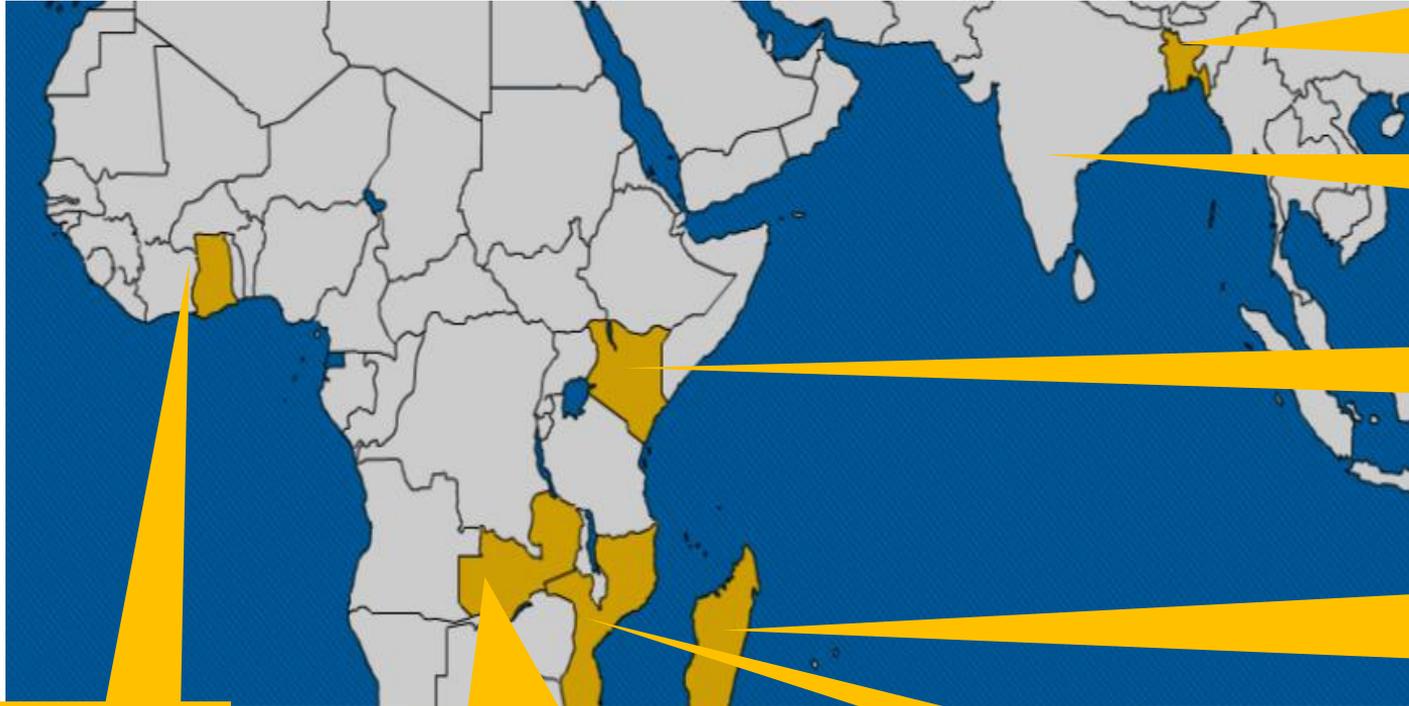




Citywide Coordination & Regulation of Septage Management Services - Opportunities in Vizag, India

Presenter - Akhilesh Gautam, Sam Drabble, Georges Mikhael

Water & Sanitation for the Urban Poor



BANGLADESH
City-level utility adopting low-income unit into core operations

India
Capacity Building for Swachh Bharat Mission - Urban

KENYA
Pro-poor KPI developed and adopted by national regulator for utility benchmarking

MADAGASCAR
National utility replicating successful water service delivery models and water loss reduction programme at city and national scale

GHANA
Holistic approach to mobilising public & private investment in sanitation

ZAMBIA
FSM model adopted in National Urban Sanitation Strategy

MOZAMBIQUE
Equitable sanitation tariff for capital city developed for National Regulator



Visakhapatnam

681 sq.km Geographical spread

No of Wards **72**

2.09 Million Population

Population estimates for year 2016

Slum Population **0.8 Million**

WSUP in Vizag - Development of on “Open Defecation Free” strategy

Visakhapatnam ranked 5th position in Swachh Survekshan 2016 (National Sanitation Clean India Survey)

