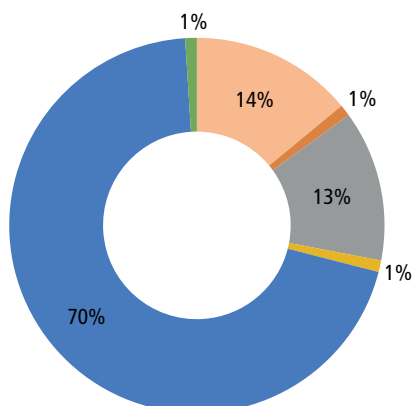


Figure 1: Septic tank of a household

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



Location of city

Ramnagar

RAMPUR

CITY PROFILE

Population: 325,313

Municipal area: 20 sq.km.

Local government:

Nagar Palika Parishad, Rampur

Rampur city is the district headquarter of Rampur district in the Indian state of Uttar Pradesh. Famous Rampur library treasures above 12,000 exceptional manuscripts and an excellent assortment of Mughal paintings. This place is widely known for making sharp knives as well.

SFD graphic

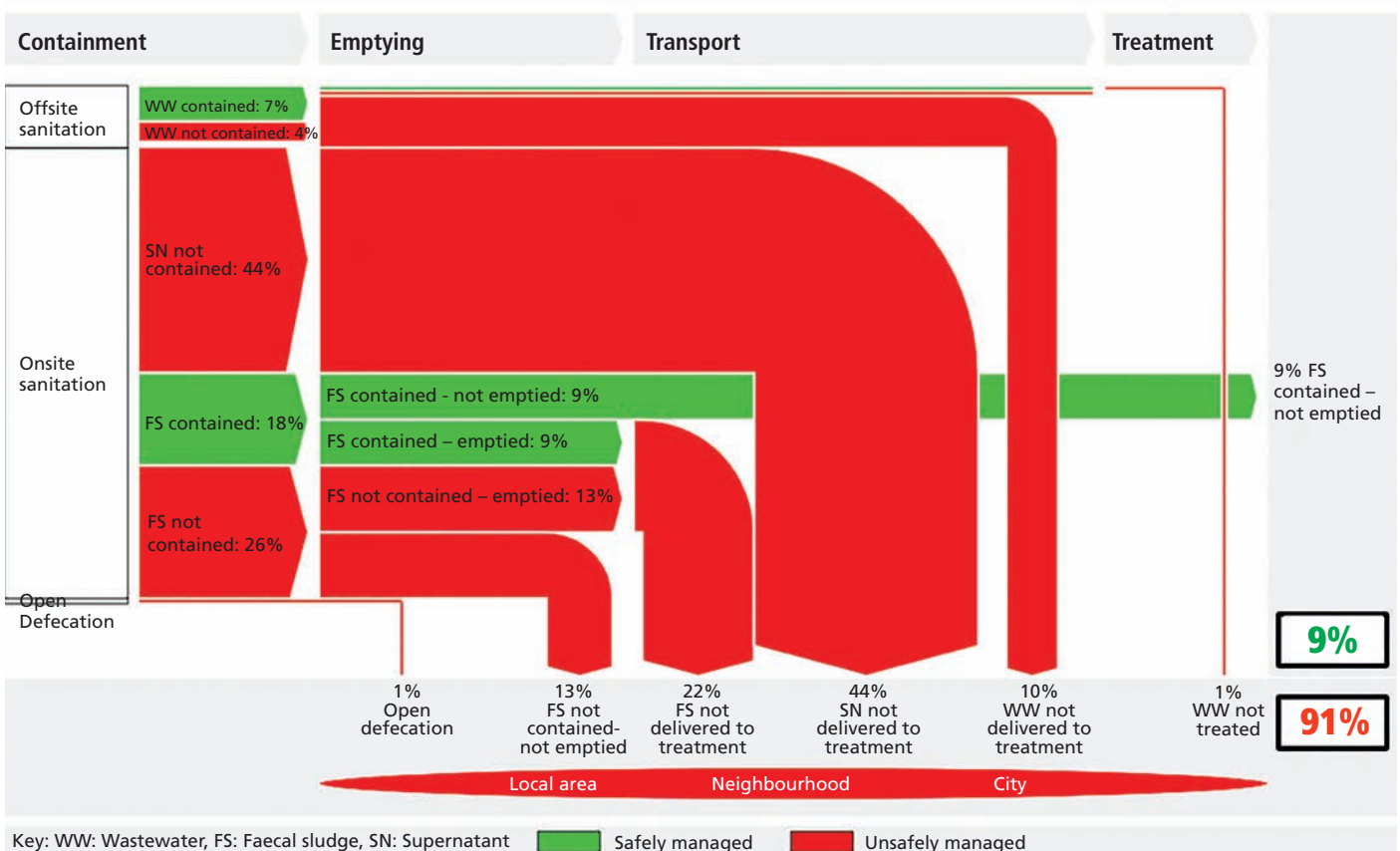
Rampur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

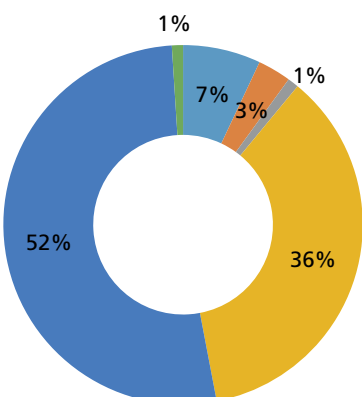
Date prepared: 14 September 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised combined sewer
- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Septic tank having outlet connected to open drain

Emptying

Service provided by	Government	Private operator
No of vehicles	2	2
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 1,400
No of manual emptiers	300	
Fee charged by manual emptiers	INR 500 - 4,000	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	4	0
No of trips per tanker per month	8 - 10	NA
Capacity of vehicle	2,500 - 4000 litres	NA



Figure 3: Tractor mounted government emptying vehicle

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	UASBR	NA
Generated	34 MLD	158 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: Disposal of FS into manhole



Figure 5: STP based on UASBR technology

Source: Data collected by CSE team, September 2018



SAHARANPUR

CITY PROFILE

Population: 705,478

Municipal area: 47 sq.km.

Local government:

Saharanpur Municipal Corporation

Saharanpur is a city in the state of Uttar Pradesh in northern India. It is the administrative headquarters of Saharanpur District and the Saharanpur Division. The city is known for its wood carving cottage industry as well as a thriving market for local agricultural produce, including basmati rice and mangoes.

