



WORKSHOP ON FAECAL SLUDGE AND  
SEPTAGE MANAGEMENT (FSSM) IN  
UTTAR PRADESH

**Current Status and Future Pathways: The  
Journey towards City-wide Inclusive Sanitation**

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Jhansi Municipal Corporation

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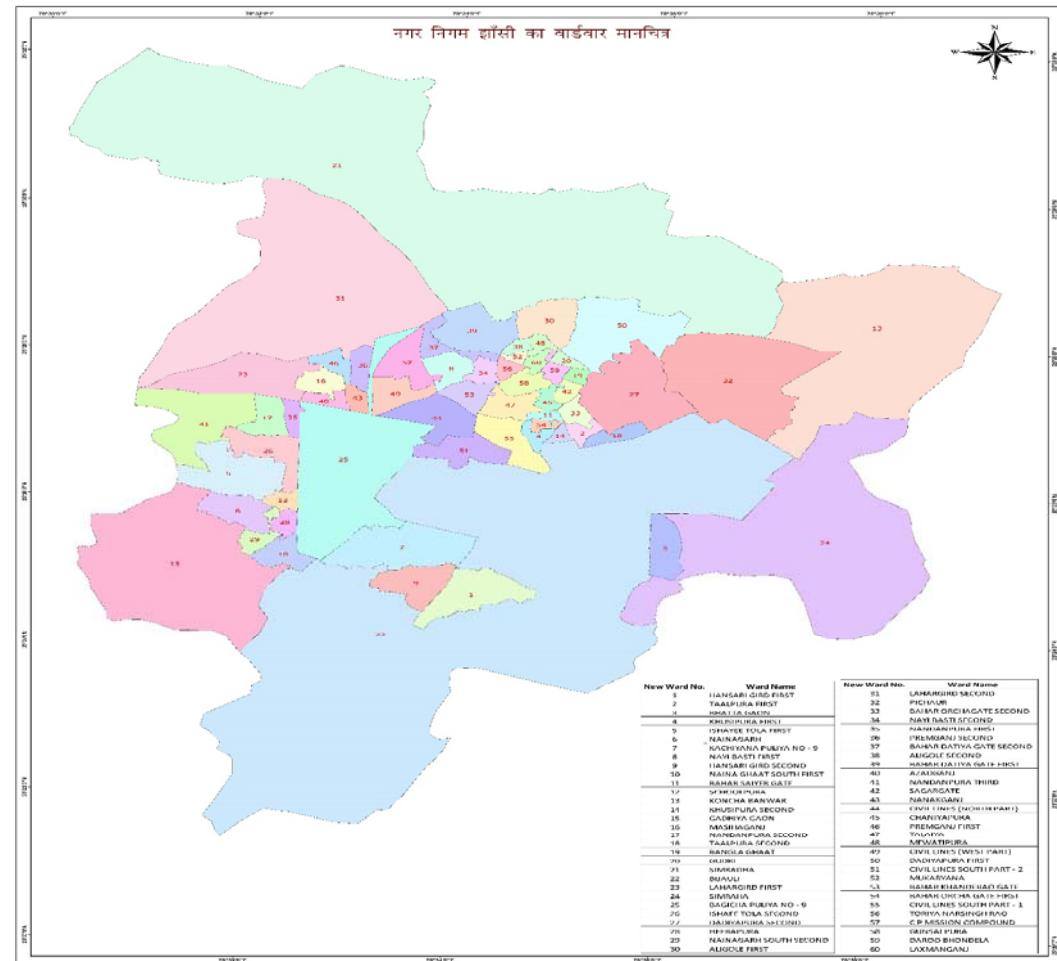
**Date: July 29, 2022**

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**JHANSI MUNICIPAL CORPORATION**