Visakhapatnam declared & certified as Open Defecation Free City

One of the few cities declared as Open Defecation Free



USAID
FROM THE AMERICAN PEOPLE



**Greater Visakhapatnam
Municipal Corporation
(GVMC)**

WSUP

ADVISORY

**Water and sanitation
for the Urban Poor**



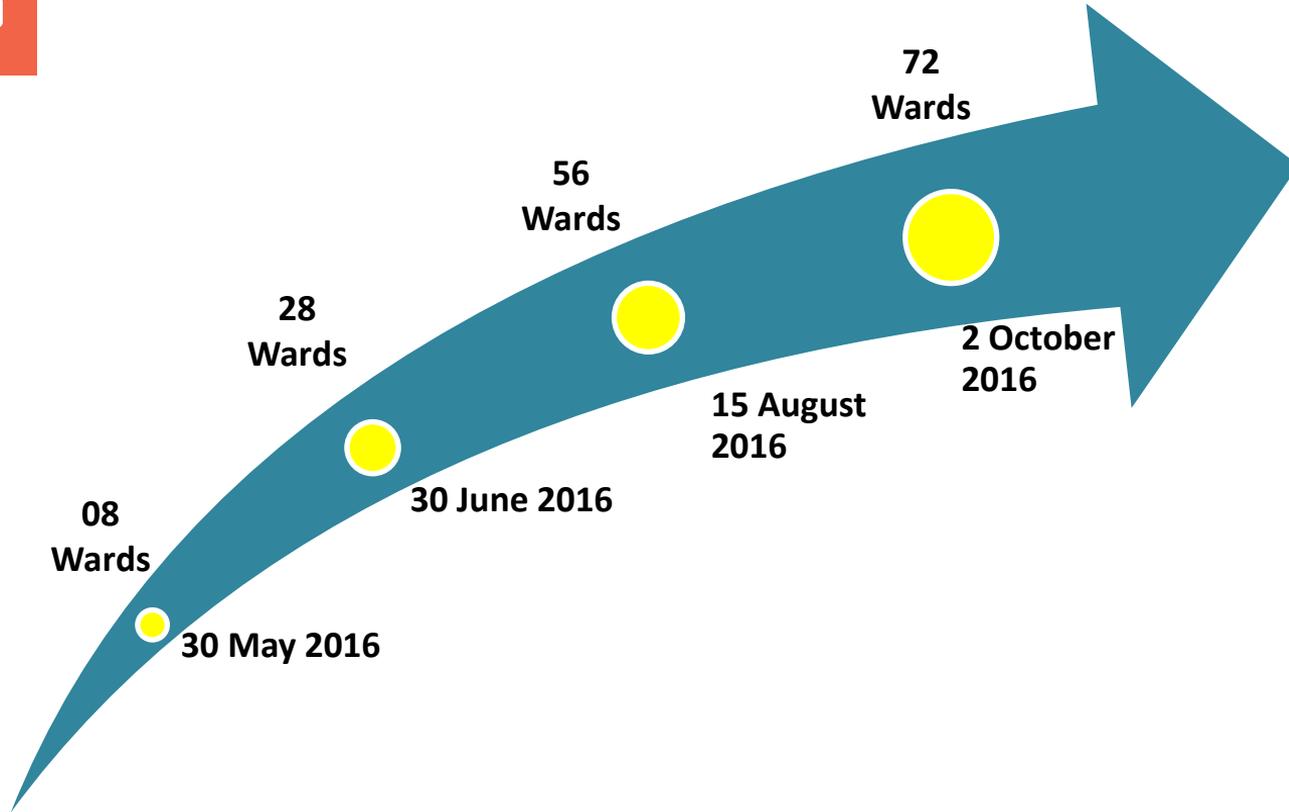
एक कदम स्वच्छता की ओर

**Swachh Bharat
Mission - Urban
SBM - U**



WSUP

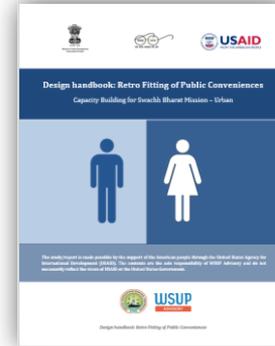
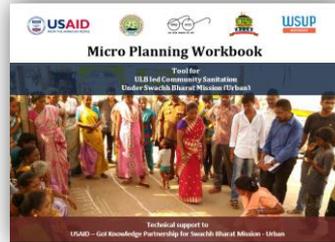
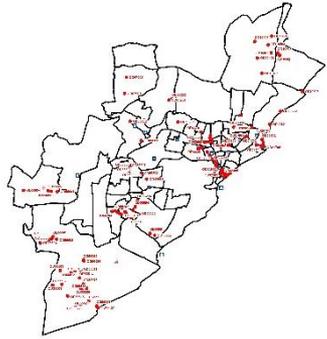
ADVISORY



Ward by Ward Universal Sanitation Access



ULB led Community Sanitation, Ward by Ward approach



Sanitation Mapping

Ward by ward approach

Microplanning Workbook

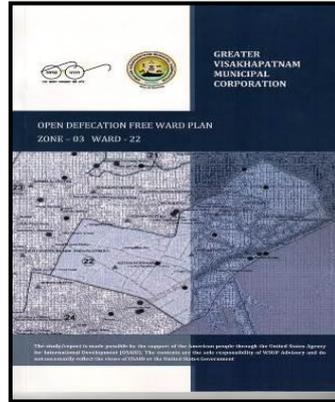
Retrofitting of Public Conveniences

Formation of Ward Committees

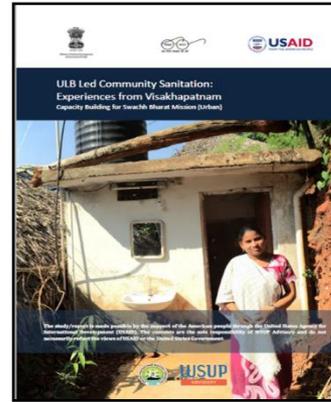
ULB led Community Sanitation, Ward by Ward approach



Universal Sanitation Accelerator (USA) App



Ward level ODF plan



ULB led Community Sanitation



ODF Swachh certification - protocol

WSUP

ADVISORY

By implementing Ward by Ward approach, Visakhapatnam reported as **Open Defecation Free city on 2nd October.**

After external verification it **certified and declared as Open Defecation Free city** in the first week of December 2016



The poster features a woman in a light blue saree with a floral pattern, standing against a white background. At the top, there is a logo of the Government of India and the Swachh Bharat Mission logo, which includes a pair of glasses and the text 'स्वच्छ भारत' and 'एक कदम स्वच्छता की ओर'. Below the logos, the text reads 'Ministry of Urban Development Government of India'. The main title 'SWACHH BHARAT MISSION' is in large blue letters. Below the title, it says 'Congratulations to the people of Visakhapatnam. The city has been declared **Open Defecation Free.**' At the bottom left, it says '#MyCleanIndia' and 'For more information, please call toll-free number **1969** or **1800111969** www.swachhbharaturban.in'. The poster has a decorative border with orange, green, and blue waves at the top and bottom.