SFD graphic

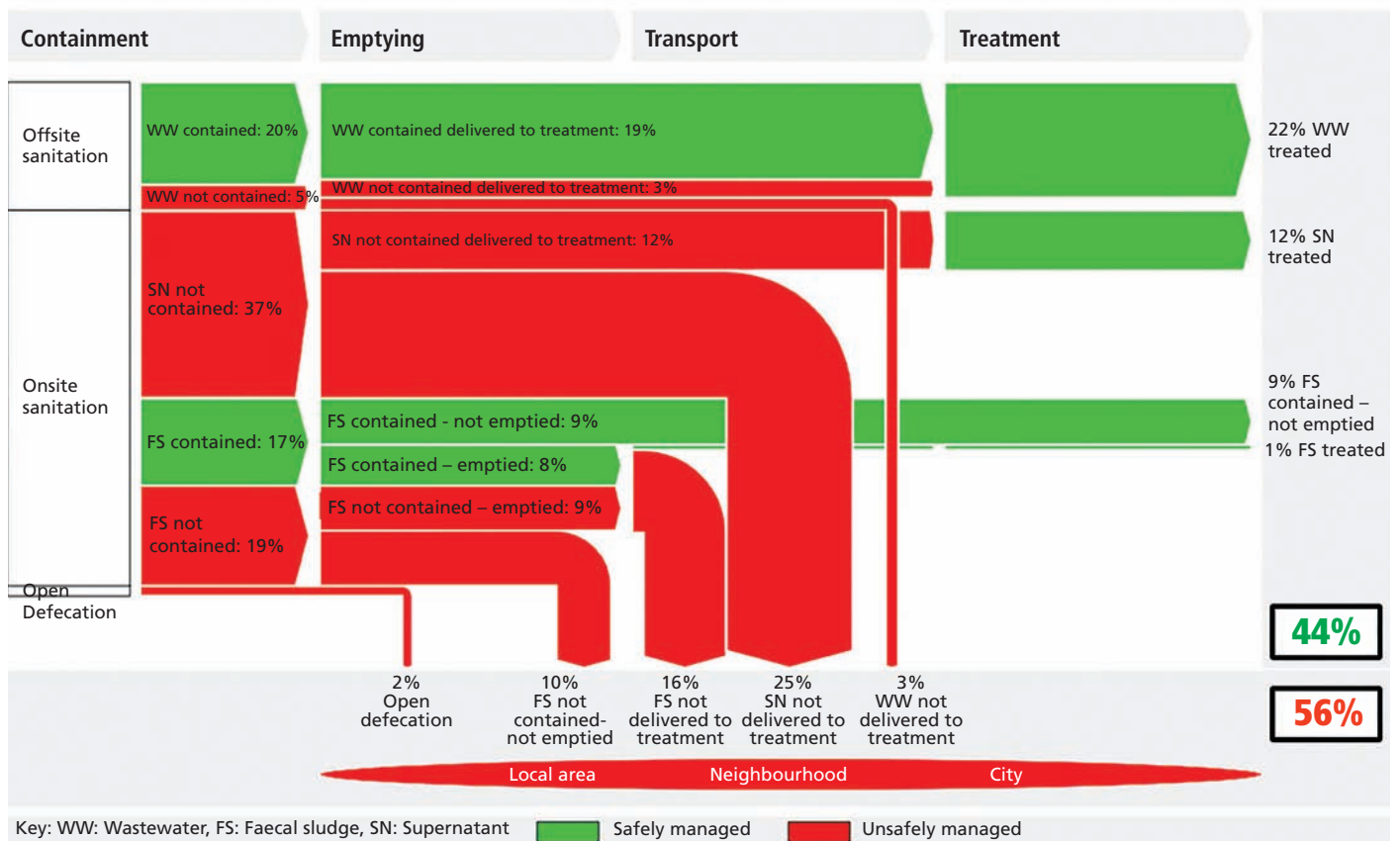
Saharanpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

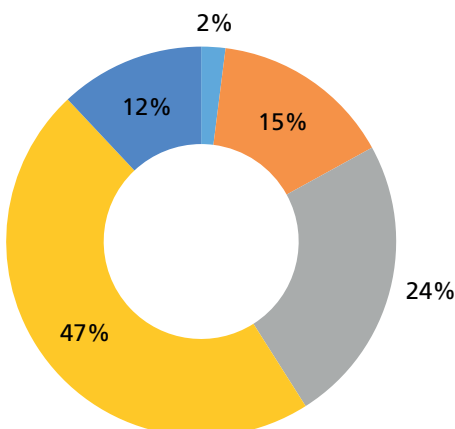
Date prepared: 2 November 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to a centralised foul/separate sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation



Figure 1: Shankar Balram tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	3	9
Licensed / registered	Yes	5
Record maintained	No (only used for jetting purpose)	No
Fee charged	NA	INR 1,200-1,500
No of manual emptiers	could not be tracked	
Fee charged by manual emptiers	INR 1,000-1,200	



Figure 2: Opening cap of tank for easy emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	9	3
No of trips per tanker per day	1	2-3
Capacity of vehicle	3,500 - 5,200 litres	8,000 litres



Figure 3: Private tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	STP	NA
Generated	93 MLD	286 KLD
Treated	38 MLD	No
Designated disposal site	STP	Open drain and fields



Figure 4: 38 MLD sewage treatment plant



Figure 5: SN and WW flowing in nullah

Source: Data collected by CSE team, October 2018



Saharanpur

Location of city

SAIDPUR

CITY PROFILE

Population: 24,338

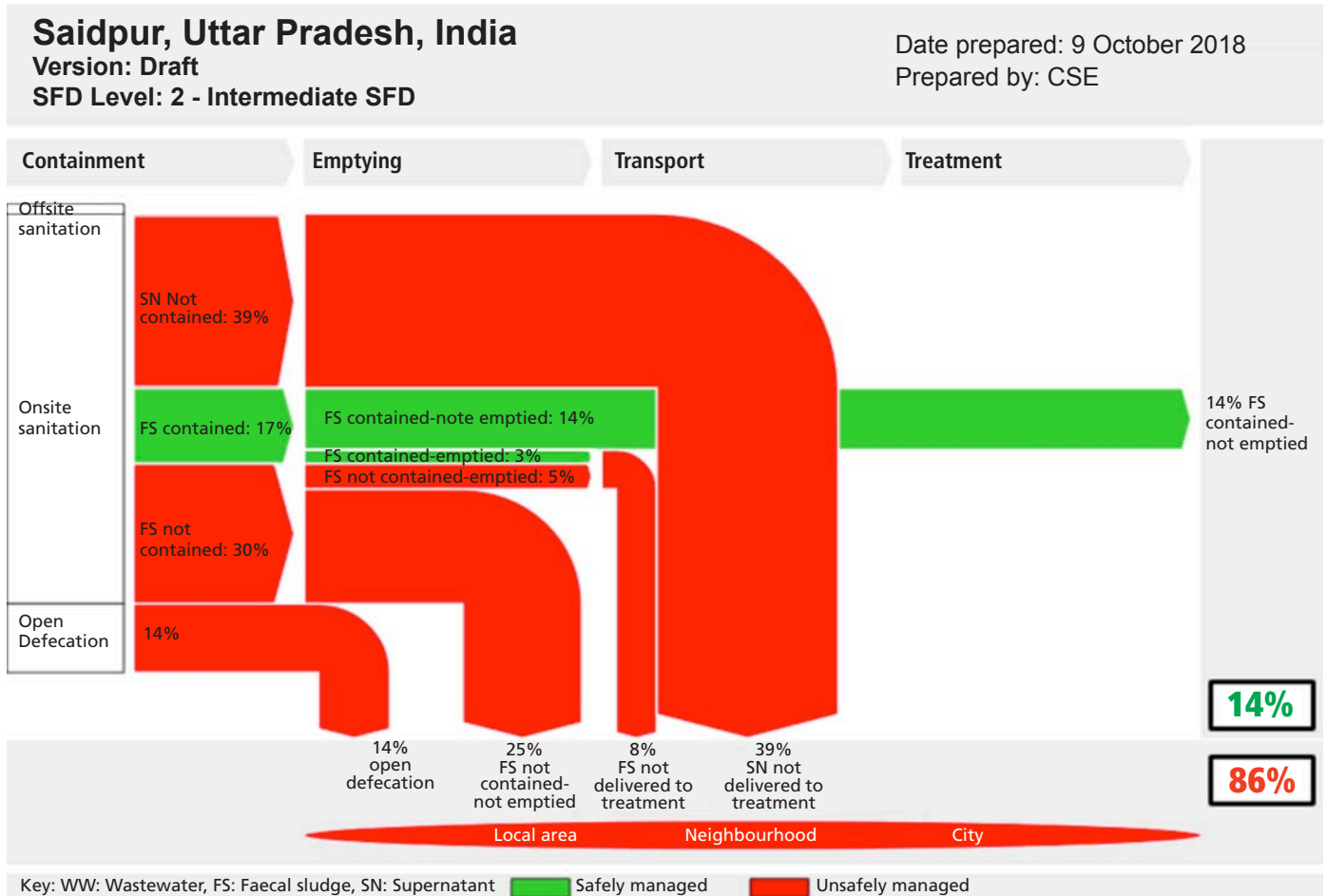
Municipal area: 5.21 sq.km.

Local government:

Saidpur Nagar Panchayat

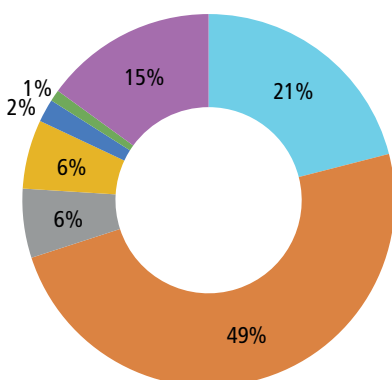
Saidpur is a town in Saidpur block in Ghazipur district of Uttar Pradesh State. It belongs to Varanasi division. It is located 43 km towards west from district headquarters Ghazipur.