# JHANSI: AN OVERVIEW & CITY PROFILE

<b>Population (As per - 2011 Census)</b>	<b>505693 (current 660000 approx.)</b>
<b>Total Area</b>	<b>159 Sq.Km</b>
<b>Total Ward</b>	<b>60</b>
<b>Literacy Rate</b>	<b>75.05</b>
<b>No Of Household</b>	<b>1,24,359 Approx.</b>
<b>No of Household Toilets</b>	<b>1,05,706 Approx.</b>
<b>No. of CT/PT Toilet</b>	<b>57</b>





# 18 KLD Faecal Sludge Treatment Plant Jhansi





## Highlights of FSTP

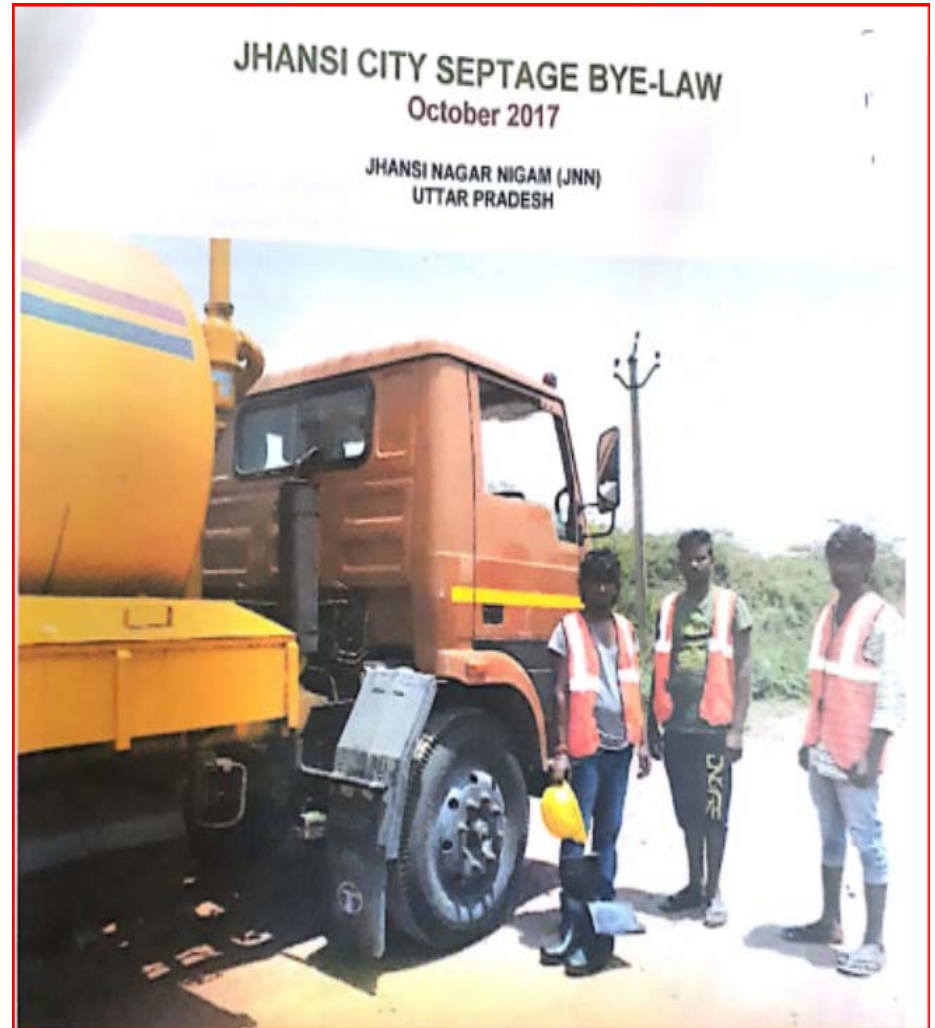
- ❖ This plant is India's 3rd and Uttar Pradesh's 1st FSTP, which works by biological method (priority given to nature based systems) in which electricity, fresh water, chemical is not used for treatment, which can operate continuously for 24 hours.
- ❖ In March 2019, the plant was given the “Best Innovation Award in Swachh Survekshan 2019 ”.
- ❖ Helped to get Jhansi city ODF ++ ULB and secured 3<sup>rd</sup> Position In **Swachh Survekshan 2018** in Uttar Pradesh.
- ❖ 50 Lakh L Of Faecal Sludge treated Per Year.
- ❖ Total FS Treated : 121.5 Lac Litter FS Treated till Date .
- ❖ 100 Metric Tones of nutrient rich bio solids being generated per year.
- ❖ Recycling more than 3 million litres of water every year.
- ❖ Plant has received ISO 14001:2015 Environmental Management System Award
- ❖ India's one of the few FSTP plants where co-compost unit has been installed. **Re-use:** The purified water and manure on the plant is poured into the corporation's garden and trees on the divider.