स्वच्छ भारत
एक कदम स्वच्छता की ओर
Ministry of Urban Development
Government of India

SWACHH BHARAT MISSION

Congratulations to the people of Visakhapatnam. The city has been declared **Open Defecation Free.**

#MyCleanIndia
For more information, please call toll-free number **1969** or **1800111969**
www.swachhbharaturban.in

Evidence

- Sanitation mapping
- Faecal flow diagram

Planning

- ODF plan
- Universal Sanitation Accelerator
- Ward by ward approach

Institution

- Ward ODFCC
- ZSC
- CSTF

Community Empowerment

- Sadhimpu Campaign
- OD hotspot surveillance
- MPWB

Monitoring and Evaluation

- Real time monitoring of public conveniences – ICT based monitoring
- ODF Protocol

Citywide Coordination & Regulation of Septage Management Services in Vizag



Objective 1

Improve the **Quality** & **Affordability** of faecal sludge emptying services



Objective 2

Provide financially and technically **Viable** decentralized faecal sludge **Disposal, Treatment & Reuse Facilities**



Objective 3

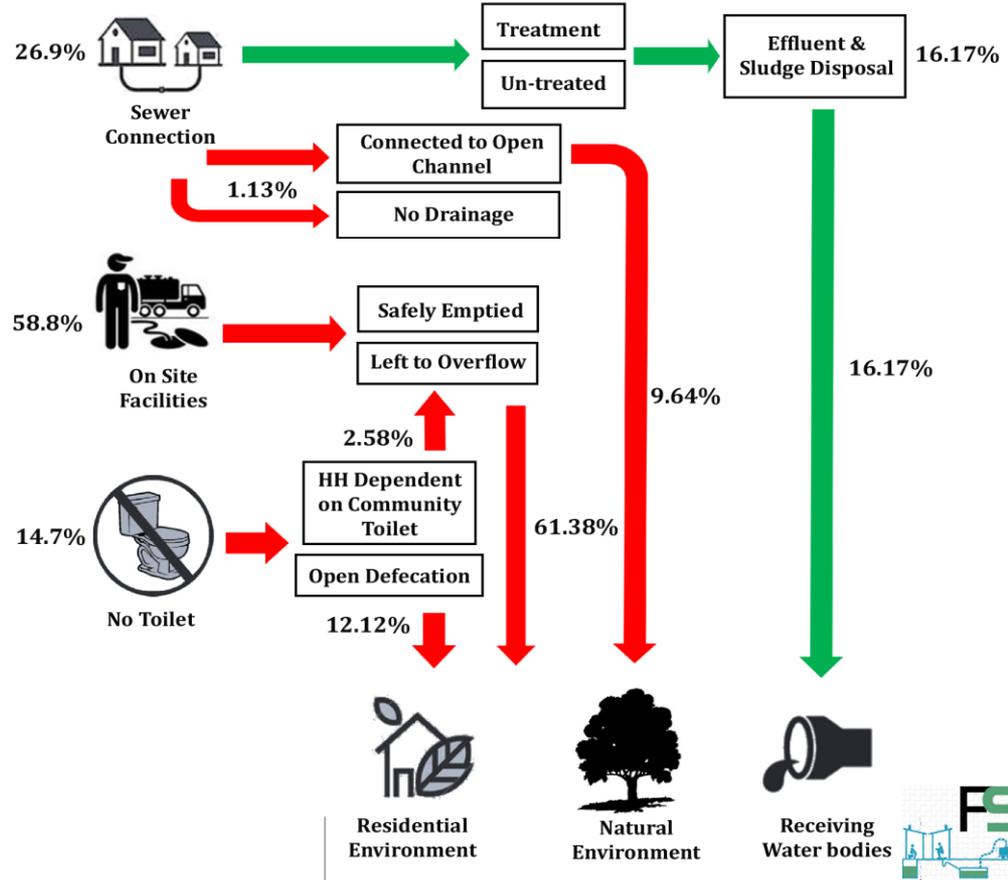
Enhancing the **Demand** and **Uptake** of **Desludging Services** through **“Ward Sanitation Committees”** constituted under Municipal body (GVMC)

Visakhapatnam Present scenario of Sewage & Septage

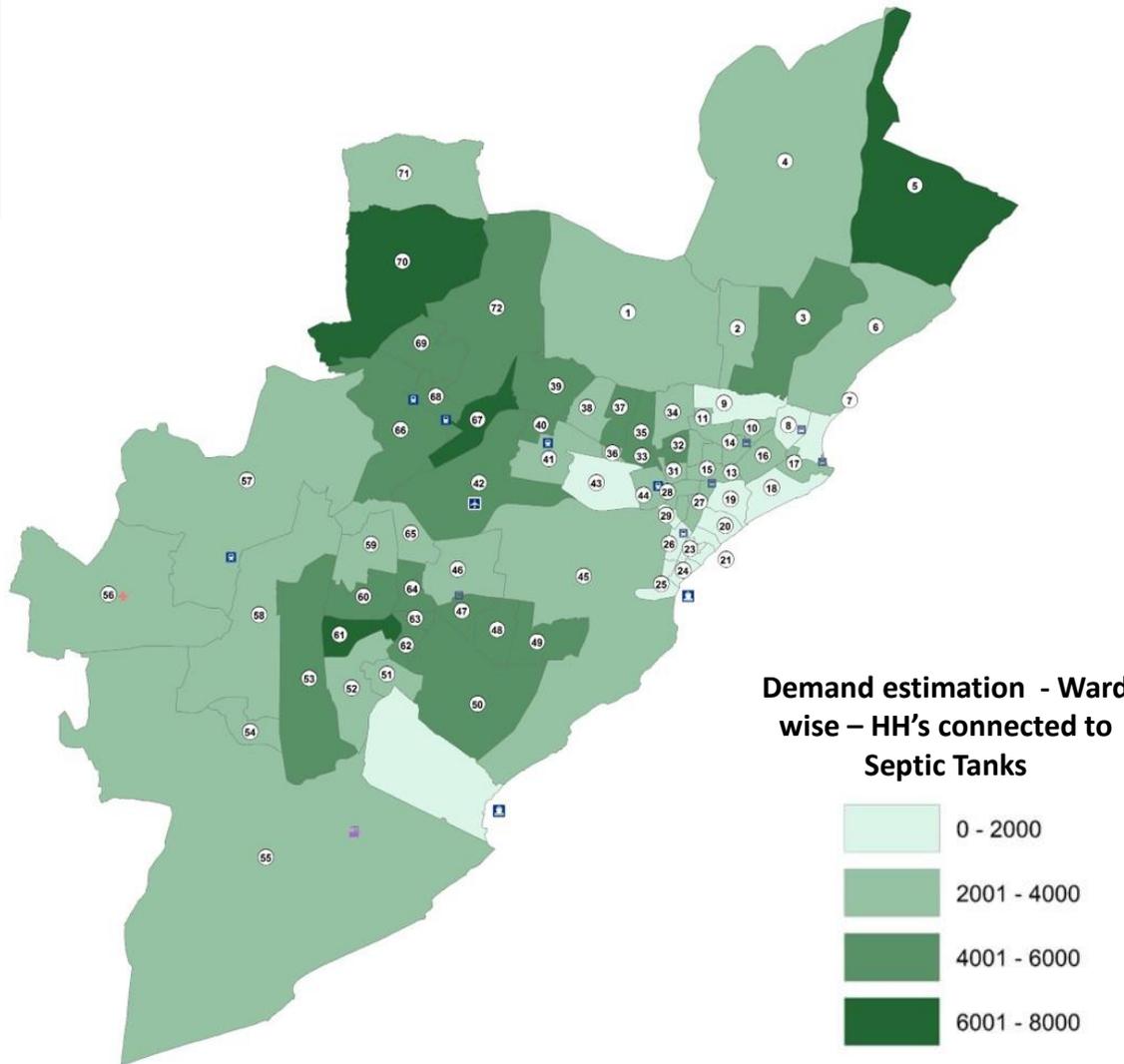
Around **59%** of HHs in Visakhapatnam have On site Facilities i.e septic tank & others

