



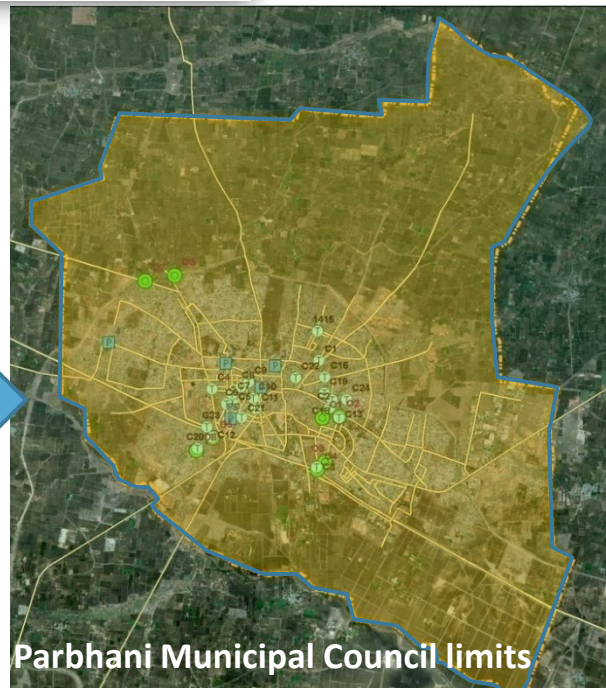
FIELD ASSESSMENT FOR PERFORMANCE IMPROVEMENT PLAN

City Profile

Maharashtra



Parbhani, formerly known as “Prabhavatinagar”, is a city in the Marathwada region of Maharashtra. It is the administrative headquarters of Parbhani District. Parbhani is approximately situated at the centre of Maharashtra



Population	307000
Number of Households	56000
Number of Slums	72
Number of Slum Households	22,300
Number of Properties	62,230
City Area	57.61sqkm

City Profile

Parbhani

Future growth

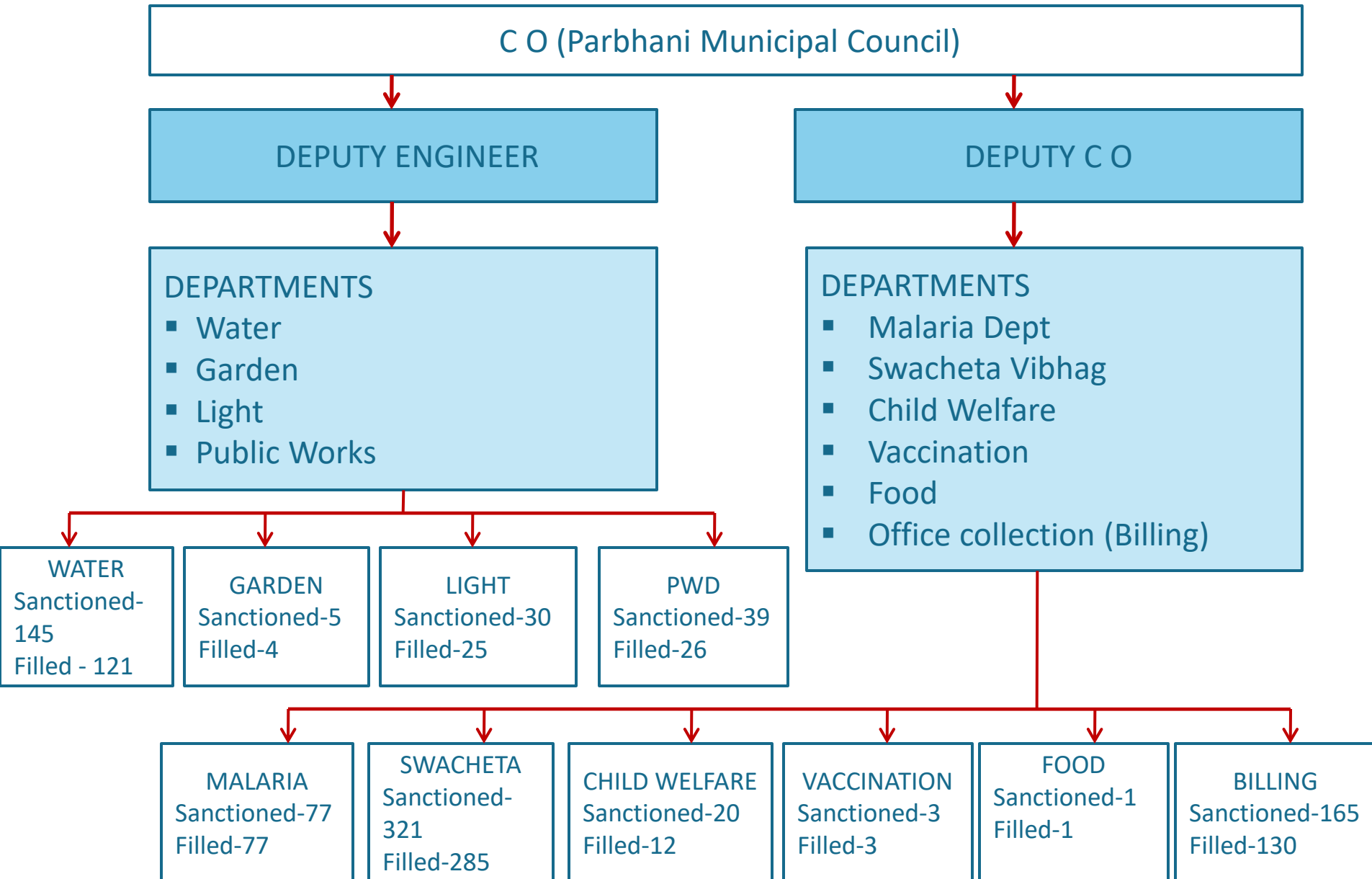
Municipality area :
57.61 sq km
Habitat area:
22 sq km approx
(38% of total city
area)

Legend

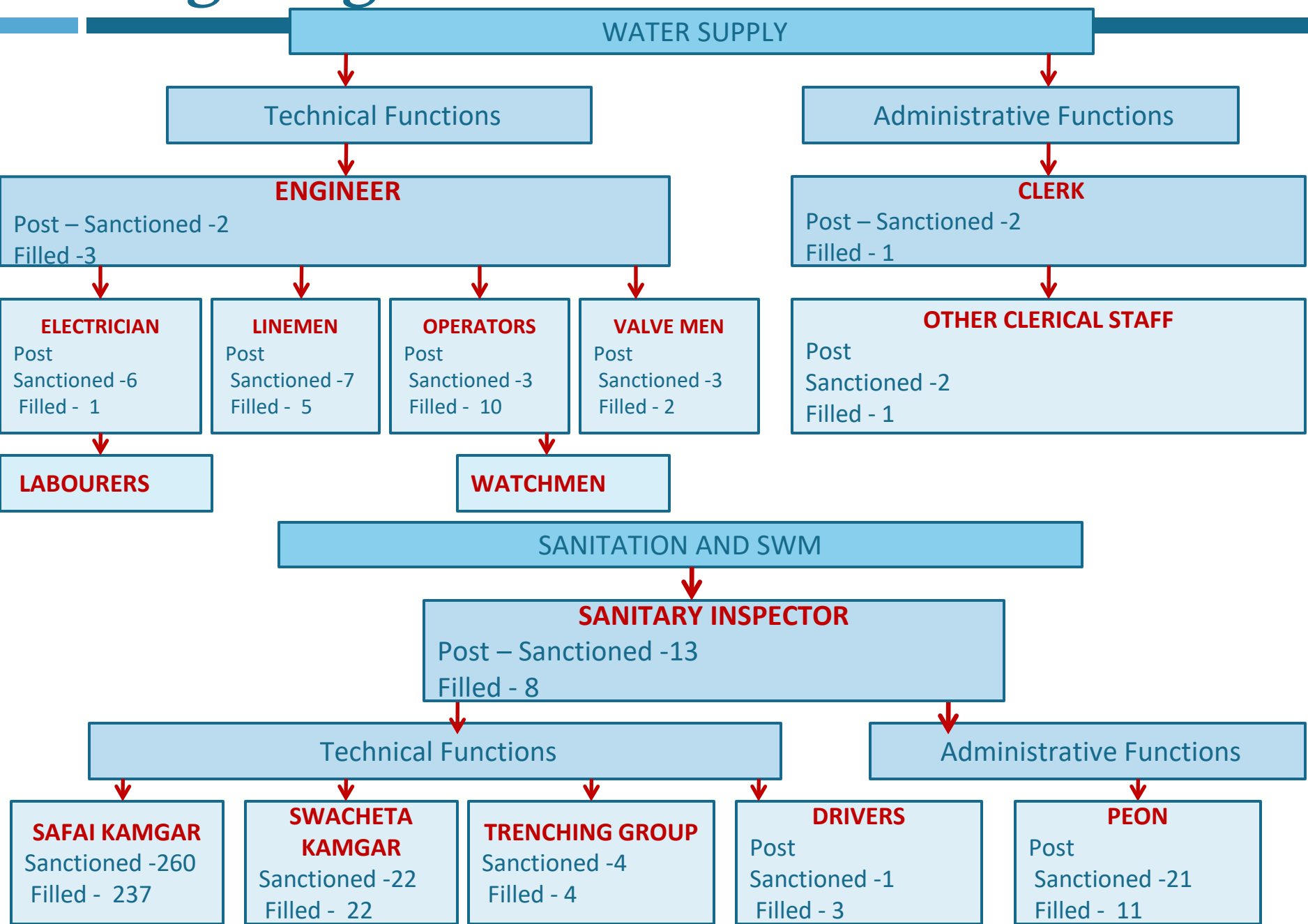
- CT
- P PT
- Open Drain
- Municipal BND
- Slums