## Highlights of FSTP

- ❖ Bill & Melinda Gates Foundation has made a video documentary on this plant with the help of CSE New Delhi
- ❖ National Institute of Urban Affairs(NIUA) Government of India and TERI has done 3 day training of engineers of various local bodies of Uttar Pradesh at the plant.
- ❖ Testing of treated water and manure is monitored by CSE New Delhi
- ❖ Till date more than 5000 civil body officials have visited the plant including U.P. Urban Development Principal Secretary Shri Manoj Kumar sir who also praised the working of the plant during his visit.

## Milestone

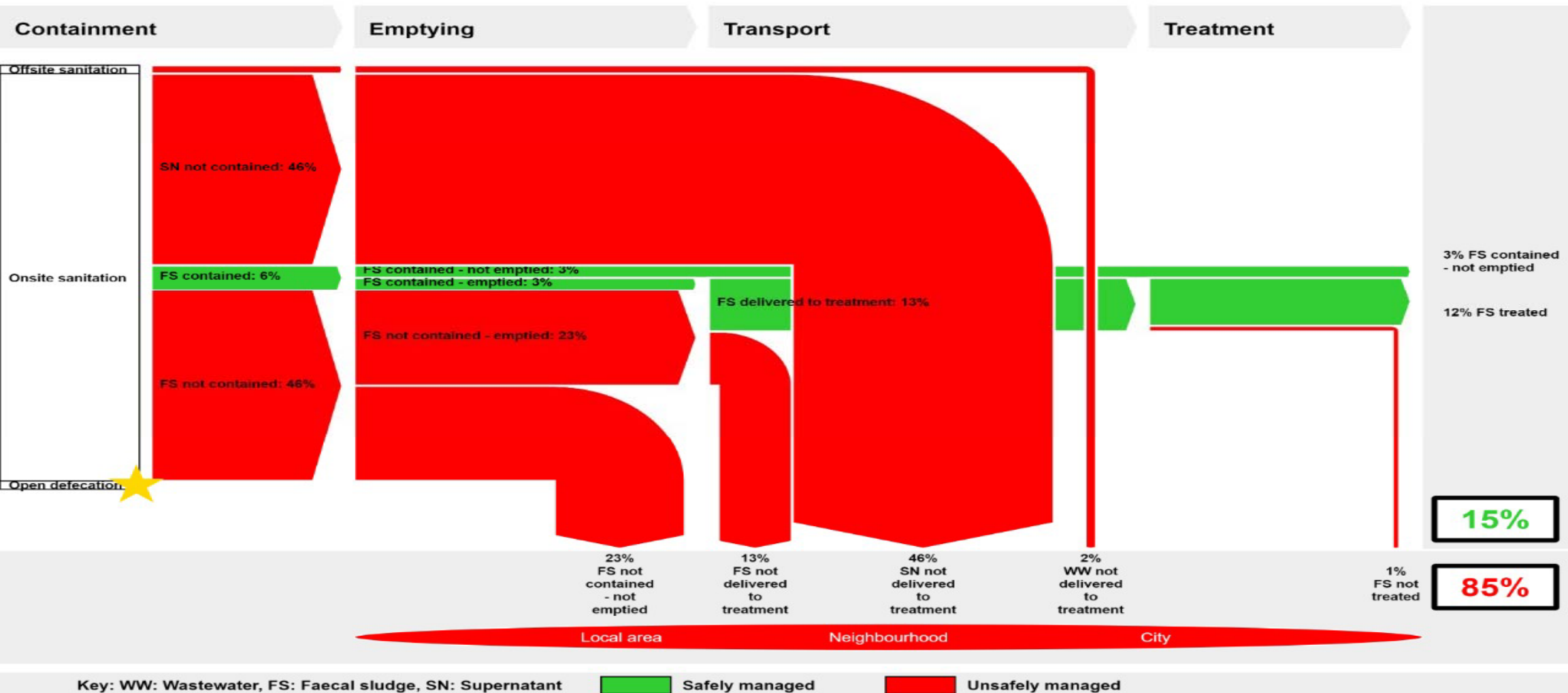
- ❖ In Feb'2017, Municipal Commissioner of Jhansi participated in training program of FSSM in Bangalore
- ❖ Preparation and finalization of DPR by CDD Bangalore and RCEUS in 2017 and identification of land.
- ❖ Consequently, In Oct'2017, Drafting of FSSM Bye-laws and construction of FSTP.
- ❖ In April 2018, the plant is operational (6 KLD)
- ❖ In March 2021, another plant is operational ( 12 KLD)