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

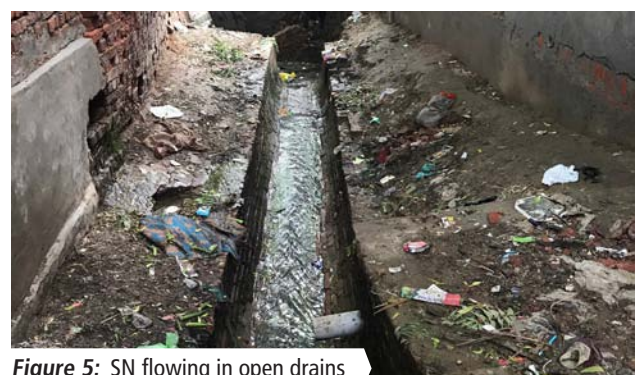


Figure 5: SN flowing in open drains

Source: Data collected by CSE team, October 2018



Location of city

Saidpur

SAMBHAL

CITY PROFILE

Population: 220,813

Municipal area: 15.65 sq.km.

Local government:

Nagar Palika Parishad, Sambhal

Sambhal is a city in Sambhal district of Uttar Pradesh, India. It is famous for its unique kinds of horn and bone craft items which are being exported. It was formerly named as "Bhimnagar". Sambhal is said to have flourished under the rule of Akbar but subsequently deteriorated in popularity when Akbar's son Shah Jahan was made in charge of the city.

SFD graphic

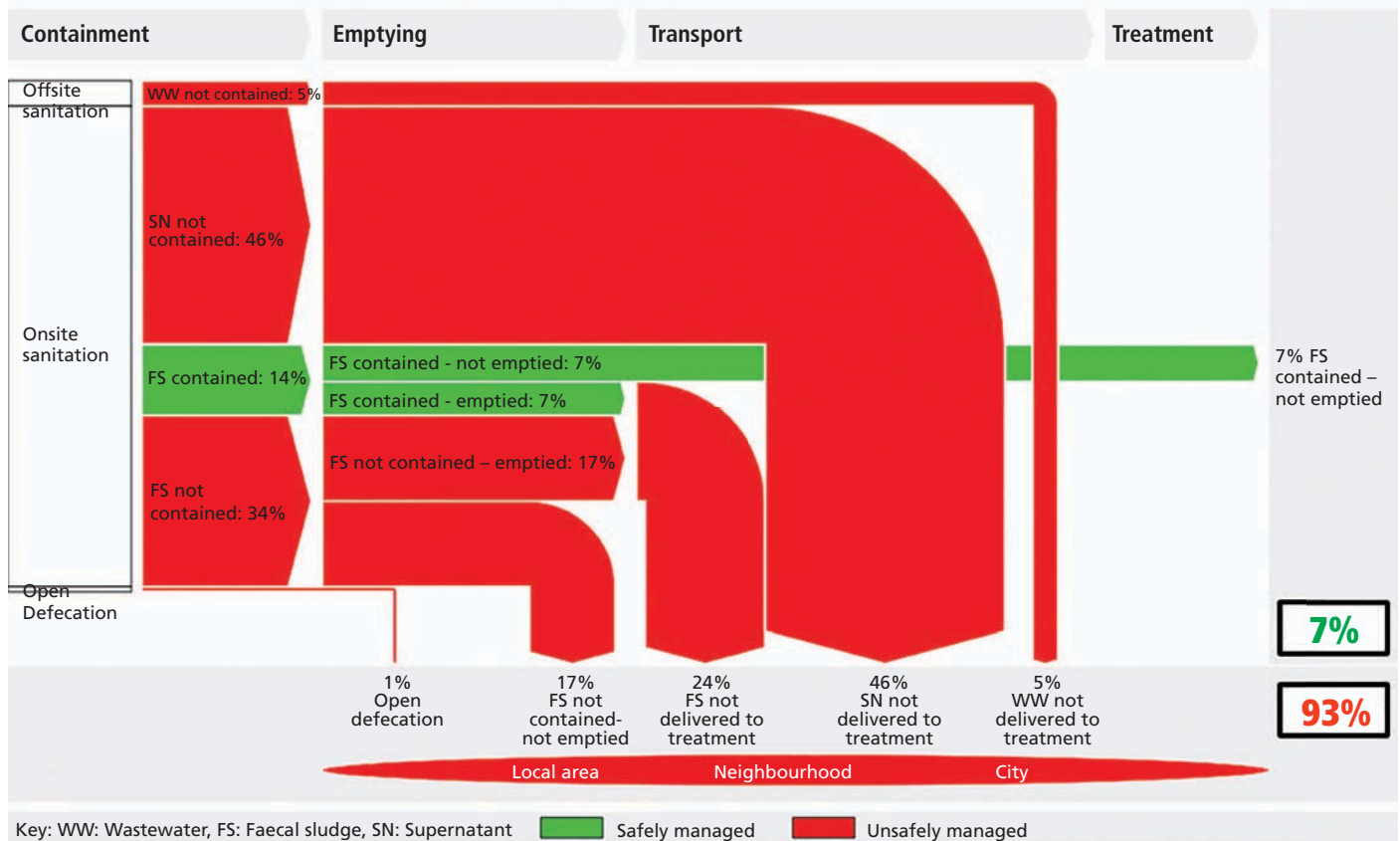
Sambhal, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

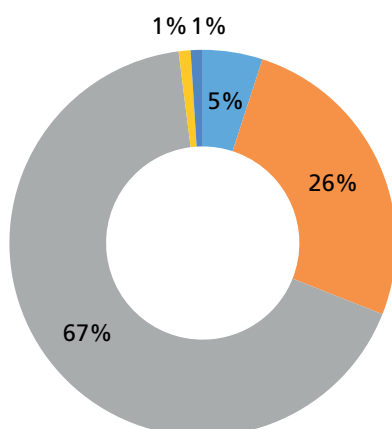
Date prepared: 12 October 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Unlined pit, 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	1	2
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,100	INR 1,000 - 1,200
No of manual emptiers	400 - 500	
Fee charged by manual emptiers	INR 3,000 - 5,000	



Figure 2: Emptying of septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	3	0
No of trips per tanker per day	1 - 2	NA
Capacity of vehicle	2,000 - 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	22 MLD	113 KLD
Treated	No	No
Designated disposal site	No	No

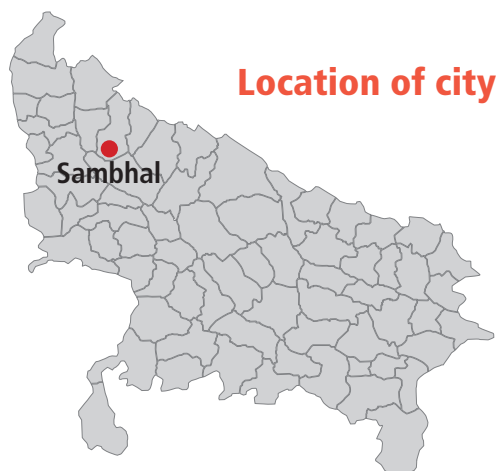


Figure 4: WW and SN flowing in the drain



Figure 5: Sewage of city reaching pond

Source: Data collected by CSE team, September 2018



Location of city

Sambhal

SHAHJAHANPUR

CITY PROFILE

Population: 341,225

Municipal area: 51.41 sq.km.

Local government:

Shahjahanpur Municipal Corporation

Shahjahanpur is a municipal corporation, town and district headquarters of Shahjahanpur district in Uttar Pradesh, India. Shahjahanpur town is also known as 'Shaheedon Ki Nagari' or 'Shaheed Gadh'. It is situated at the junction of two rivers, namely Khannaut and Garra.