0 0.5 1 2 3 4 Kilometers

ULB Organogram

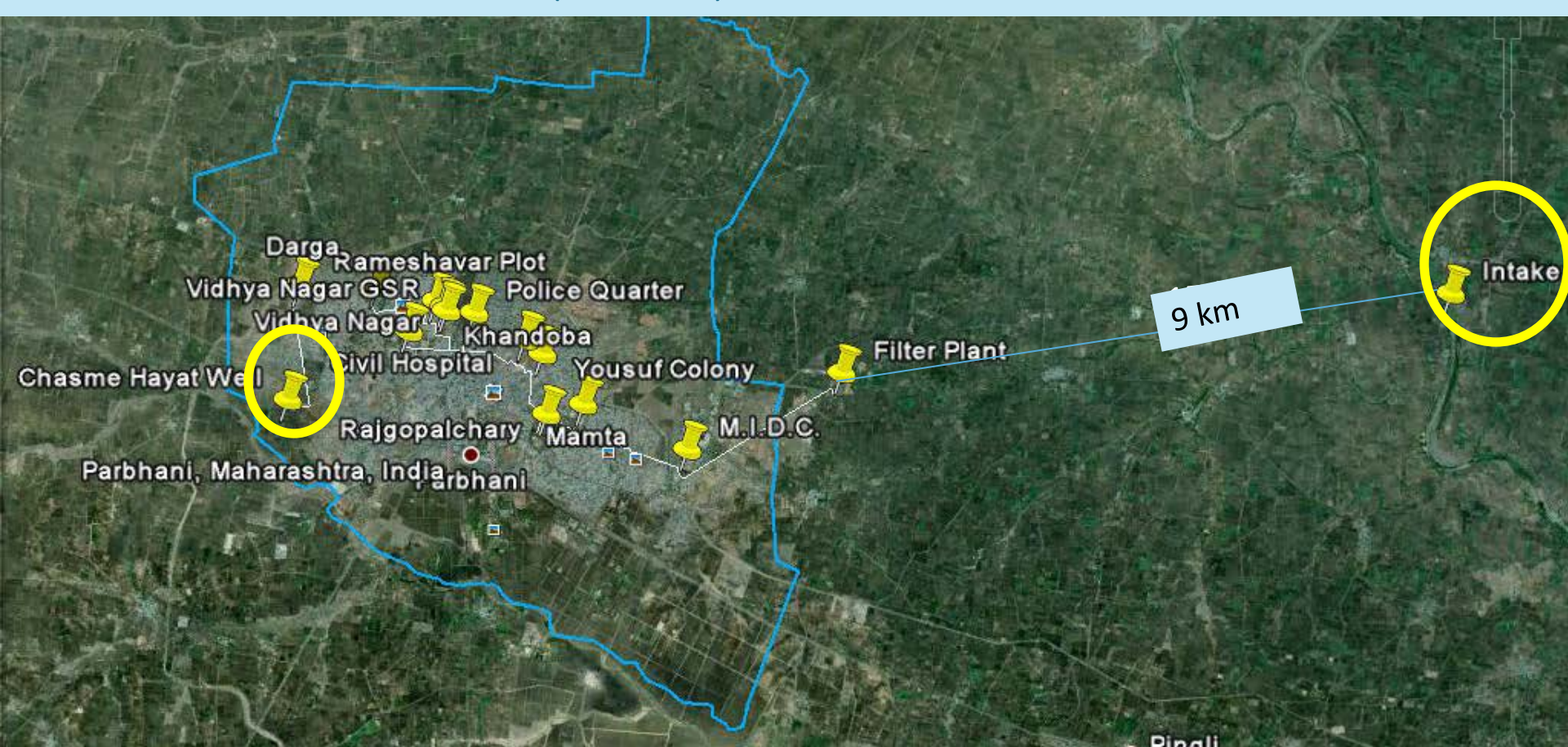


Organogram



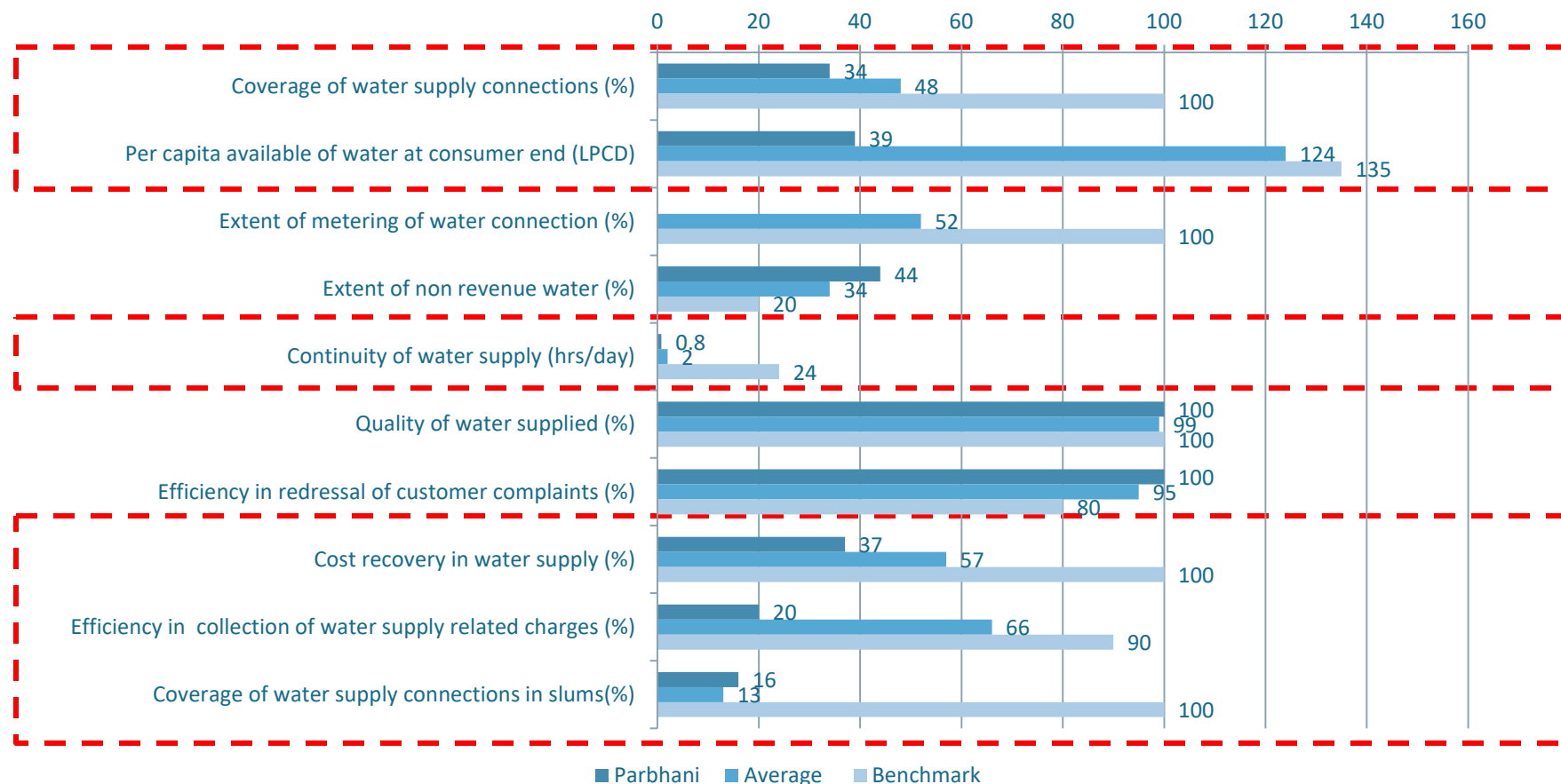
Overview of Water Supply System

- Sources (17.47 MLD):
 - Intake well at Purna River (17.45 MLD): 8 months Purna River, 4 month of summer Siddheshwar dam
 - Chasmehayat well (0.02 MLD)
- 12 WDS (14.92 MLD)
- 21663 no of billed connection (8.03 MLD)



Current Performance Measurement & Benchmark

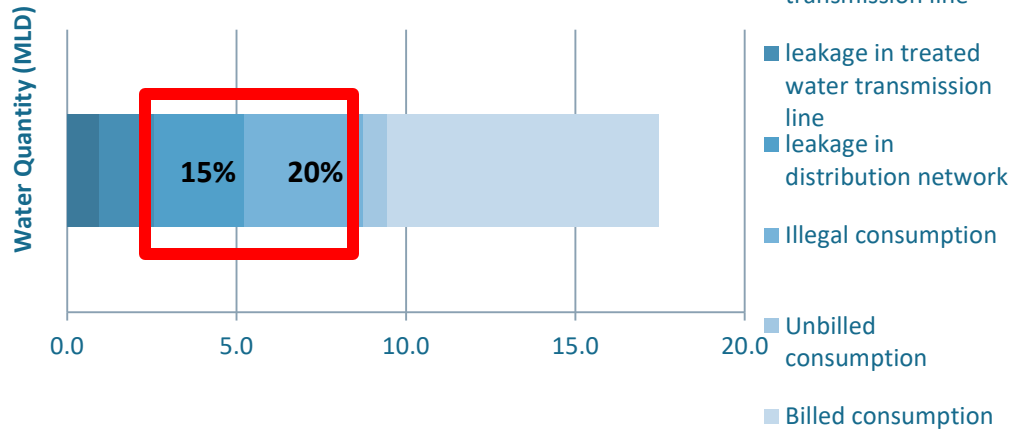
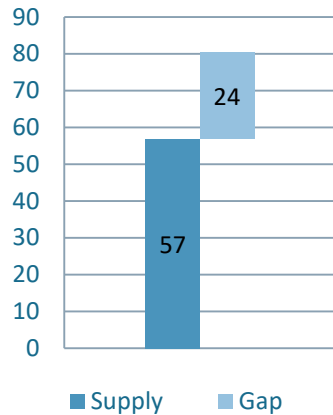
Water supply system



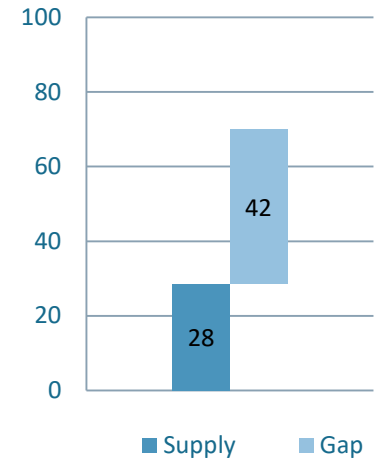
- Water is supplied once in 4 days and sometimes 8 to 9 days also.
- Supply time is not fixed, even supplied at late night time also.
- There is problem of low pressure and many HH have electric pumps.