# SHIT FLOW DIAGRAM 2020

Jhansi, Uttar Pradesh, India  
Version: Draft  
SFD Level: SFD Lite

Date prepared: 25 Feb 2020  
Prepared by: CSE, India



The SFD Promotion Initiative recommends preparation of a report on the city context, the analysis carried out and data sources used to produce this graphic.  
Full details on how to create an SFD Report are available at: [sfd.susana.org](http://sfd.susana.org)

# FSM GAP IDENTIFICATION

From the above situation analysis, gaps across the sanitation value chain as well as in the management framework can be highlighted as mentioned in the table below:

	1.User Interface	2.Storage	3.Transport	4.Treatment	5.Reuse
<b>Current Situation</b>	Toilets connected to pits/septic tanks or in some instances directly to open drains	The Containment systems a mostly septic tanks .	The ULB doesn't own a desludging truck, the people mostly depend on private desludging operators. High time requirement for desludging.  No protocols or regulation on O&M or safety regulation	Partial digestion in septic tank. Direct disposal in the open.	No usage of raw faecal sludge
<b>Corrective Measures</b>	Toilets have to be connected to scientifically designed septic tanks/pits	Training of masons for scientific construction of Septic tanks.  Build a awareness regarding improper design and operational procedures	ULB to provide desludging services by buying appropriate desludging vehicle to access majority of the lanes in the town. Training for desludging service providers to scientifically empty septic tanks. Post construction of treatment plant, ensure disposal only happens in the treatment Plant.	Build a faecal sludge treatment plant to effectively treat all the Faecal sludge collected in the town	Spread awareness on us age of end product and elimination of stigma regarding usage of treated faecal sludge. Trainings for farmers using wastewater for safer reuse of treated wastewater and discourage use of raw wastewater



## No. of Faecal Sludge Treatment Plant in Jhansi

S.N.	FSTP Name & Location	Capacity	Technology	Capex	Opex	Status
1	FSTP Bijoli	6 KLD	Biological System DEWATS	200 Lacs	24.0 Lacs	Working
2	FSTP Bijoli	12 KLD	Biological System DEWATS	307 Lacs	24.0 Lacs	Working
3	FSTP Mary Village, Kanpur Road.	32 KLD	Secondary treatment ABR (Anaerobic baffled reactor) and tertiary treatment wet land	521 lacs	125.0 Lacs	Under- Construction
<b>Total</b>		<b>50 KLD</b>		<b>1028 Lacs</b>	<b>180.2 Lacs</b>	