Around **84%** of septage goes untreated into the Environment

Faecal Flow Diagram City Level GVMC



Coverage of septic tank in Visakhapatnam



Vacuum Truck Operations in Vizag



Market Assessment

1.

~40% decrease in demand for Desludging services - due to increase in HH's Connections to Sewerage Network

2.

Supply grew astronomically due to availability of affordable financing for vacuum tankers as well as relatively cheap retrofitted vacuum tankers (\$15,000)

3.

Absence of Regulations - low efficiency and lack of affordable services to Households

4.

Unsafe disposal - Majority of VTO's dump in the open drains

5.

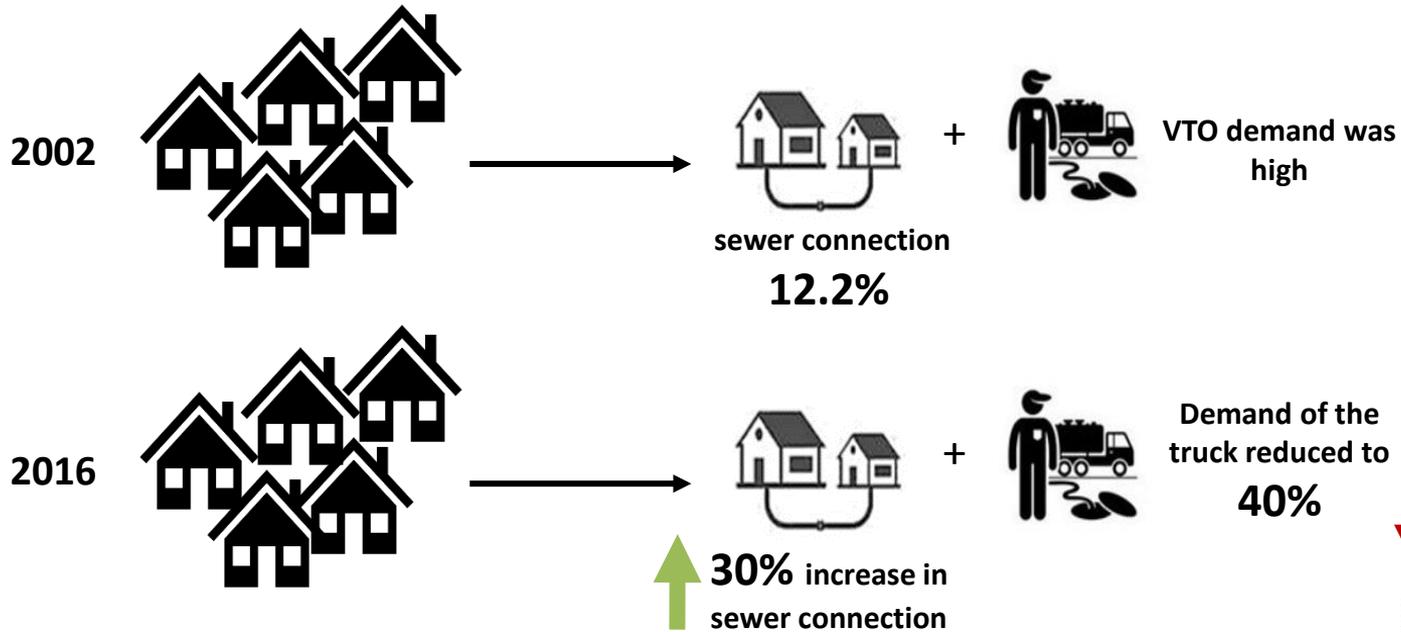
SBM created Opportunity - Regulation of tariffs & Affordability for Desludging services

Demand Assessment – Desludging services in Vizag

40% decrease in demand of the truck used for desludging

1

- Due to increase in sewer connections
- Due to increase in number of Vacuum Tankers
- Due to increase in charges of services