Diagnostic Study - Water Supply

lpcd at source



lpcd at consumer end



- Under UIDSSMT, there is an plan for the source augmentation (Yeldari dam) & DPR is already prepared by MJP to supply 70lpcd.
- Though the production is 57 lpcd the consumer gets only 28 lpcd due to high losses in the system.



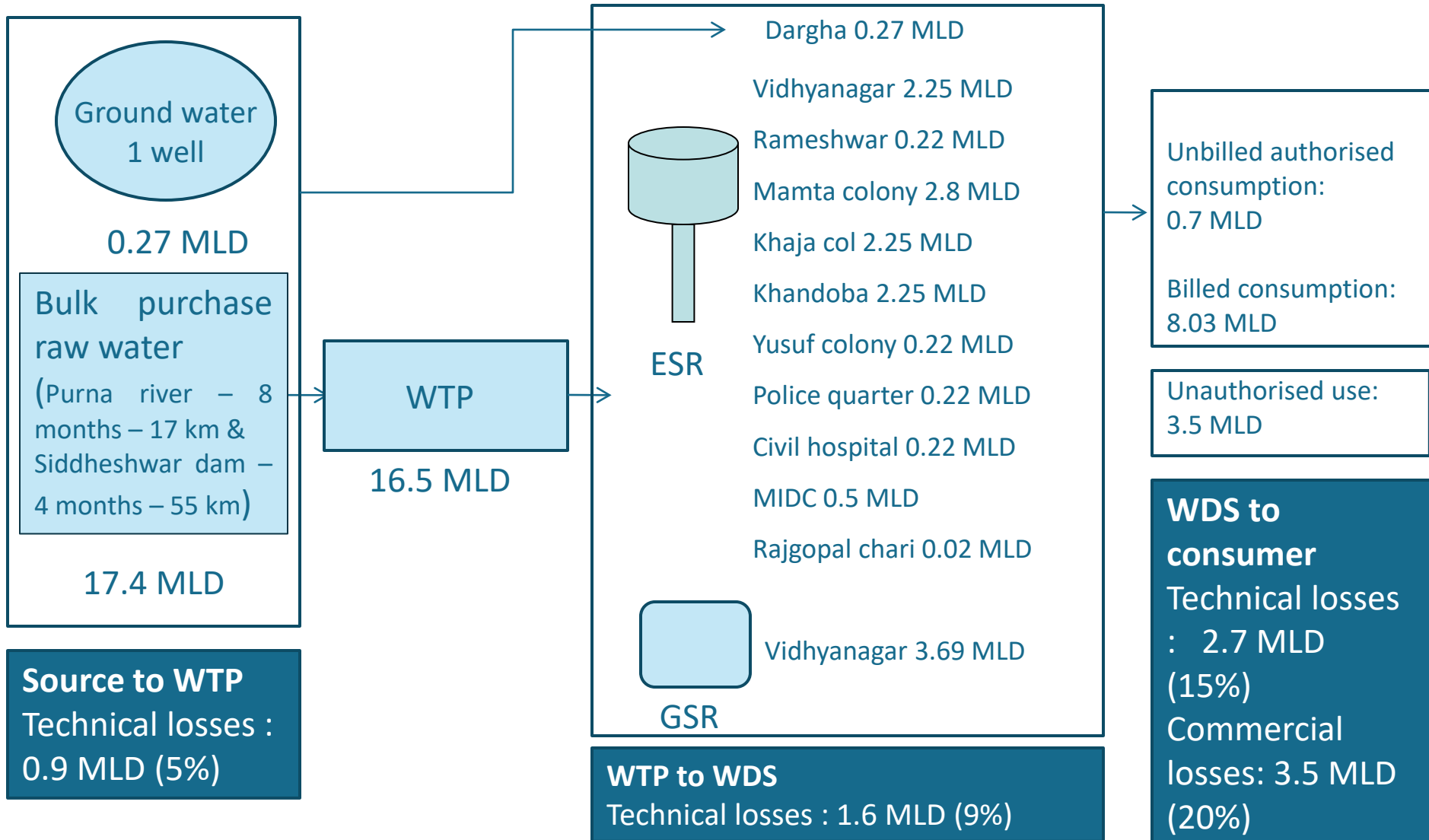
The Schematic Diagram of Water Supply System **(Have to check calculation)**

Source:
17.7 MLD

Treated water:
16.7 MLD

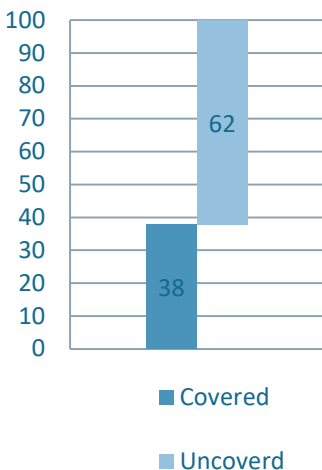
Water supplied at WDS:
14.92 MLD

Consumer end:
12.23 MLD

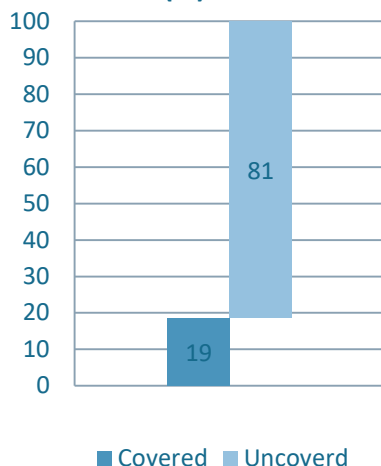


Diagnostic Study - Water supply

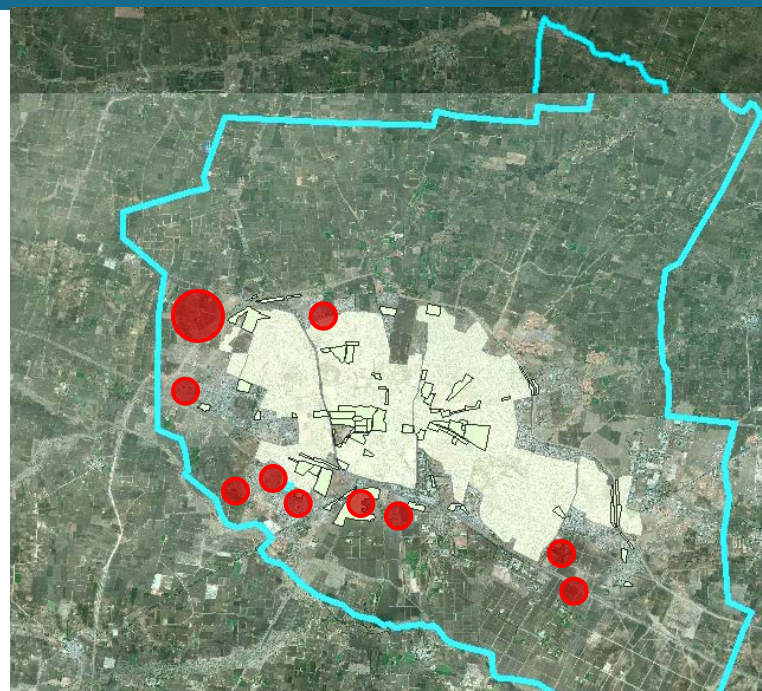
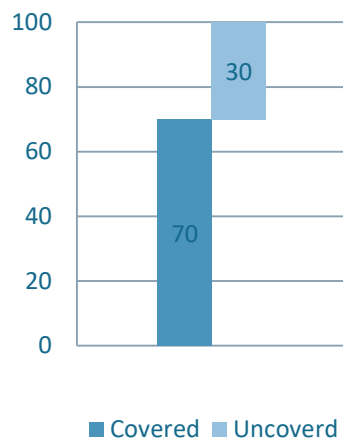
WS - HH level coverage (%)



WS - slum coverage (%)