SFD graphic

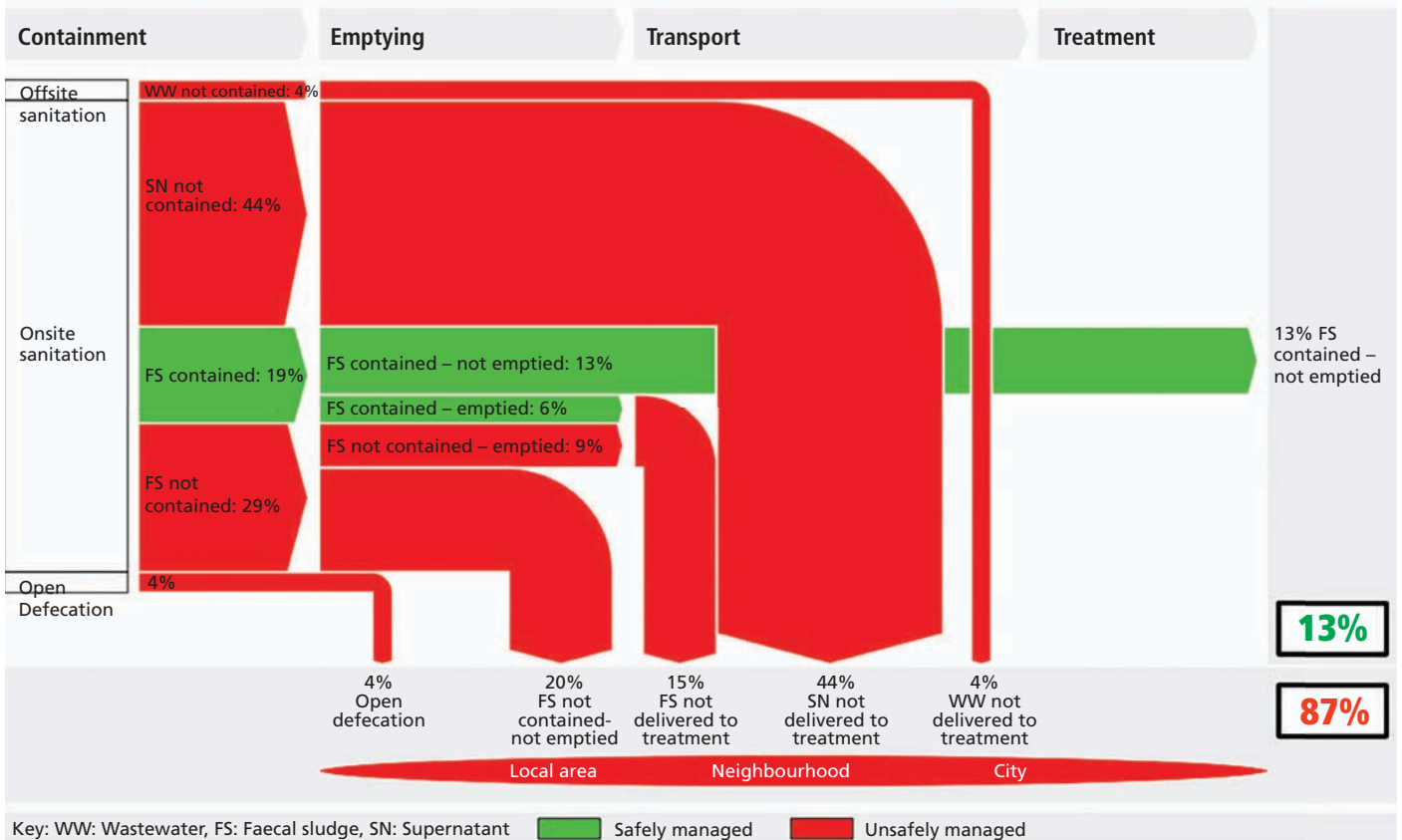
Shahjahanpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 9 October 2018

Prepared by: CSE



Service outcomes

Containment

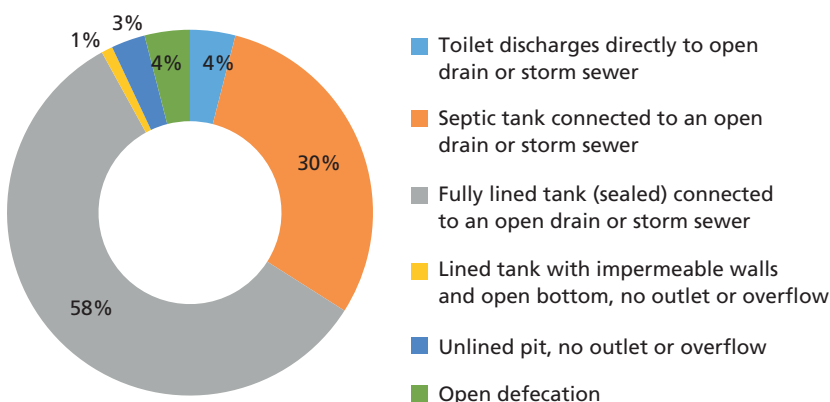


Figure 1: Three chambered septic tank of a household

Emptying

Service provided by	Government	Private operator
No of vehicles	2	0
Licensed / registered	Yes	NA
Record maintained	Yes	NA
Fee charged	INR 3,000	NA
No of manual emptiers	200	
Fee charged by manual emptiers	INR 1,000-15,00	



Figure 2: Government tanker emptying septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	2	0
No of trips per tanker per day	2	NA
Capacity of vehicle	3,000 liters	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	36 MLD	174 KLD
Treated	0 MLD	0 KLD
Designated disposal site	No	No



Figure 4: FS discharged in low lying area



Figure 5: Discharge of supernatant in open drain

Source: Data collected by CSE team, September 2018



Location of city

Shahjahanpur

SHAMLI

CITY PROFILE

Population: 118,650
Municipal area: 26 sq.km.
Local government:
 Shamli Nagar Palika Parishad

Shamli is a city and a district headquarter in the state of Uttar Pradesh in India. Shamli is a part of National Capital Region and is located along the Delhi–Saharanpur, Meerut-Karnal and Panipat-Khatima Highways. Shamli is also famous for old sugar mill called upper doab sugar mill.

SFD graphic

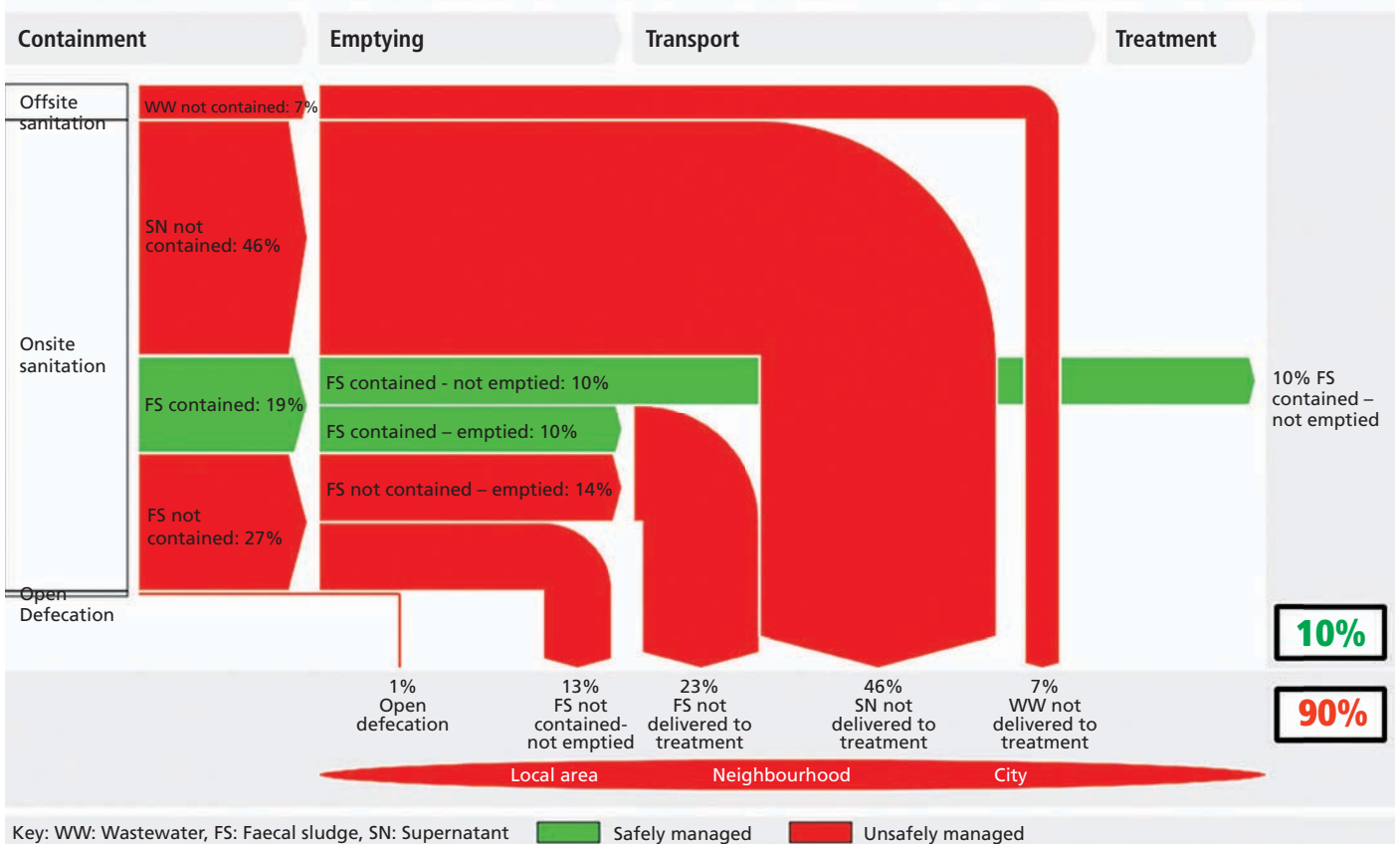
Shamli, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