## Faecal Sludge Generated in Jhansi

S.No	No of Household in the Jhansi City	per Year Per capita Faecal Sludge Generated	Total Faecal Sludge Generated in 3 Year	Total Faecal Sludge Generated per day
1	1,24,359	0.273 KL	136173 KL	124.359 KLD

Note – Average 0.250 LTS per day per capita generated  
Household size 04 Members

## Last Three Month - FSTP Data

Month	Nos Of Household Septic Tank Clean in Vacuum Truck	Nos of Trip	Capacity of Vehicle	Total Faecal Sludge Collected & Treated	Waste Water Treated	Compost generation
April' 22	61	90	8000 LTS	388000 LTS	349200 LTS	13560 KG
May' 22	82	116	8000 LTS	456000 LTS	410400 LTS	13680 KG
June' 22	67	118	8000 LTS	452000 LTS	406800 LTS	11640 KG

Note – 2 faecal sludge collecting vehicles currently operational with total capacity of 8000 L

**Collection**

1



**Transportation**

2



**PLANTED DRYING BEDS**

3



**Polishing Pond**

6



**Planted Gravel Filter**

5



**Dewats**

4





## Co- Composting Unit



## Compost & Treated Water Re-used In Nagar Nigam Garden/ Dividers





## Workshop & Plant visit



**TERI Team Visit & Training At FSTP Jhansi**



**Shri Manoj Kumar, Principal Secretary, Uttar Pradesh**



**Shri Mritunjay Singh, Additional Director, SBM, Uttar Pradesh**



**Commissioner of Gwalior Municipal Corporation**

## Workshop by National Institute of Urban Affairs







**Best city in Innovation & Best Practices  
Award in Swachh Survekshan 2019**



## ISO Certification



**Award - Best Innovative Technology from  
Hon. C.M. Shri Yogi Adityan Ji On  
25.12.2018**





## IEC Activities



## Media Coverage



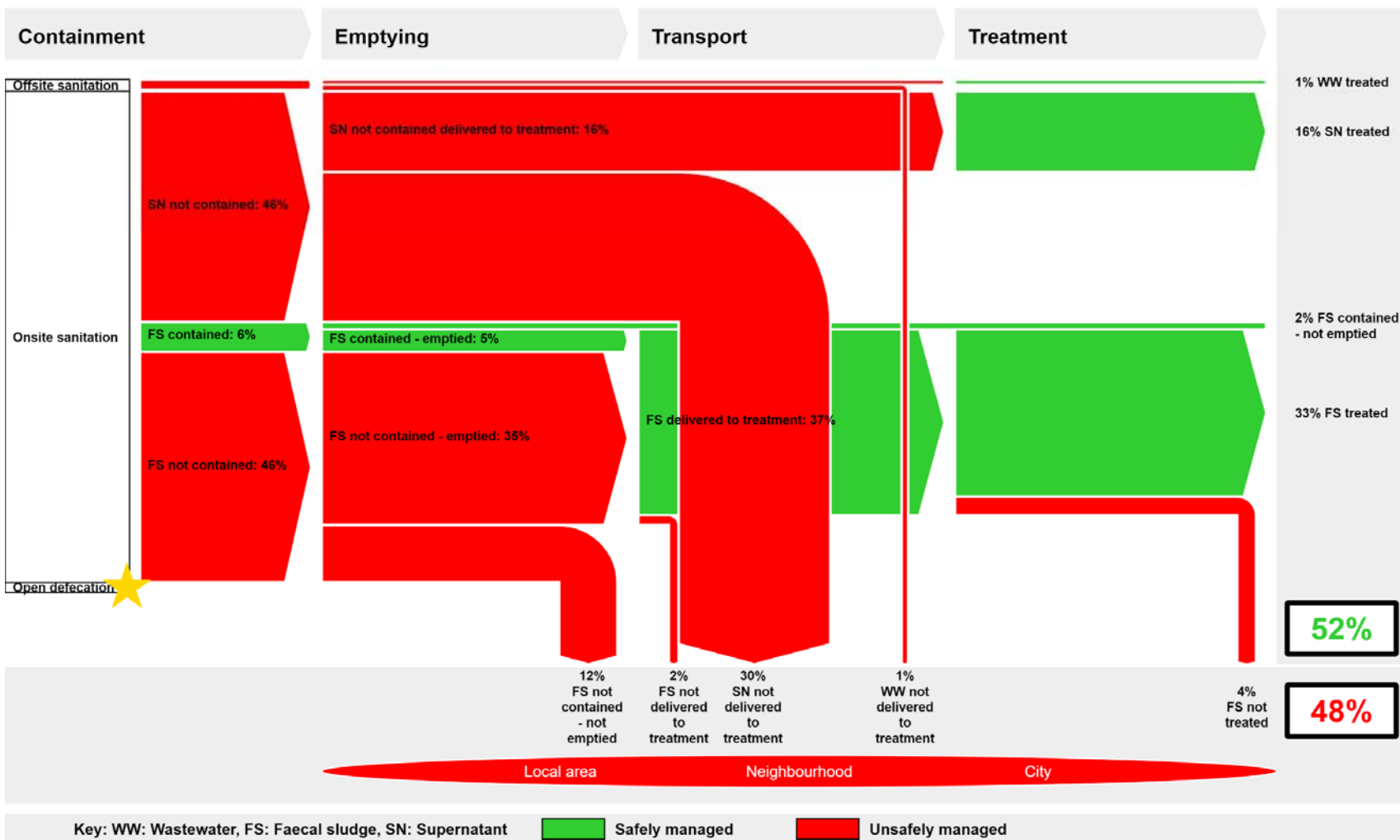
## Challenges

- ❖ Limited public awareness as well as those masons to design and construct septic tanks as per standard guidelines.
- ❖ Lack of public awareness for emptying septic tank at every 3 years,