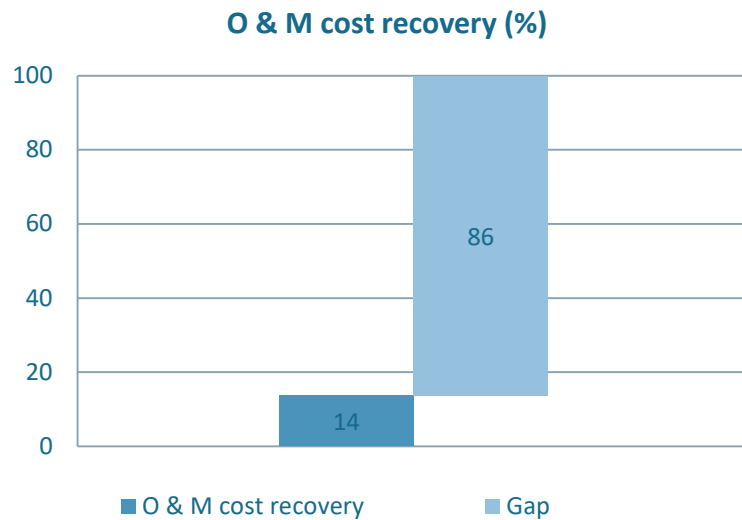
Area under distribution network (%)



Population: 3,07,000 (2010) **Slum population:** 1,32,120 (43% of total population)

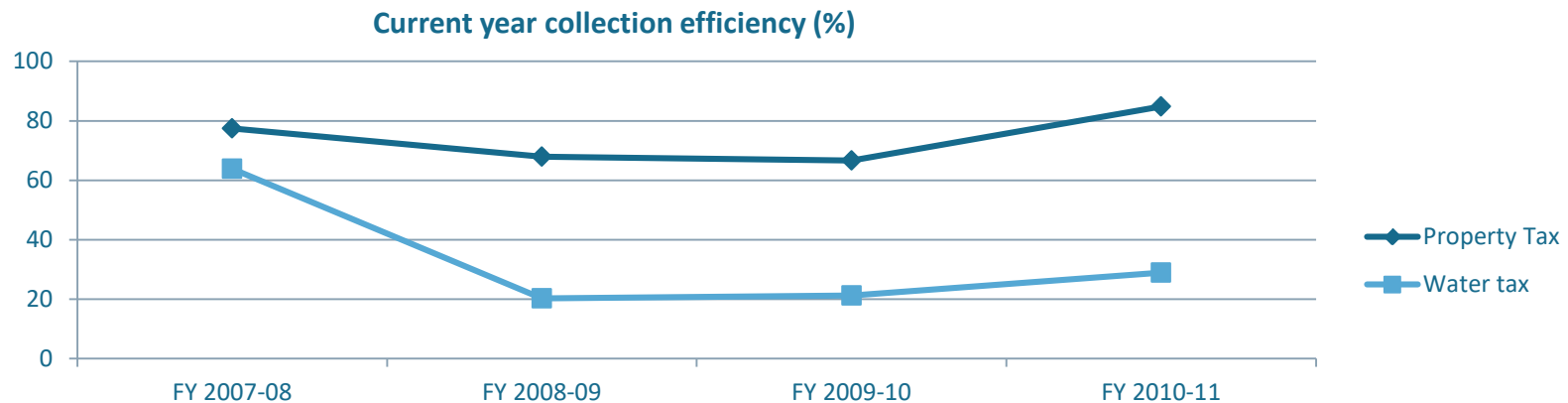
- Though inhabited area under the water distribution network is 70%, HH level coverage is only 38%; HH level coverage in slums is only 19%

Diagnostic Study - Water Supply



Expenditure	Rs in Lakh
Administration	191.4
Operation and maintenance	75.5
Irrigation dept	72.0
Electricity	241.9
Emergency expenses	1.1
Total	581.9

- Cost recovery for the year 2010 - 11 is only 14% (Actual income & expenditure).
- And collection efficiency of Water supply charges is only 29%



Possible Interventions - Water Supply

Capital intensive project under pipeline

- Tender is floated for water audit & leak detection, hydraulic modeling, flow meter installation & billing & collection system (1.8 crore)

- Source augmentation and distribution network expansion project report is already prepared under MSNA (104 crore)

Proposed Action

- Fixed the water supply timing
- Regularizing illegal connection
- Repairing / Replacement of existing transmission & distribution pipeline

- Provide internal infrastructure in slum area

- Customer friendly collection system for water taxes, drive for the collection of arrears

Indicator

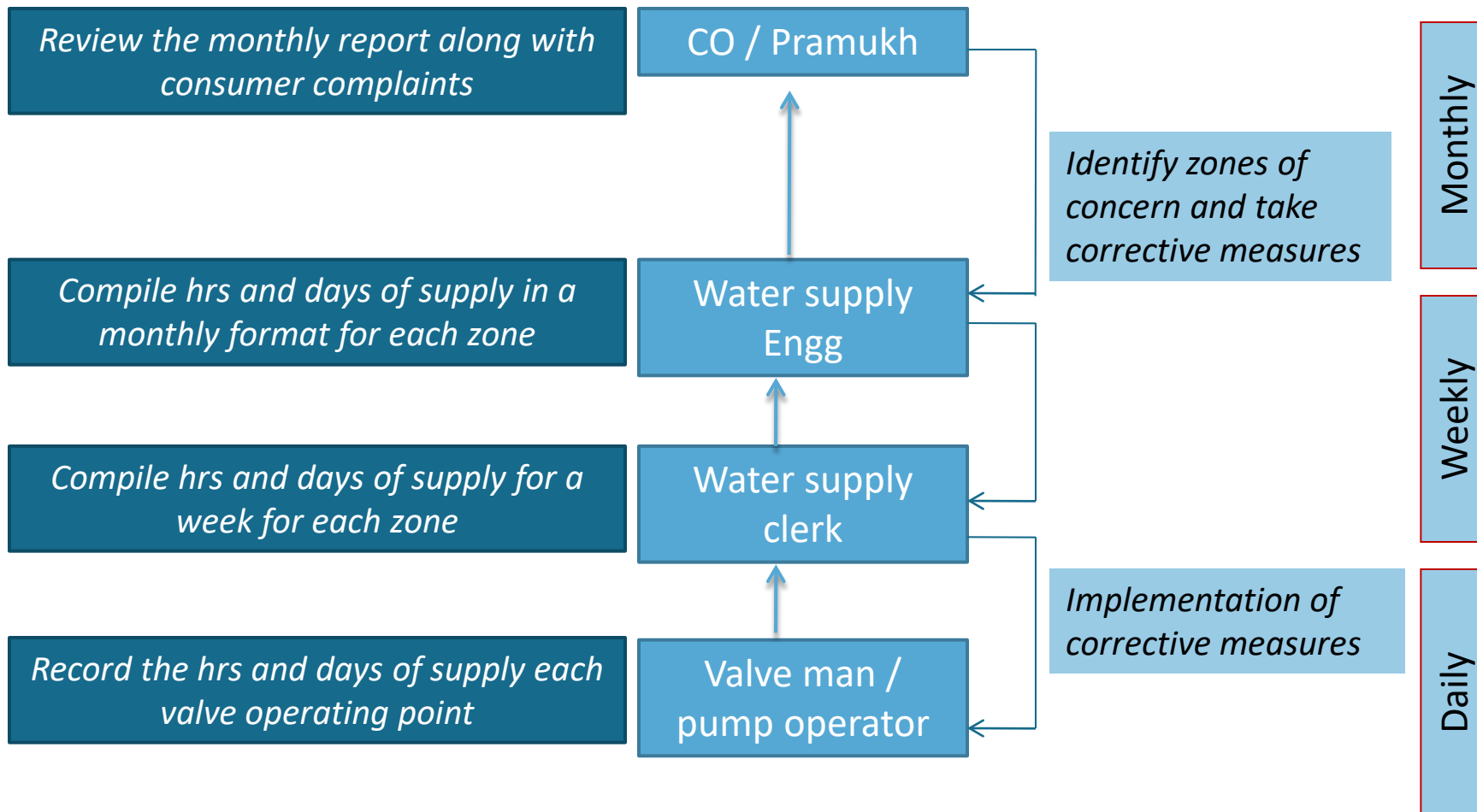
- Increase in coverage
- Reduction in NRW
- Improve cost recovery

- Increase coverage

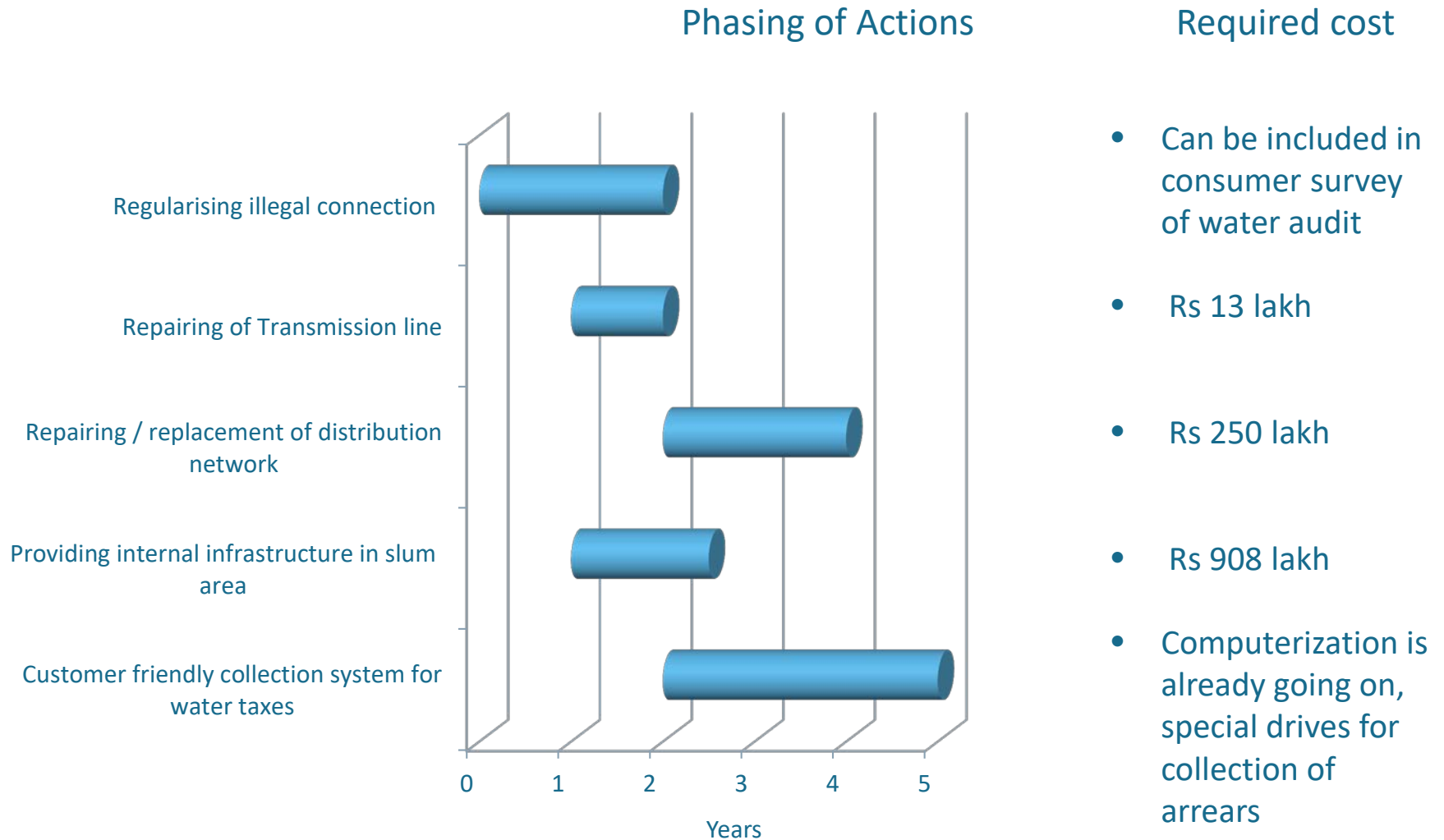
- Increase coverage in slum
- Increase collection efficiency