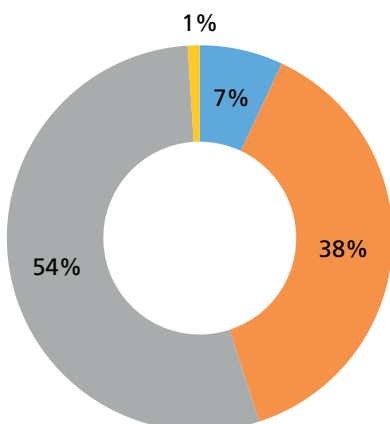
Date prepared: 1 November 2018

Prepared by: CSE



Service outcomes

Containment



- █ Toilet discharges directly to open drain or storm sewer
- █ Septic tank connected to open drain or storm sewer
- █ Fully lined tank (sealed) connected to an open drain or storm sewer
- █ Open defecation



Figure 1: Lined tank of a household under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	3
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 1,000	INR 1,000
No of manual emptiers	25-30	
Fee charged by manual emptiers	INR 1,200	



Figure 2: Opening cap of a tank for easy emptying

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	4	0
No of trips per tanker per week	4-5	NA
Capacity of vehicle	3,500 - 4,500 litres	NA



Figure 3: SN and WW transported via drain

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	Oxidation pond	NA
Generated	12.86 MLD	61 KLD
Treated	No	No
Designated disposal site	Open drain	Solid waste dumpyard



Figure 4: Designated FS dumping site



Figure 5: WW and SN flowing in nullah

Source: Data collected by CSE team, October 2018



SHIKOHABAD

CITY PROFILE

Population: 107,300

Municipal area: 8.48 sq.km.

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

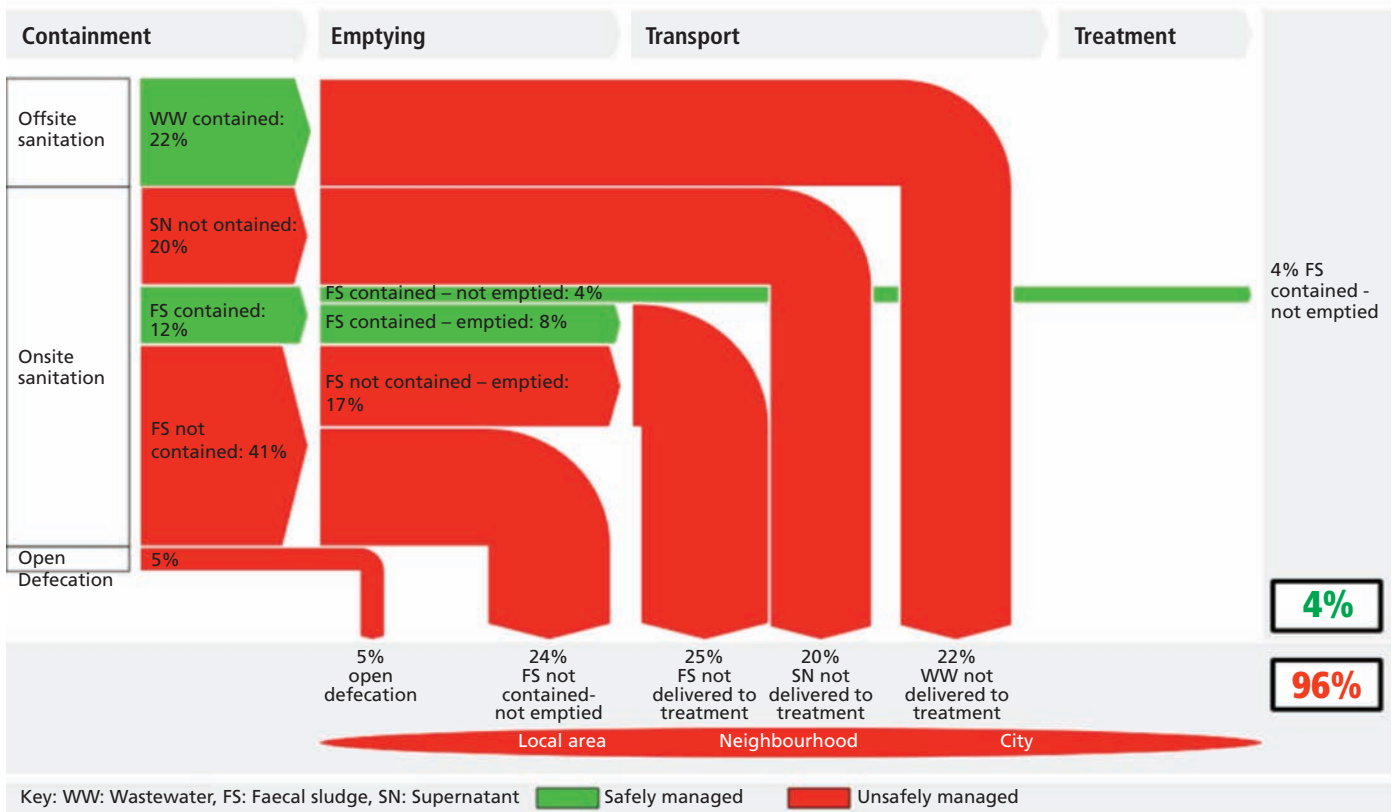
Shikohabad, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

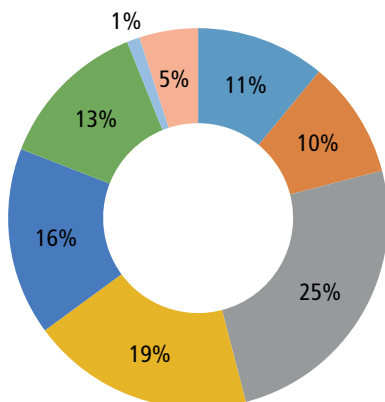
Date prepared: 14 Oct 2018

Prepared by: CSE



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



Location of city

SITAPUR

CITY PROFILE

Population: 177,234

Municipal area: 56 sq.km.

Local government:

Nagar Palika Parishad Sitapur

Sitapur is a city in Sitapur district in the state of Uttar Pradesh, India. The city is situated on the bank of river Sarayan. It is situated at a distance of 89 km. north-west from the state capital Lucknow by the national highway 24. Sitapur was established by the king Vikramaditya after the name of lord Ram's wife Sita.