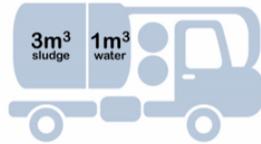
Snapshot of Vacuum Tanker Operators

**3 Operators
for each tanker**

Volume

Numbers of vacuum tanks

STOUWA
Septic Tank
Owner Union
Welfare
Association



36



**Type of VTO's
in the market**

**Independent
Operators**



7



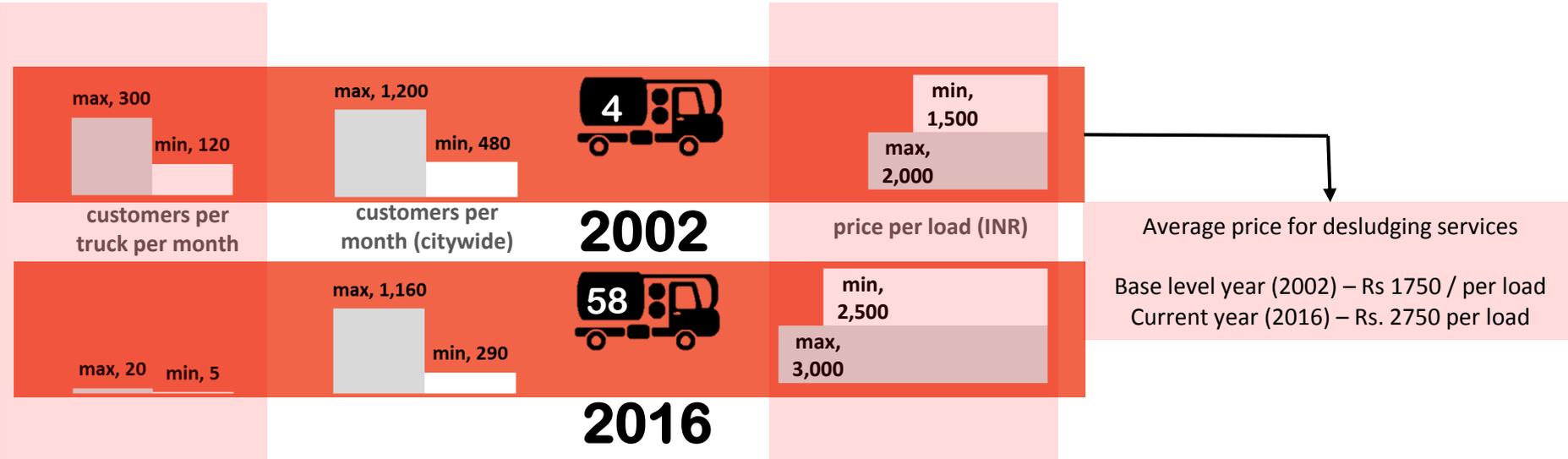
**Other
Union**



15



2. Market Assessment – VTO’s and demand for desludging services in Vizag (2002- 2016)



Average number of jobs undertaken by each tanker has been decreased from 2002 to 2016 due to increase in the number of tankers

3.

Absence of Regulations - Resulted in low efficiency and lack of affordable services to the HH's in Vizag



Consumers



Vendors

Poor customer services

High charges for cleaning / non affordability for poor

Unregulated emptying, making more trips than necessary

Unsafe disposal of septage

Majority of VTO's dump in the open drains, GVMC has identified 9 disposal points for dumping the septage



Illegal septage discharge in open environment



Unregulated septage discharge in disposal location

5.

SBM created opportunity for new customers,



Toilet
construction
under SBM

Increase in the
number of septic
tanks

Creating
opportunity for
VTO's



which can only be captured if prices become more affordable, else households will avoid taking services of VTO's

5th rank
resulted in more
Enthusiasm and
pride in GVMC

Opportunities for Vizag Citywide Coordination & Regulation of Septage Management Services

Enabling Environment

Create Enabling Environment – Policy for City Level Regulation of FSM (Demand & Supply)

Develop need based Infrastructure & Facilities for FSM

Demand for Emptying Services

Implement scheduled emptying & desludging of septic tanks through “Ward Sanitation Committee”

Supply of Emptying Services

Strict regulations for service provision – Vacuum Truck Operations

(Tariff Mechanism, Safe Emptying and Disposal of Sludge)

Disposal & Treatment Facilities

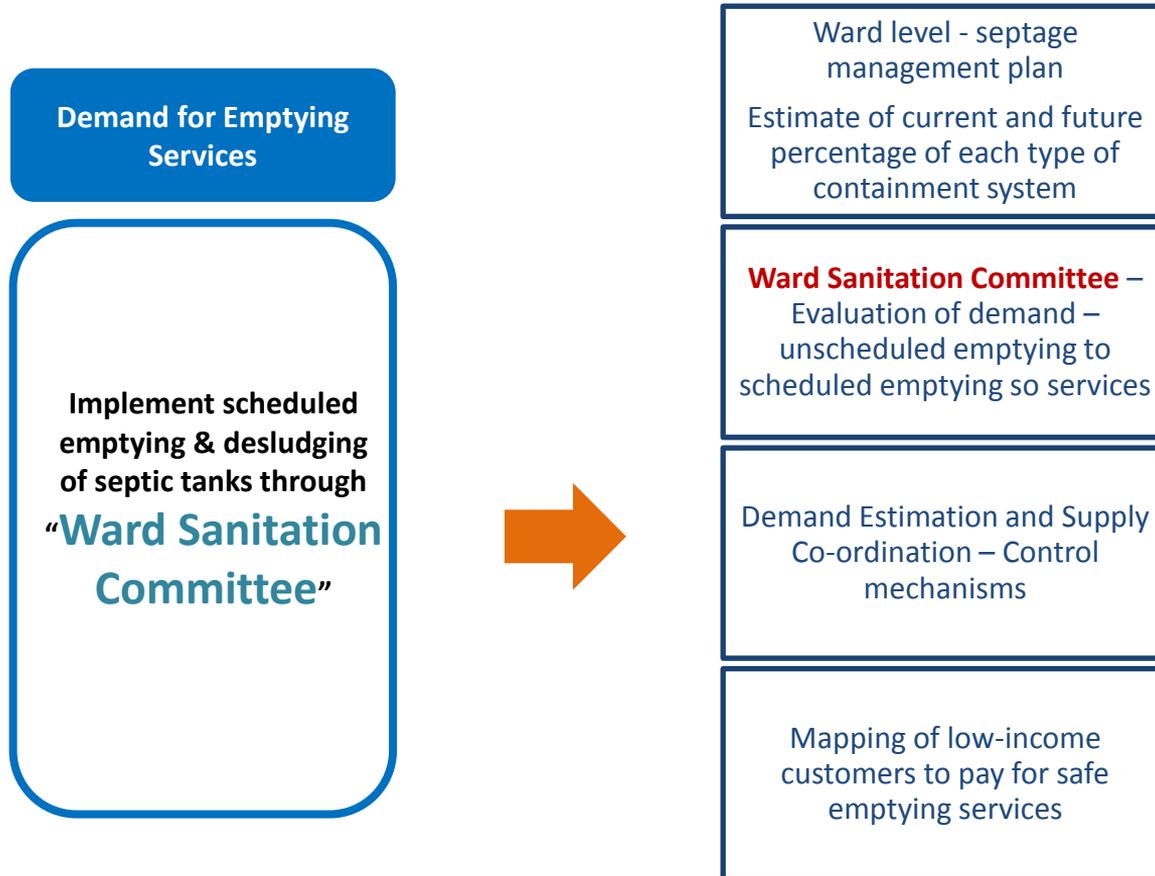
Provision of disposal points & treatment facilities for safety and hygiene of the stakeholders