Process for Data recording (Hrs of Supply)

REGULATION OF WATER SUPPLY DURATION

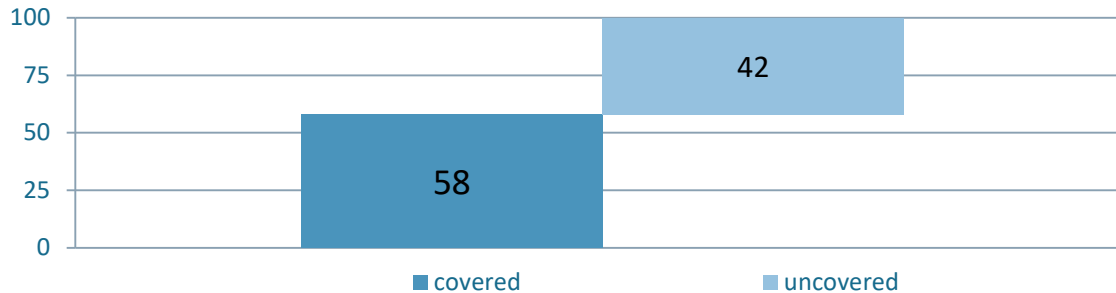


Phasing and Costing of Proposed Actions

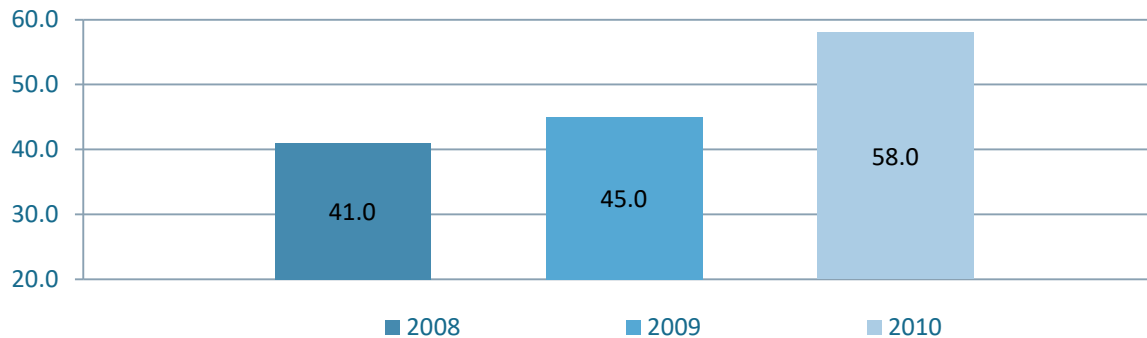


Diagnostic Study - Sanitation

Coverage Individual toilets

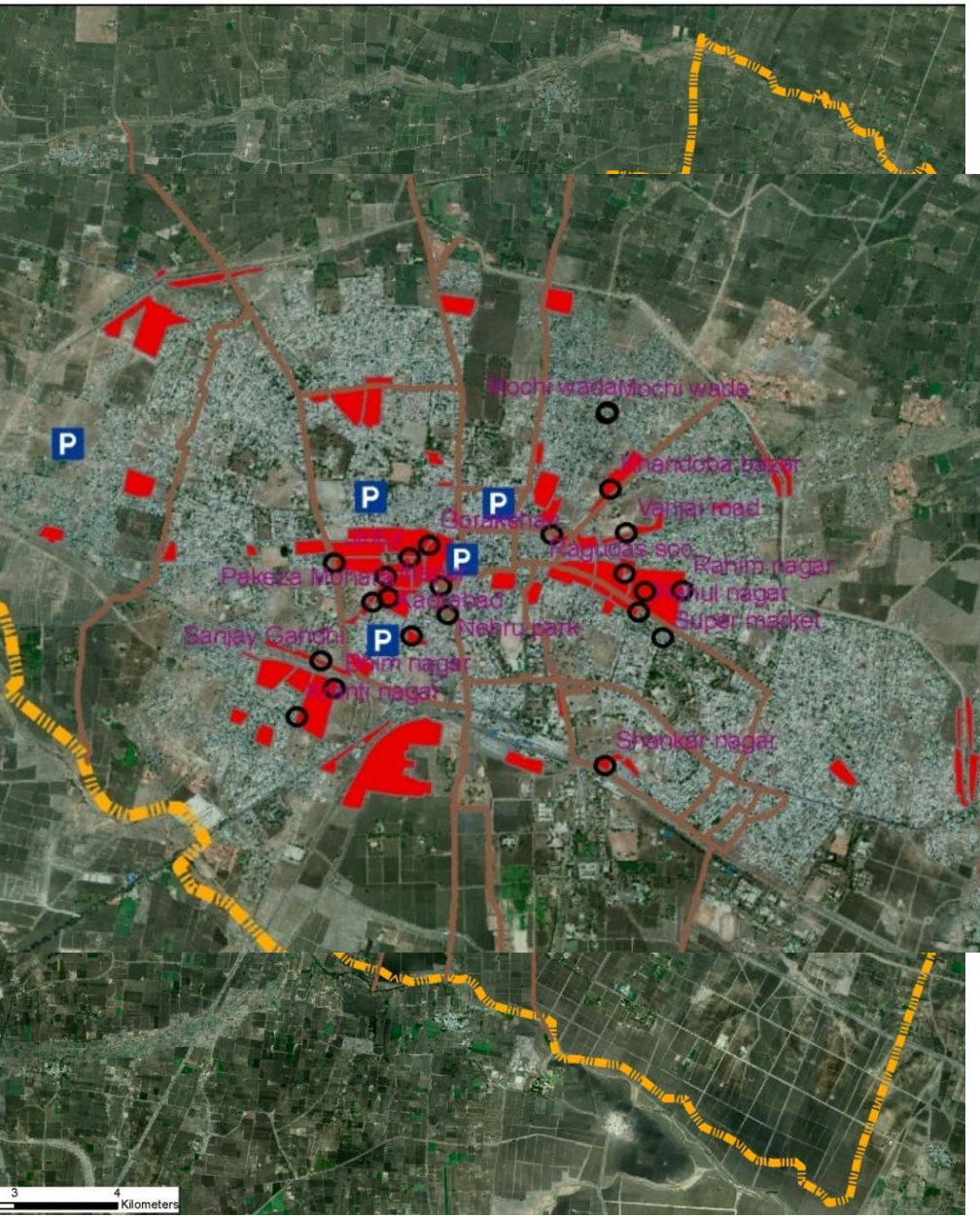


Coverage of Ind toilets

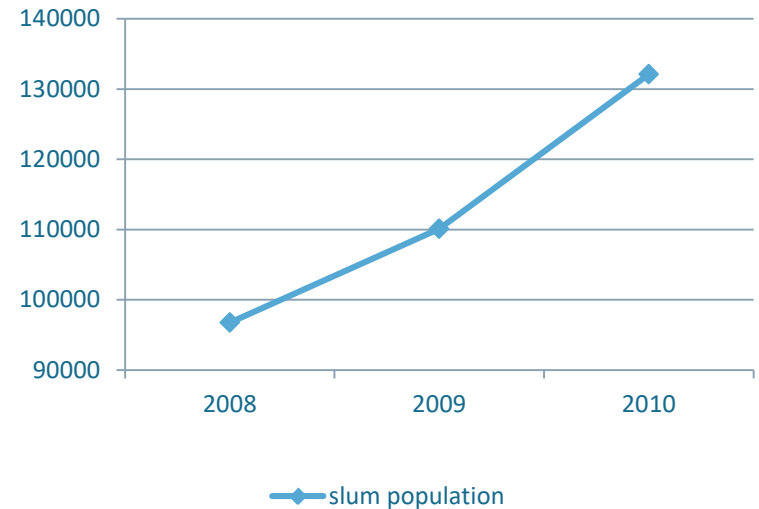


- Cleaning of septic tanks.-ULB has one vacuum emptier
Cost of emptying septic tank: By ULB
HH within ULB limits: 1st trip –Rs 1500/trip/HH
2nd trip – Rs 600/trip/HH
HH outside ULB limits: 1st trip –Rs 2000/trip/HH
2nd trip – Rs 1500/trip/HH