SFD graphic

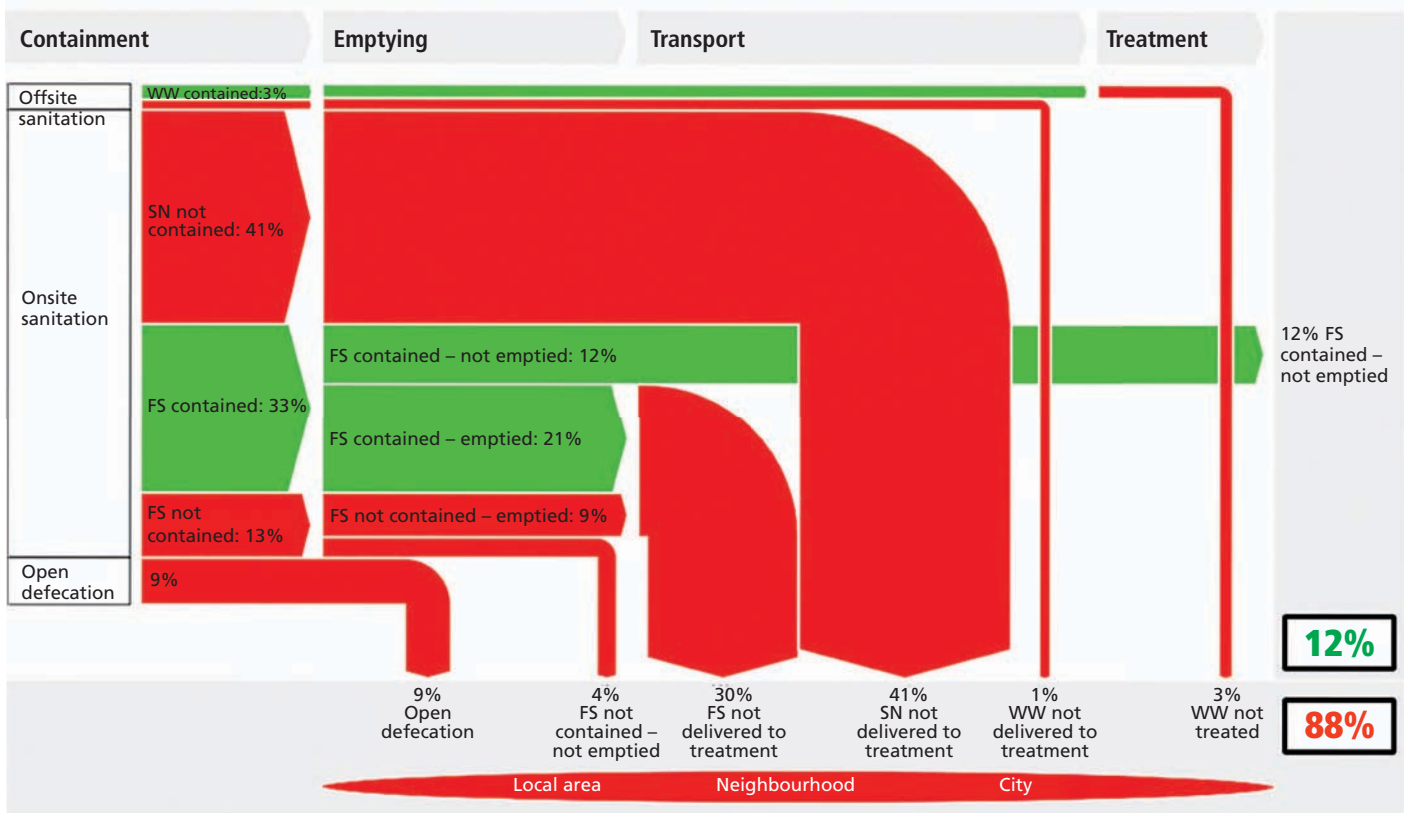
Sitapur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 25 October 2018

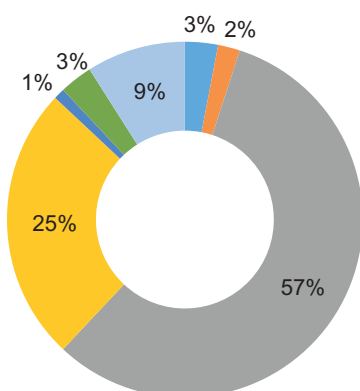
Prepared by: CSE



Key: WW: Wastewater, FS: Faecal sludge, SN: Supernatant Safely managed Unsafely managed

Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Lined tank with impermeable walls and open bottom, no outlet or overflow
- Unlined pit, 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	1	5
Licensed / registered	Yes	No
Record maintained	Yes	No
Fee charged	INR 500	INR 800 - 1,200
No of manual emptiers	30-40	
Fee charged by manual emptiers	INR 1,500-2,500	



Figure 2: Emptying of a septic tank

Transport

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



Figure 3: Government vehicle used for transport of FS

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	21 MLD	85 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged in low lying area



Figure 5: Untreated WW disposed in open ground

Source: Data collected by CSE team, September 2018



SULTANPUR

CITY PROFILE

Population: 107,640

Municipal area: 12 sq.km.

Local government:

Nagar Palika Parishad Sultanpur

Sultanpur is a city in Sultanpur district in the Indian state of Uttar Pradesh. Located on the right banks of the Gomti (a major tributary of the Ganga River) Sultanpur is the administrative headquarters of Sultanpur District and is a part of Ayodhya division. It is situated 135 kilometres east of state capital Lucknow.

SFD graphic

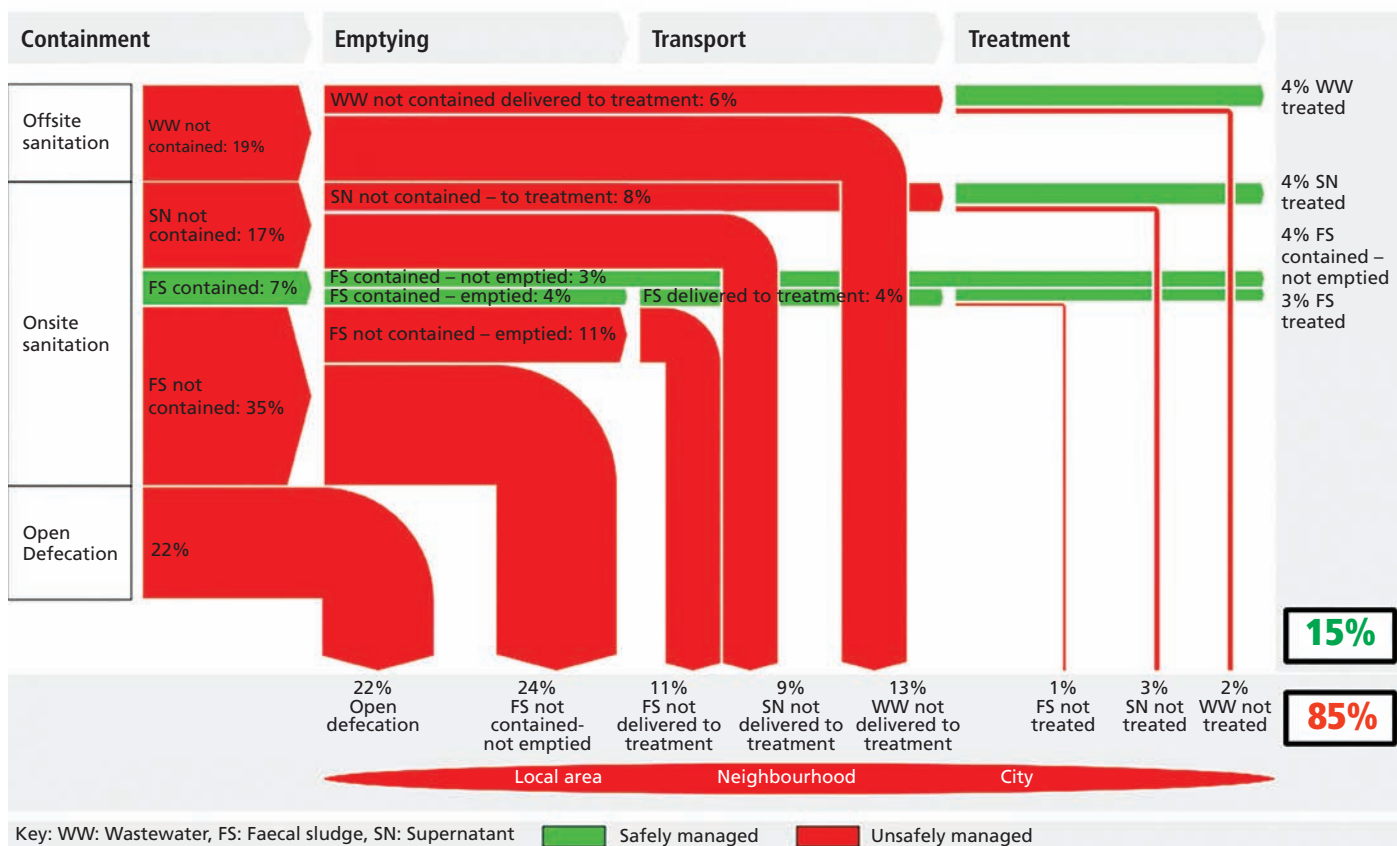
Sultanpur, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