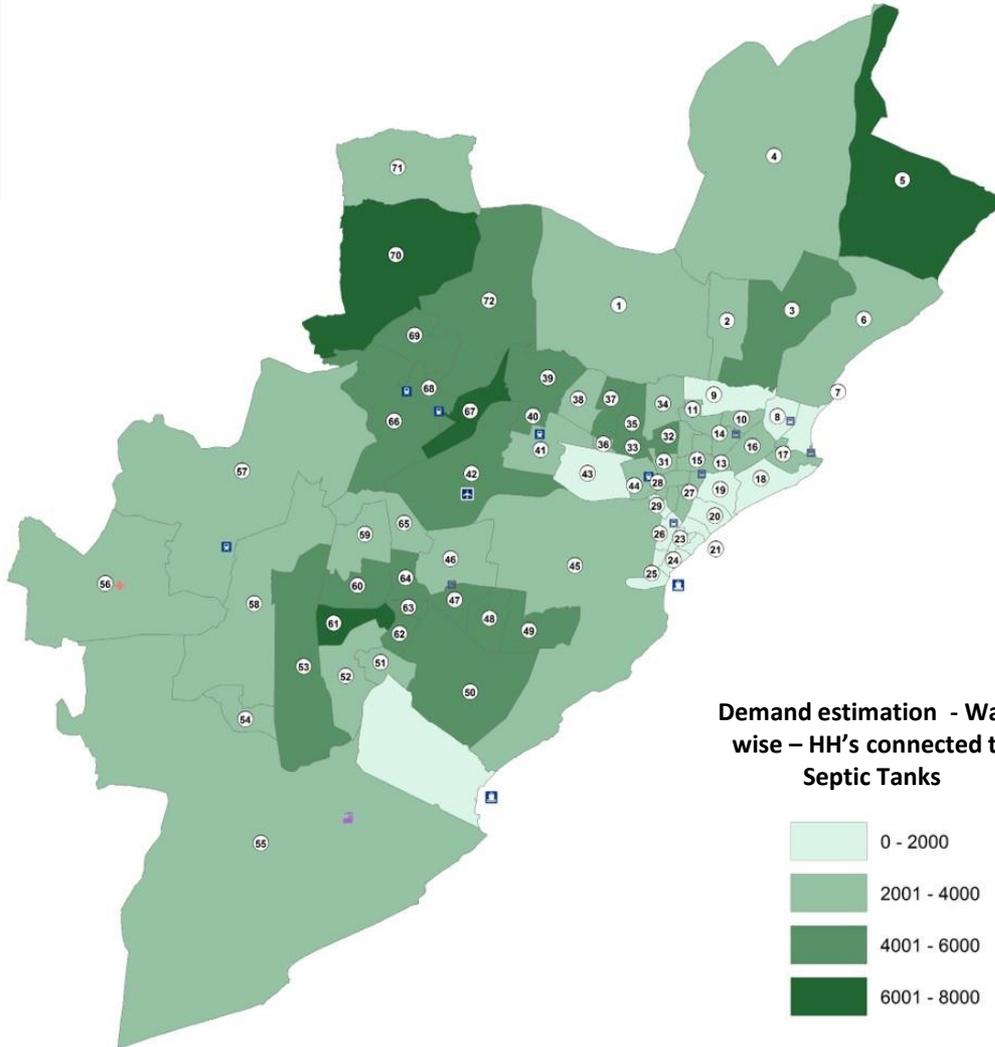
(Mapping of locations by demand & upgradation of existing facilities)

Waste to Resource (W2R)

Evaluation of the market for faecal sludge by-products

GVMC ward level map – HH's connected to Septic Tanks





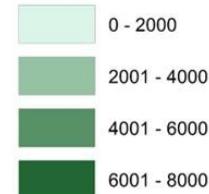
Ward level - septage management plan
Estimate of current and future percentage of each type of containment system

Average 7000
HHs per ward

Average 30,000
population per
ward

Average 3,500
septic tanks per
ward

Demand estimation - Ward wise – HH's connected to Septic Tanks



wSMP (Ward Septage Management Plan): Emptying Practices, Affordability and Demand