Diagnostic Study - Sanitation



Growth in Slum population

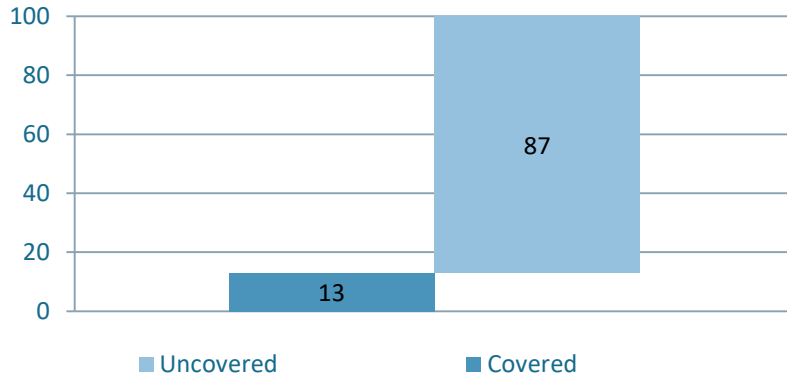


The slum population has increased to 1.3 Lakhs

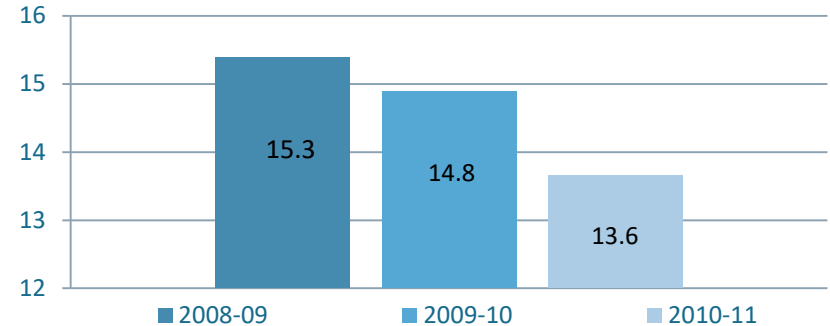
The Percentage of slum population to the city population has increased from 33% to 43 % in the last 3 years

Diagnostic Study – Sanitation - Slums

Toilet coverage- slums (%)



Coverage of toilets in slums



Total no of slum HH- 20200

No of HH with Individual toilets - 3045

SLUMS

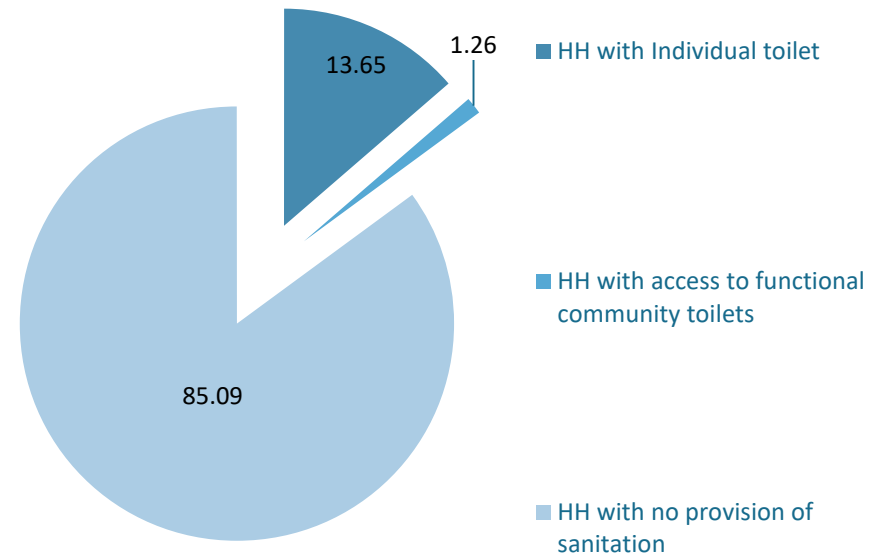
These toilets were provided by the ULB under.

- Lok Awas Yojana
- Ambedkar Awas Yojana
- Valmiki Awas Yojana
- Suvarna Jayanti Yojana

4 functional community toilets 28 functional seats

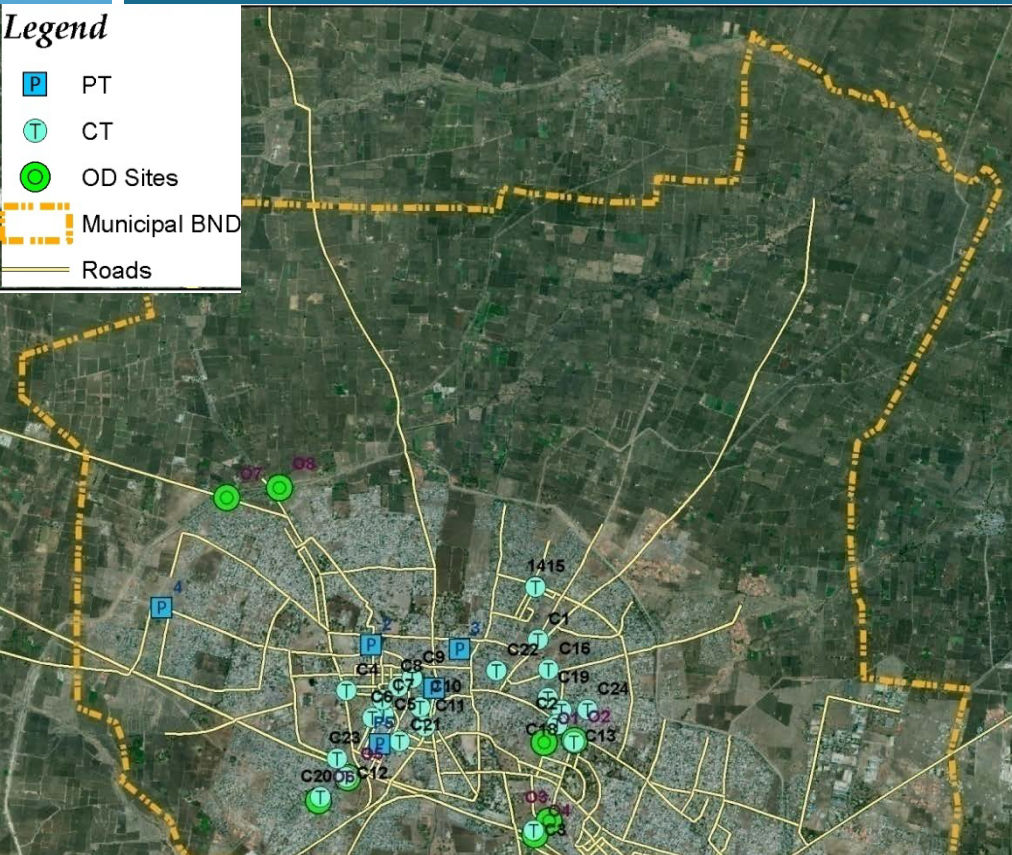
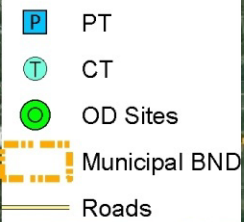
Remaining 16835 HHs defecate in the open.

Estimated 84000 people defecate in the open.



Diagnostic Study –Community Toilets

Legend



There are 24 community toilets in the city.
Out of which only 4 are functional-(In use)
Major reasons for non availability of community toilets are

- No water connection, lack of availability of water
- Existing condition of toilets



Diagnostic Study –Community Toilets

Name	No of seats - Men	No of seats - Women	Total no. of seats	Present condition	Remarks	No of seats functional	Estimated HH without individual toilets	Estimated population defecating in open
Khandoba bazar	0	10	10	Demolished	Encroached by house	0	611	3055
Gautam nagar	4	4	8	Demolished	Vacant land	0	154	771
Shankar nagar	0	8	8	Demolished	Encroached by house	0	111	556
Jintur	6	0	6	Demolished	Encroached by road	0	146	731
Itlapur	8	0	8	Demolished	Vacant land	0	267	1337
Pakeza Mohalla	0	8	8	Not in use	No water, bad condition	0	137	684
Kadrrabad	0	10	10	Not in use	No water and blank	0	28	141
Kalabawar	4	4	8	Demolished	Only walls existant	0	419	2094
Gorakshan	0	10	10	Demolished	Vacant land			
Diggi balaji	0	4	4					
Nehru park	8	0	8					
Bhim nagar	5	5	10	In use	Functional	8	990	4949
Super market	2	2	4					
Mochi wada	6	0	6	In use	Functional	12	136	679
Mochi wada	0	6	6	In use	Functional			
Vanjai road	2	0	2	Demolished	Encroached by house	0	239	1195
Rahul nagar	4	0	4	Not in use	No water, bad condition	0	411	2055
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Ragudas soc	4	4	8	Demolished	Encroached by house	0	119	597
Kranti nagar	8	0	8	Demolished	Encroached by House			
Siddharth nagar	8	0	8	In use	Functional	8	153	763
Ijamata road	0	8	8	Demolished	Vacant land	0	234	1171
Sanjay Gandhi	4	0	4	Not in use	Bad existing condition	0	504	2518
Rahim nagar	5	5	10	Not in use	No door	0	436	2178