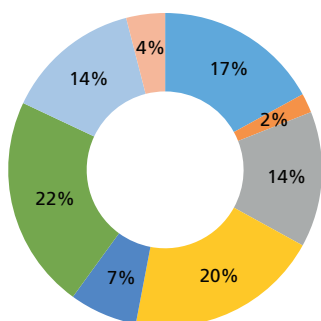
Date prepared: 25 September 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to open drain or storm sewer
- Toilet discharges directly to open ground
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to open ground
- Open defecation
- Septic tank connected to soak pit, where there is a 'significant risk' of groundwater pollution
- Lined tank with impermeable walls and open bottom, no outlet or overflow, where there is a 'significant risk' of groundwater pollution



Figure 1: Septic tank under construction

Emptying

Service provided by	Government	Private operator
No of vehicles	1	2
Licensed / registered	Yes	No
Record maintained	No	No
Fee charged	INR 1,000	INR 1,200-1,800
No of manual emptiers	250-300	
Fee charged by manual emptiers	INR 2,000-3,000	



Figure 2: Night soil disposed in open drain

Transport

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



Figure 3: Government vacuum tanker assembled locally

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	Yes	No
Type of facility	Oxidation pond	NA
Generated	12 MLD	35 KLD
Treated	4.65 MLD	No
Designated disposal site	River Gomti	River Gomti



Figure 4: Oxidation pond for treatment of WW



Figure 5: WW and SN flowing in nullah



Location of city

Sultanpur

CITY PROFILE

Population: 177,658

Municipal area: 21.5 sq.km.

Local government:

Unnao Nagar Palika Parishad

Unnao is the headquarters of Unnao district in Uttar Pradesh, India. The city is famous for its leather and chemical industries. Unnao is a large industrial city with three industrial suburbs around it. The town is situated at the bank of the Sai river.

SFD graphic

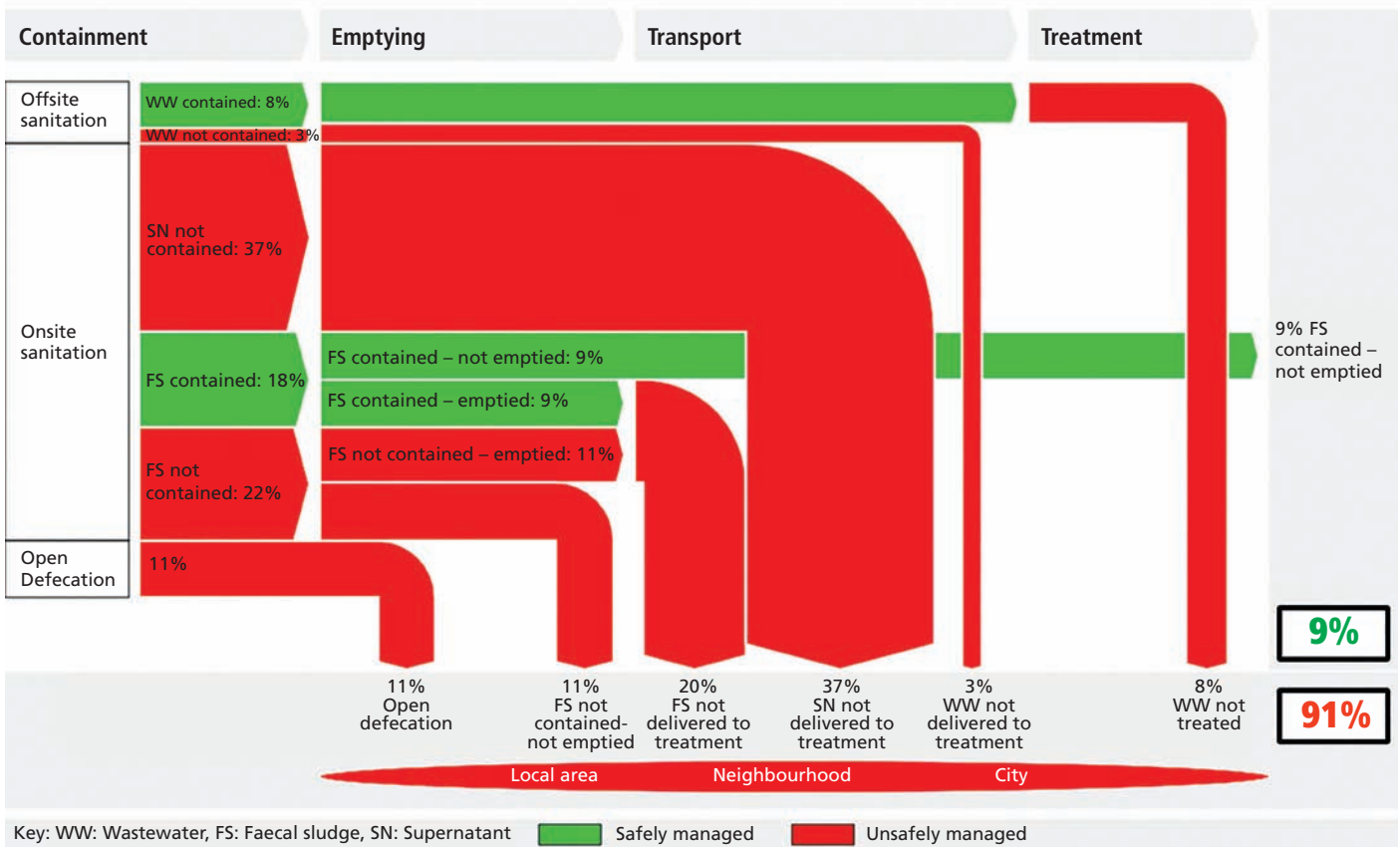
Unnao, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

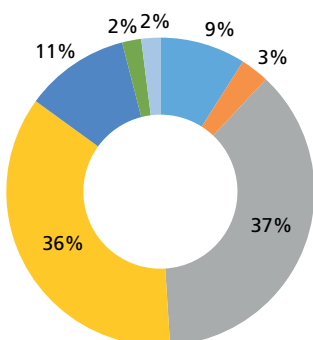
Date prepared: 21 August 2018

Prepared by: CSE



Service outcomes

Containment



- Toilet discharges directly to a centralised foul/separate sewer
- Toilet discharges directly to open drain or storm sewer
- Septic tank connected to an open drain or storm sewer
- Fully lined tank (sealed) connected to an open drain or storm sewer
- Open defecation
- Lined tank with impermeable walls and open bottom, no outlet or overflow, where there is a 'significant risk' of groundwater pollution
- Unlined pit, no outlet or overflow, where there is a 'significant risk' of groundwater pollution



Figure 1: Septic tank under construction

Emptying

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



Figure 2: Emptying of a public toilet septic tank

Transport

Type of vacuum tanker	Tractor mounted	Truck mounted
No of vehicles	7	0
No of trips per tanker per week	1	NA
Capacity of vehicle	5,000-6,000 litres	NA



Figure 3: Govt. tractor mounted vacuum tanker

Treatment and disposal

Type of waste	Sewage	Faecal sludge
Treatment facility present	No	No
Type of facility	NA	NA
Generated	21.98 MLD	76 KLD
Treated	No	No
Designated disposal site	No	No



Figure 4: FS discharged in solid waste dumping site

Source: Data collected by CSE team, August 2018



Location of city



Figure 5: Night soil disposed in nullah

VARANASI

CITY PROFILE

Population: 11,98,491

Municipal area: 82.1 sq.km.