- ❖ During installation of plant, the people of the area protested due to concern of stink around.
- ❖ General practice of public to get septic tank emptied by sanitary workers who used to drain septage into the drains which cause serious hazardous issues.
- ❖ Lack of adequate number of vehicles which could enter narrow streets of the city.
- ❖ Resistance to pay fees as per norms for cleaning of septic tank

# Jhansi, Uttar Pradesh, India

Version: Draft  
SFD Level: SFD Lite

Date prepared: 28 Jul 2022  
Prepared by: Jhansi Municipal Corp.



1. The current SFD is desk based. The wastewater reaching to 26MLD STP is incorporated in the this graphic. This wastewater is equivalent wastewater of 35% population of Jhansi.
2. Hence, with upcoming 26 MLD STP and 32 KLD FSTP we will reach new heights in waste water and septage management.
3. Treated wastewater is being reused at Narayan Bagh (public garden)

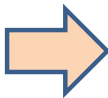
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## Way Forward

- ❖ 32 KLD project approved cost Rs. 521.33 lakh is being implemented in Mary village near Sanfran City on Kanpur Road
- ❖ Currently under construction FSTP is based on Secondary treatment ABR (Anaerobic baffled reactor), it would be operational in November 2022.
- ❖ Publishing of by-laws along with IEC activities to ensure emptying of septic tanks of households at every 03 years.
- ❖ Provision of heavy penalties on act of improper septage disposal/Draining-off septage in to open area or drains.
- ❖ Finding scope of making FSSM self sustainable / profitable.
- ❖ Training of masons for construction of standard septic tanks
- ❖ Procuring vehicles which could lead to collection of septage from narrow streets as well.

32 KLD FSTP –  
Under  
Construction



**THANK YOU**