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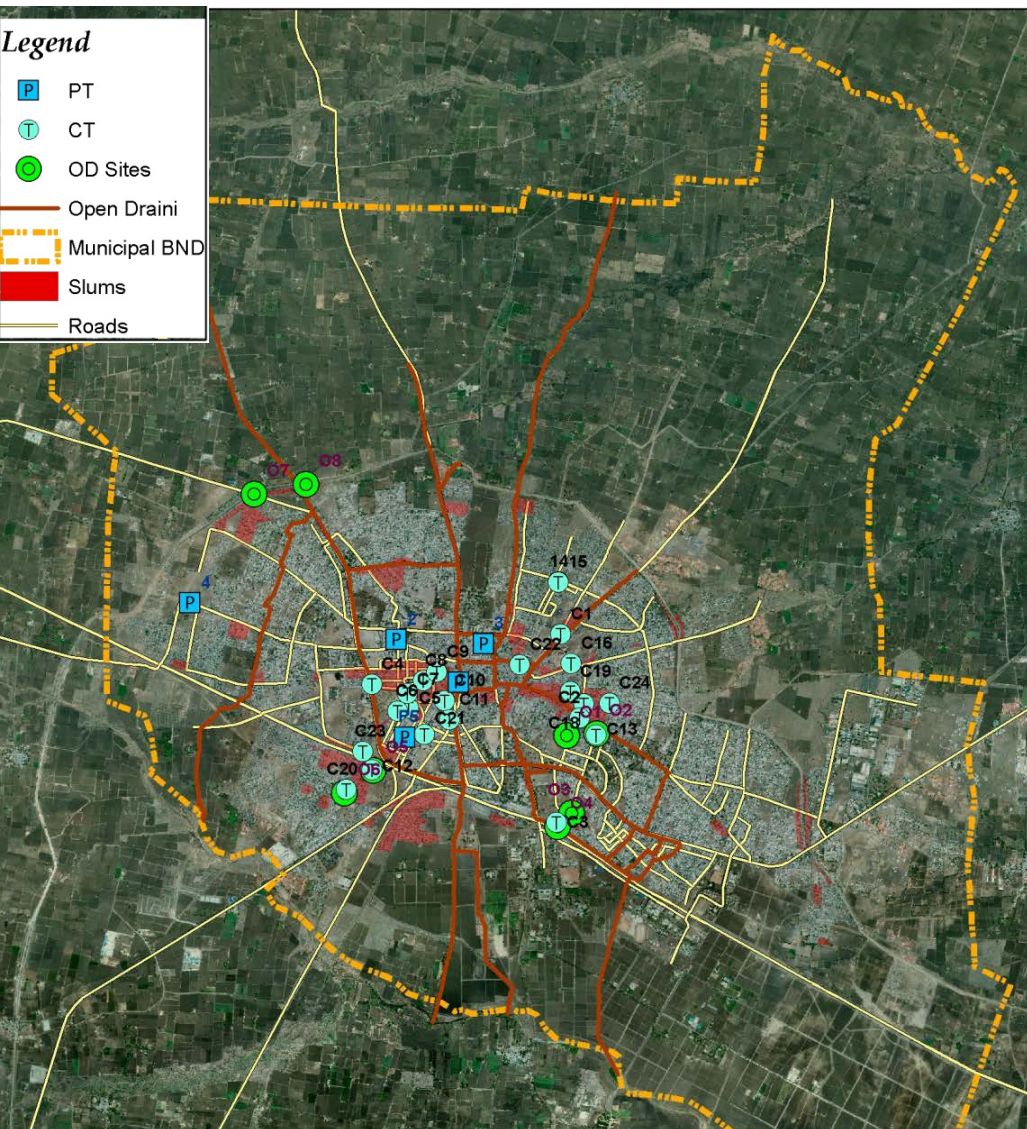


EXISTING OD SITES

A canal running in the northern part of the city forms northern boundary limit of the city.

These two physical features are areas where open defecation happens in large numbers.

Diagnostic Study –Open Drains



DRAINAGE: Open drains- Out of the total area of 57 sqkm, 48 sqkm has open drain network. Most of these drains are clogged and cleaned only once in a year.

List of Possible Actions - Sanitation

Better Sanitation and O D F

GOAL

To increase coverage of toilets specially in Slums

GOAL

To have better drainage facility

Immediate actions -Toilets

S. No.	Suggested Action	Capital intensive
1	Revitalization of existing community toilets	Medium cost
2	Awareness creation specially among slum dwellers	

Intermediate Action -Toilets

S. No.	Suggested Action	Capital intensive
1	To construct individual toilets	High

List of Possible Actions - Sanitation

Better Sanitation and O D F

GOAL

To increase coverage of toilets specially in Slums

GOAL

To have better drainage facility

Immediate actions -Sewerage

S. No.	Suggested Action	Capital intensive
1	Regular cleaning of drains	Low cost
2	Covering of existing open drains	Medium cost

Intermediate Action - Sewerage

S. No.	Suggested Action	Capital intensive
1	Primary treatment for waste water collected through drains	Medium

List of Possible Actions - Toilets

Refurbishment of existing community toilets

NEED- Information of

- Functional and non functional toilets
- Present condition and
- Availability of seats

ACTION -Refurbishment of 6 community toilets

Target slums - 5

Total seats to be added - 40

COST

No of toilets to be refurbished	6
No of toilet seats	40
Total cost	400,000

Value in Rupees

MANAGEMENT

Contracting out for community based management/ NGO based management of existing Community Toilet.

These organizations can work under the UCD at Parbhani Municipal Council

IMPACT

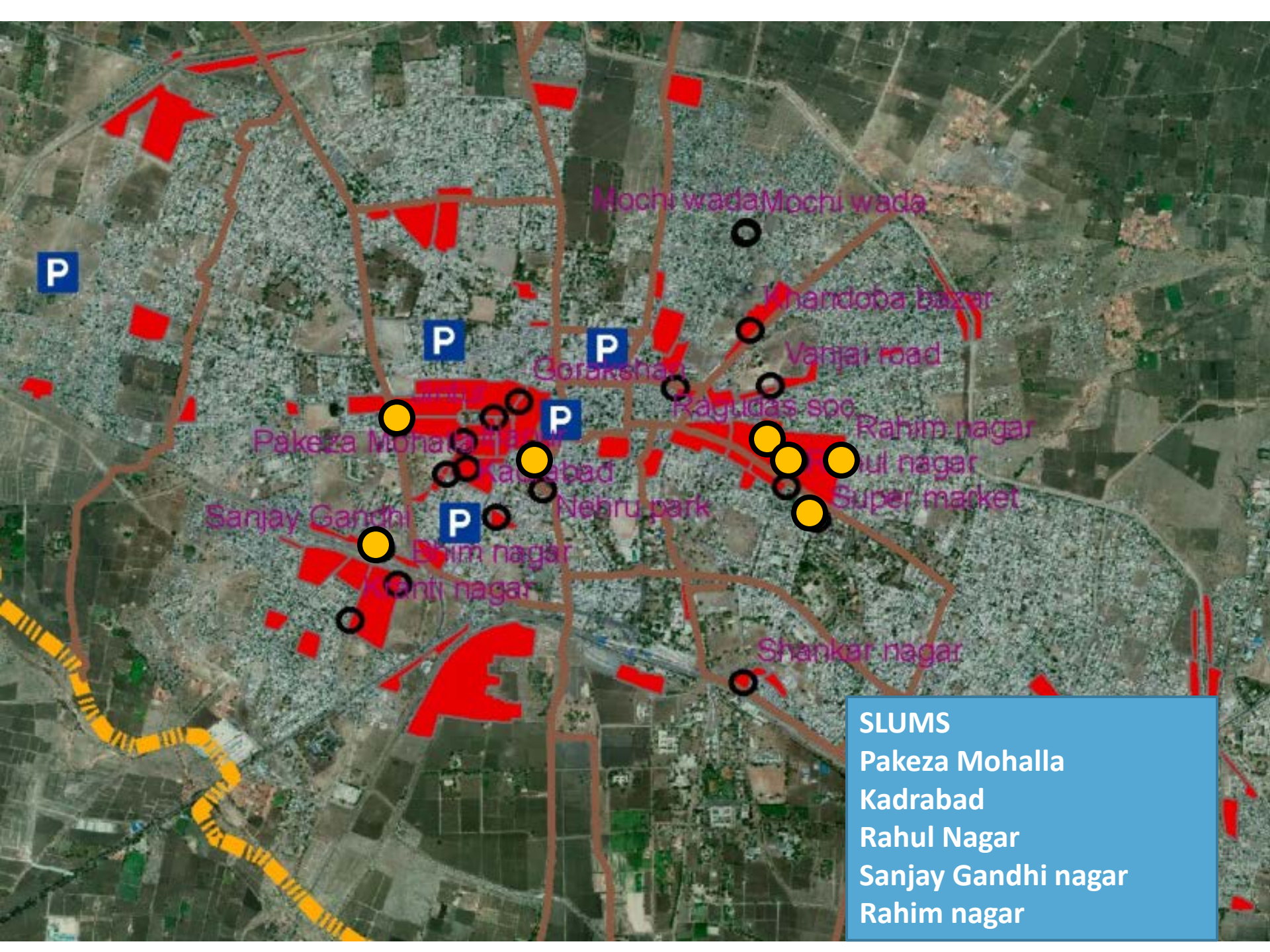
300 HH can have access to these community toilets.