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

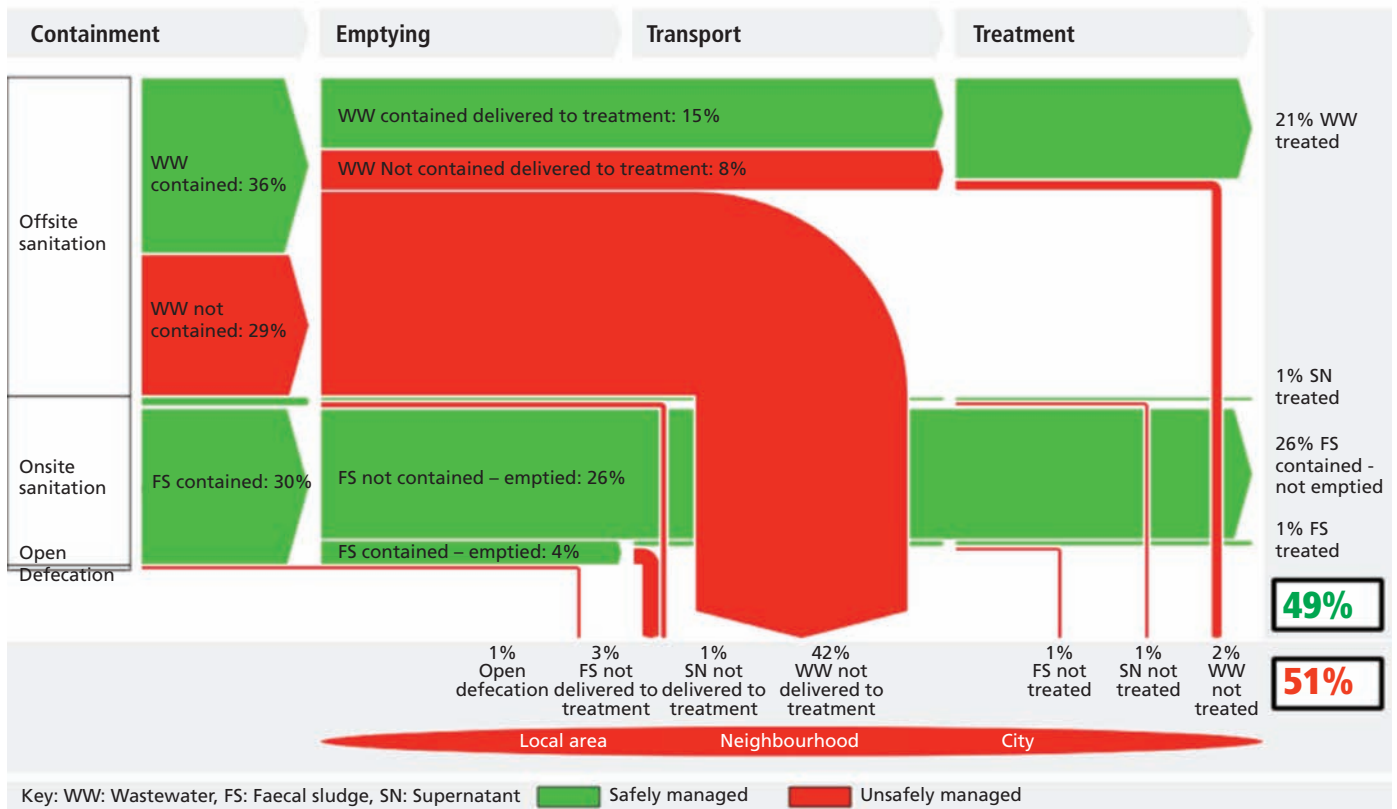
Varanasi, Uttar Pradesh, India

Version: Draft

SFD Level: 2 - Intermediate SFD

Date prepared: 12 Oct 2018

Prepared by: CSE



Service outcomes

Containment

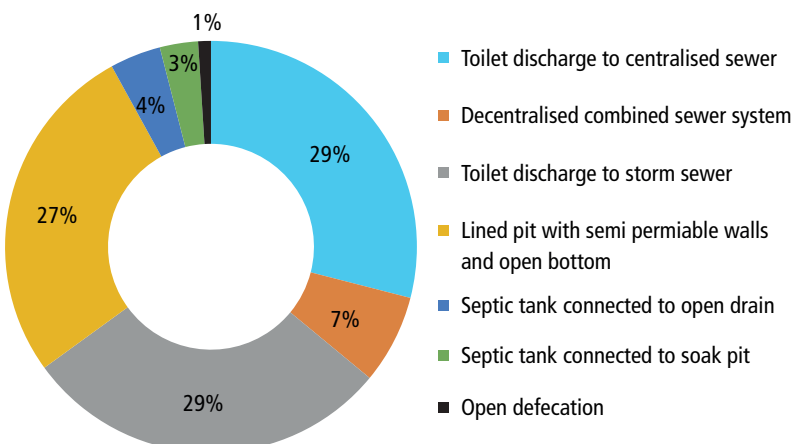


Figure 1: Septic tank of a toilet

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



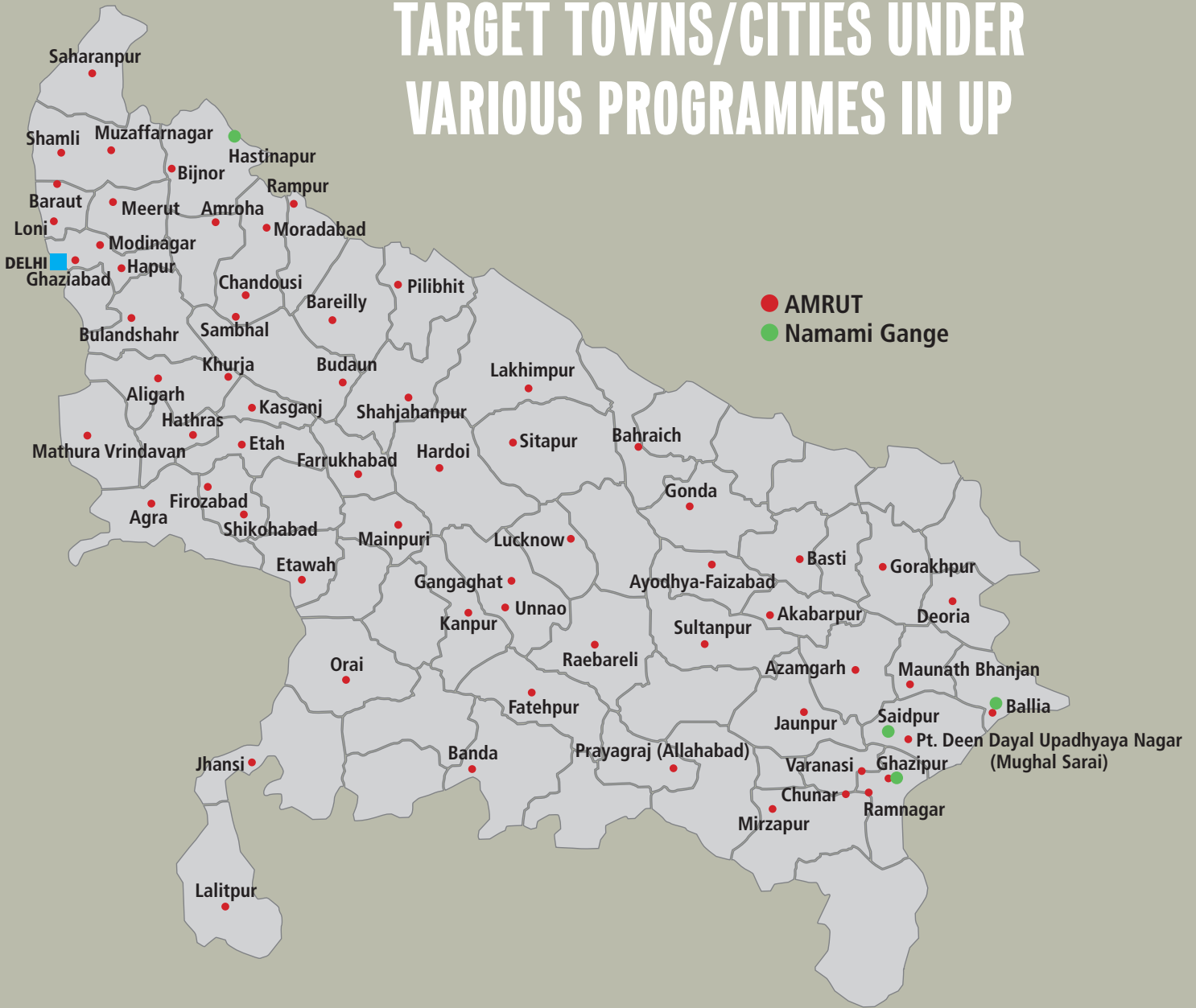
Location of city

Varanasi



Figure 5: Discharge of FS and WW into River Ganga

TARGET TOWNS/CITIES UNDER VARIOUS PROGRAMMES IN UP



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