- Guidelines for preparing an **wSMP**, which include tools and SMART targets to support improved practices, affordability and demand for emptying services
- To ensure appropriate practices, after access to formal disposal points has been ensured, WSC identifies and engages VTOs to stop usage of **unsafe disposal hotspots**
- To ensure appropriate practices, WSC adopts **public complaints management system (PCMS)**
- Adopt citywide target - 100% of customer complaints investigated and concluded within 2 days of receiving complaint
- To improve access to safe services by the poor and increase demand, WSC provide and manage financing or savings scheme for **low-income customers**
- design simple **monitoring framework** to allow reporting of ward-level progress to zonal and city levels

Ward Sanitation Committee meeting



Policy Stimulus for VTO Market

Moving from unscheduled to scheduled services through Ward Sanitation Committee of GVMC

Description	Units		Remarks
HH's	8000	HH's	-
Septic Tank Coverage	60%	Coverage	-
No. of septic tanks	4800	HH's	60% of 8000 HH's
Frequency of Septic Tank cleaning (2 years)	730	days	Two years (365*2)
Service available (85% of the year)	621	days	VTO operations - six days in a week. One day reserved for servicing of the truck / break downs
Scheduled Ward demand per day for septic tank cleaning	8	Customers /day	Based on Scheduling - 4800 HH's in 621 days
Scheduled Ward demand per month for septic tank cleaning	232	Customers/month	
Average no. of VTO's servicing the ward	2	VTO's	Assuming 2 VTO's servicing each ward. This number can change depending on the demand
Average Demand for each VTO's servicing the ward	116	Customers for each VTO/ month	2 VTO's covering 232 Customers in a month
Average pricing for each Load	2500	Rs/ Load	Average as per existing rates prevailing in GVMC
Estimated earnings for each truck per month	290,000	Rs/ Month	Part of the earnings to be shared with GVMC for O&M of the disposal points

Demand based evaluation of disposal location & facilities

Disposal & Treatment Facilities

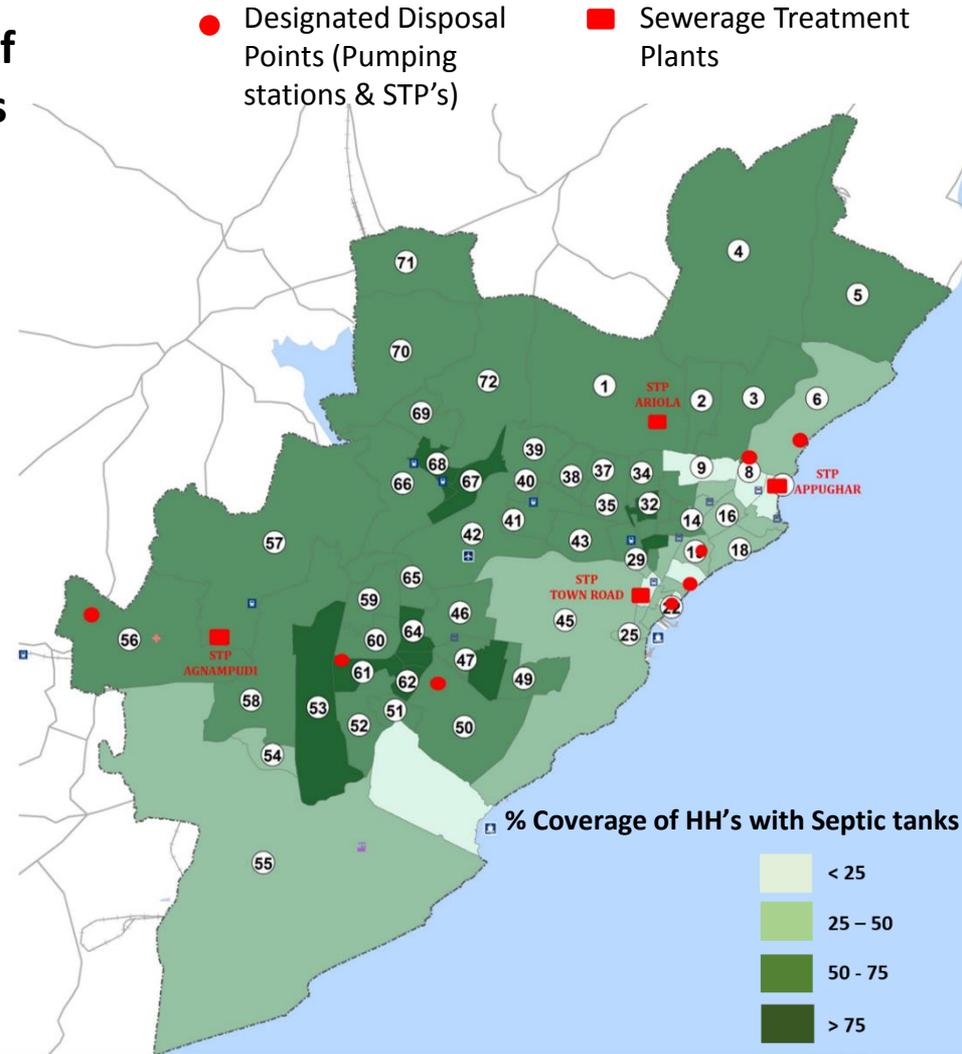
Provision of disposal points & treatment facilities - demand for safety and hygiene of the stakeholders

Disposal locations - selected based on demand generation and proximity of locations for disposal

Technical Feasibility assessment of disposal locations - mapping of potential & unsafe disposal locations

Technical feasibility – upgrading options for disposal locations – Safe & Hygiene of stakeholders including Standard Operating Procedures