Increase in coverage of toilets from 81% to 84%

COST- 0.04 Crores

List of Possible Actions - Toilets

Name	No of seats Men	No of seats Women	Total no. of seats	Present condition	Remarks	No of seats functional	Estimated HH without individual toilets	Estimated population defecating in open
Khandoba bazar	0	10	10	Demolished	Encroached by house	0	611	3055
Gautam nagar	4	4	8	Demolished	Vacant land	0	154	771
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Nehru park	8	0	8					
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Super market	2	2	4					
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Rahim nagar	5	5	10	Not in use	No door	0	436	2178



SLUMS

Pakeza Mohalla

Kadrabad

Rahul Nagar

Sanjay Gandhi nagar

Rahim nagar

List of Possible Actions - Toilets

Provision of individual toilets

NEED

Information of exact no of HH that do not have individual toilets **ISIP**

Detailed Household/Settlement level survey needs to be done

ACTION

HH survey

1. Total no of HHs
2. No of HH with Toilets
3. Toilets having septic tanks
4. Toilets with soak pits
5. Willingness survey
6. Availability of land
7. Land tenure

16835 HH need toilets

Hence 6835 HH need toilets

HH survey in process

Responsibility- ULB , Contractor
Important - Regularly updating

ILCS

No of dwelling units (with toilets) -8000 +
SPECIAL FUND FOR SC

No of dwelling units (with toilets)-2000

List of Possible Actions - Toilets

Cost of construction of one toilet Block
with septic tank – Rs 25000
Hence total cost – 35 Cr

Considering 10% user contribution

COST

	Total
No of Toilets	6835
Total exp	17
Beneficiary contribution	1.7
Fund required	15.3

Value in Crores

Budget allocation – 5%
Availability of Funds – surplus if any

Users Contribution- Through willingness
survey
FGD reveals that people are willing to
contribute if required

IMPACT Increase Coverage of toilets
Increase in Reliability grade from D to A

COST- 15.3 Crores

List of possible Actions – Open Drains

Frequent Cleaning of Drains



NEED- Information of

- The clogged drains- location
- Available manpower

ACTION

- Increase manpower in the Sanitation sector
- Appoint people to be responsible for particular area e.g. Wards
- Monitoring procedure to be implemented
- Reporting and penalizing

ACTION

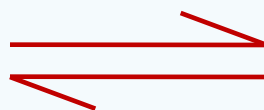
- Include Sanitation tax

ISSUES

Not enough man power
Only 1 SI

Responsibility- ULB

**IMPROVEMENT IN
SERVICES**



**WILLINGNESS OF
UERS TO PAY**

List of possible Actions – Open Drains

Settled Sewerage

SETTLED SEWERAGE NETWORK	
Calculated length of roads = 137.5km	
Length of sewer line = $137.5 \times 2 \times 0.8 =$	206 km
UPVC 75mm dia secondary sewer length =	164.8 km
RCC NP2 trunk sewer length (av. Dia 750mm)=	41.2 km
Excavation	
UPVC 75mm dia secondary sewer =	6427200 Rs
RCC NP2 trunk sewer (av. dia 750mm)=	8034000 Rs
Pipe cost	
UPVC 75mm @ Rs.58.75/m=	9682000 Rs
RCC NP2 750mm dia@ Rs. 1742.5/m	71791000 Rs
Junction boxes	
Number of junction boxes =	7420 Nos.
Junction box cost @ 7000 / unit =	51940000 Rs
Pumping stations 2 nos @ 200 lakhs each =	40000000 Rs
Rising mains 2km length DI K-7 @ Rs.8000/m=	16000000 Rs

STP cost	
Quantity of sewage for 350000 pop. @60 l sewage/capita=	24 mld
Since settled sewerage BOD is low, ASP & similar high tech STPs ruled out	
Consider Facultative Aerated Lagoon	
Land required @ 0.4ha/mld =	10 ha
Cost @ 35 lakhs / mld =	84000000 Rs
Total cost of sewerage excluding land cost for STP	399512533 Rs

COST- 40 Crores

Summary of Actions and Costing

OPTION 1 – INDIVIDUAL TOILETS (in slums)

	CURRENT STATUS	REQUIRED	EXISTING PROPOSAL	COST	COST(with shared septic tank)	IMPACT
SLUMS	13% coverage in slums	16835 individual toilets	ILCS (8000 units) SC Funds(2000 units)	17 Cr	11 Cr	Individual Toilet Coverage increase.

Considering shared septic tanks

Total cost- 11 Cr

OPTION 2 – COMMUNITY TOILETS

CURRENT STATUS	REQUIRED	EXISTING PROPOSAL	COST	IMPACT
13% coverage in slums	6 CT to be refurbished	—	0.04 Cr	Toilet Coverage (SLUMS) increase

Total cost- 0.04 Cr

SETTLED SEWERAGE

CURRENT STATUS	REQUIRED	EXISTING PROPOSAL	COST	IMPACT
Clogged drains	To connect all septic tanks	—	40 Cr	Connection of all septic tanks to direct the Waste water to disposal

Summary of Actions and Costing



CASE 1- LAUJI NAGAR SLUM

- HHs in slums that do not have space within their house can built in adjoining areas where there is space.
- Toilets can be built in a row and individual keys can be given to the individual owners

Solid Waste Management

COLLECTION

Only 52 MT of waste is collected out of 71 MT generated



TRANSPORTATION

The waste is transported with tipper trucks and 3 wheeler auto tippers



TREATMENT

No treatment of any kind takes place



DISPOSAL

Waste is disposed in open dumps

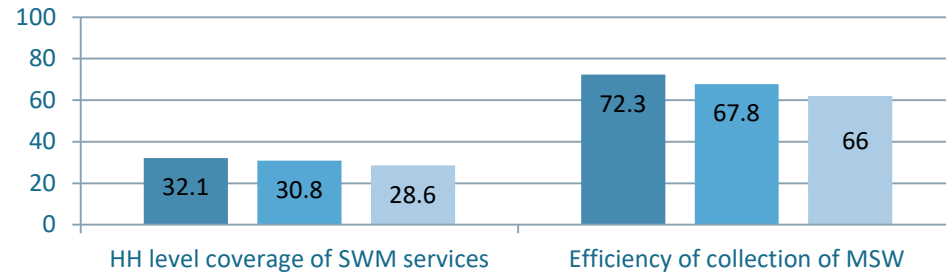
ISSUES

- Over flowing bins- creating nuisance points
- Irregular collection of waste
- Lack of manpower

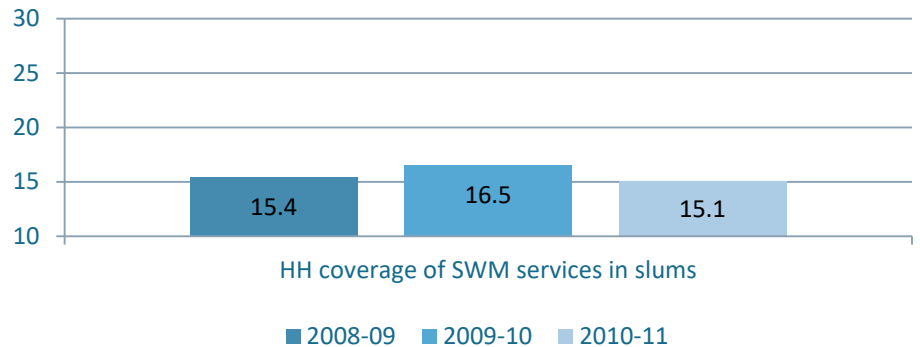
ISSUES

- DD collection in slums does not take place on a frequent basis

SWM services



SWM services in slums



List of Possible Actions -SWM

Immediate actions -SWM

S. No.	Suggested Action	Capital intensive
1	Clean-up in totality	Medium cost
2	Contract out the job of DD waste collection	Medium

Long term Action actions -SWM

S. No.	Suggested Action	Capital intensive
1	Treatment plant to be set up	High
2	Sanitary Landfill Site	High

List of Possible Actions -SWM

Identification hotspots and appropriate measures

NEED- Identify major areas that need immediate attention, open plots and other visually unclean areas

ACTION - More sweepers to be deployed- Increase in Staff for SWM
Monitoring of actions to be undertaken

D-D collection and Road sweeping on contract to third party (private/CBO/SHG)

NEED- Identify contract regulations
To be paid on the basis of properties served and
Km of road swept

Year wise contract to Private Party involvement
for DD collection and street sweeping

ACTION – Slums
To develop CBO in each slum. who would report to Sanitary Inspector under the current UCD in
Parbhani

UCD



SI Monitoring Complaints



CBO



Sweepers

Solid Waste Management Options

- ❑ Existing disposal site (4.2 ha) on Dhar road is a dump. Can be converted to Sanitary Landfill.
- ❑ Strongly recommend setting up waste plastic processing (pellets) unit (similar to Ambarnath)
- ❑ New site (2.4ha) on Borwand road (12 km from city). Construction on of aerobic composting plant (capacity 1800MT/y) and RDF unit (capacity 1200MT/y). Total garbage processed approx. 25 MT/d. Construction stopped for last 6 months since municipality hasn't paid its share of 25%.
- ❑ Compost plant / RDF BOOT contract with M/s Hydroair Techtonics, Mumbai. Of total 750 lac investment, 25% by Municipality, 75% by Hydroair. Agreement for 30 years.
- ❑ Future site requirement could be met by the stone quarries off Borwand road adjoining the canal.(about 12 kms from city)



Stone Quarries off Borwand road. Ample capacity to meet future requirement. Land owned privately.

Proposed Project- Processing Plant - SWM

Existing Processing Plant for Conversion of MSW to Compost and RDF

Cost of Project	7.5 Crores
Capacity (for next 30 years)	150 TPD

After finishing the loan amount the ULB gets 50% of the profit

Cost Bifurcation

25%	Company share
25%	ULB share
50%	Loan (company responsible)

FUNDING REQUIRED

25% ULB share (187.5 lakhs)



Thank You