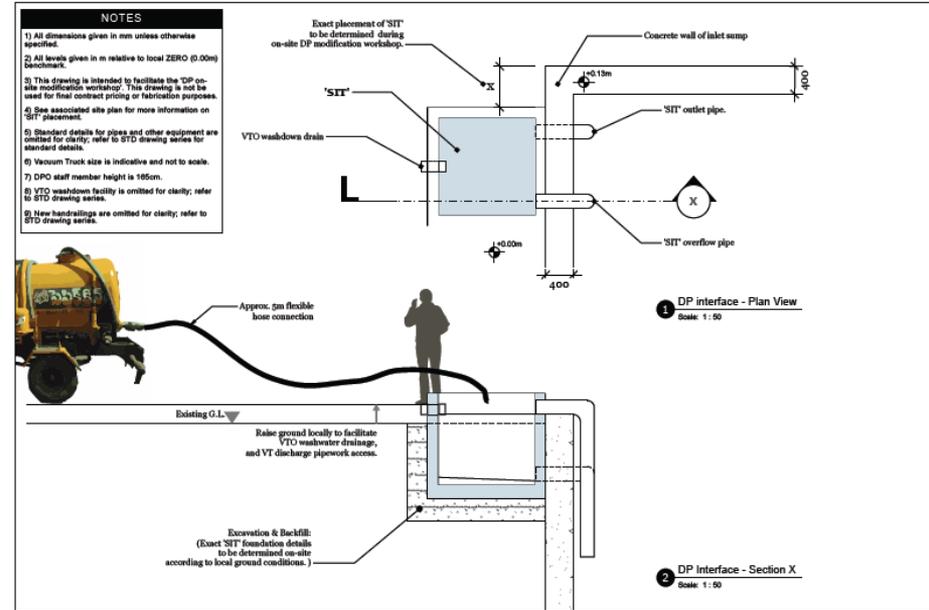
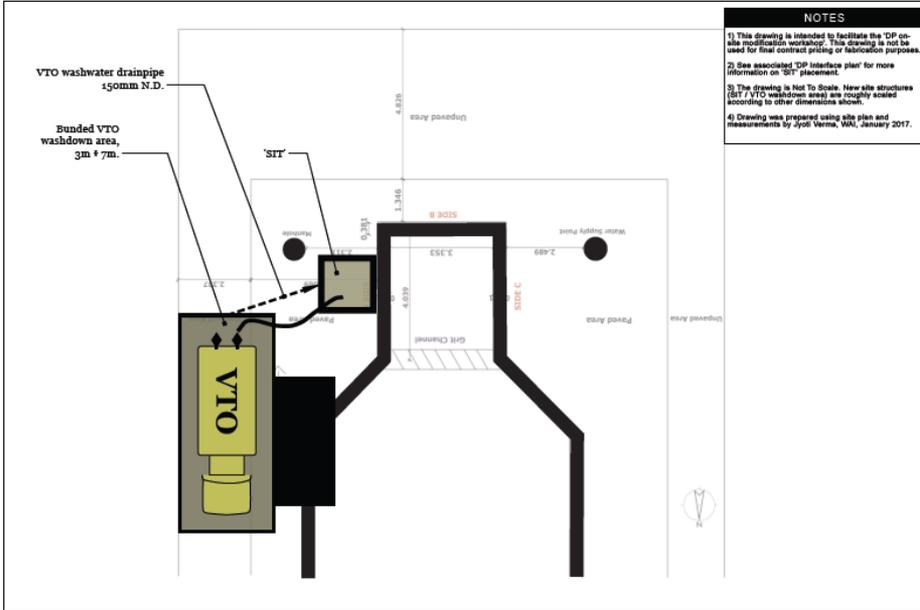
Financial Feasibility for Treatment of Faecal Sludge at Disposal Locations



Map showing location of designated Disposal Points (Pumping stations and STP's)



Upgradation and Investment plan for safe disposal (Pumping stations & STP's)



Title of Project: VTO Discharge Point - #001	WSUP WSUP Advisory India 1207, 10th Floor DLF Tower - B, Jasola District Center, New Delhi 110 026, India.	REVISIONS		A O I O
Title of Drawing: DP # 001 - DP Site Plan	Created by: AK	Checked by:	Approved by:	
	1	2	3	
	4	5	6	
	7	8	9	

Title of Project: VTO Discharge Point - #001	WSUP WSUP Advisory India 1207, 10th Floor DLF Tower - B, Jasola District Center, New Delhi 110 026, India.	REVISIONS		A O I O
Title of Drawing: DP # 001 - DP Interface	Created by: AK	Checked by:	Approved by:	
	1	2	3	
	4	5	6	
	7	8	9	

Average cost of upgradation for safe disposal – 2lakh INR

Standard Operating Procedure (SOP)



Disposal Point Operators to allow them to receive Septage from vacuum tankers safely and manage any new infrastructure investments.

Vacuum Tanker Operators to allow them to dispose at the facilities safely.

Opportunities for Vizag Citywide Coordination & Regulation of Septage Management Services

Enabling Environment

Create Enabling Environment – Policy for City Level Regulation of FSM (Demand & Supply)

Develop need based Infrastructure & Facilities for FSM

Demand for Emptying Services

Implement scheduled emptying & desludging of septic tanks through “Ward Sanitation Committee”

Supply of Emptying Services

Strict regulations for service provision – Vacuum Truck Operations

(Tariff Mechanism, Safe Emptying and Disposal of Sludge)

Disposal & Treatment Facilities

Provision of disposal points & treatment facilities for safety and hygiene of the stakeholders

(Mapping of locations by demand & upgradation of existing facilities)

Waste to Resource (W2R)

Evaluation of the market for faecal sludge by-products

WSUP in Vizag - Development of on “Open Defecation Free” strategy

Visakhapatnam ranked 5th position in Swachh Survekshan 2016 (National Sanitation Clean India Survey)

Visakhapatnam declared & certified as Open Defecation Free City

One of the few cities declared as Open Defecation Free



USAID
FROM THE AMERICAN PEOPLE



**Greater Visakhapatnam
Municipal Corporation
(GVMC)**

WSUP

ADVISORY

**Water and sanitation
for the Urban Poor**



एक कदम स्वच्छता की ओर

**Swachh Bharat
Mission - Urban
SBM - U**



Thank You