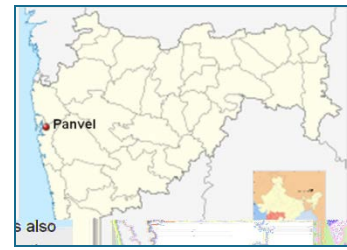




FIELD ASSESSMENT FOR PERFORMANCE IMPROVEMENT PLAN

City Profile



Class : A
Area : 3.63 Sq.km
Population : 1,80,000 (1,90,000 - 2011)
Decadal Growth Rate : 83%
Households : 43,172
Election Wards : 38
Location : 38 km east of Mumbai

Developed as an urban centre, independent of Mumbai

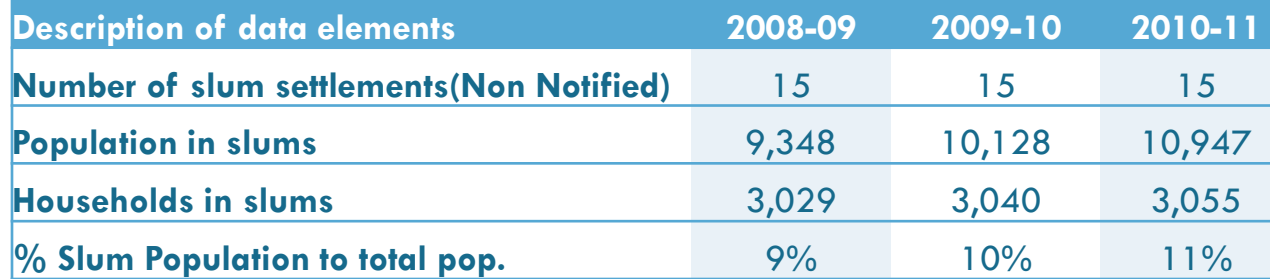
Growth Impetus : Navi Mumbai International Airport

Before Mumbai-Pune express highway Panvel was the connecting link to Konkan.

Panvel is also known as the “*gateway of Konkan*” region Sixteen wards are in the council



3



Institutional Structure

PANVEL MUNICIPAL COUNCIL

General Admin. Department

Govt. correspondence, GRs, meetings organized, elections

Accounts / Finance

Bill payments, chalans, accounts maintenance, budget preparation

Building construction

Town planning schemes, BU permission, land acquisition

Public Works department

Construction of capital projects (roads, drainage, govt bldgs etc.) under schemes like UIDSSMT, IHSDP, SNA

Hospital

Operations of govt hospitals (1 main hospital and 3 small hospitals) provide other medical facilities

Project officer for SJSRY

Implementation of SJSRY scheme

Health department

Operations and maintenance of drains; solid waste collection, transportation & disposal

Tax department

Billing & collection of taxes, maintenance of tax records

Internal Audit department

Inspection of all the expenses and auditing of ULB accounts

Water supply department

Lay network, abstract & treat water, supply to citizens, and maintenance of pipelines

Establishment department

Employee records, salary, retirement, PF appointments, promotions

Records department

Birth & death records, marriage certificates, produce duplicate documents

Street Lighting department

O&M of street lights, installation of new lights, O&M of ULB office lights

Motor maint. department

Maint. of all the ULB vehicles – solid waste vehicles, suction trucks, mobile toilets, jeeps, insurance

Library

Operations of ULB library

Ayurved hospital

Operation of the hospital

Malaria department

Spraying of sprays and vaccination

Court department

Handling of all court cases of ULB

Schools department

Management of two ULB school

The Schematic diagram of water supply system in Panvel

Source:
25 MLD

Bulk purchase
treated water
(13 MLD)

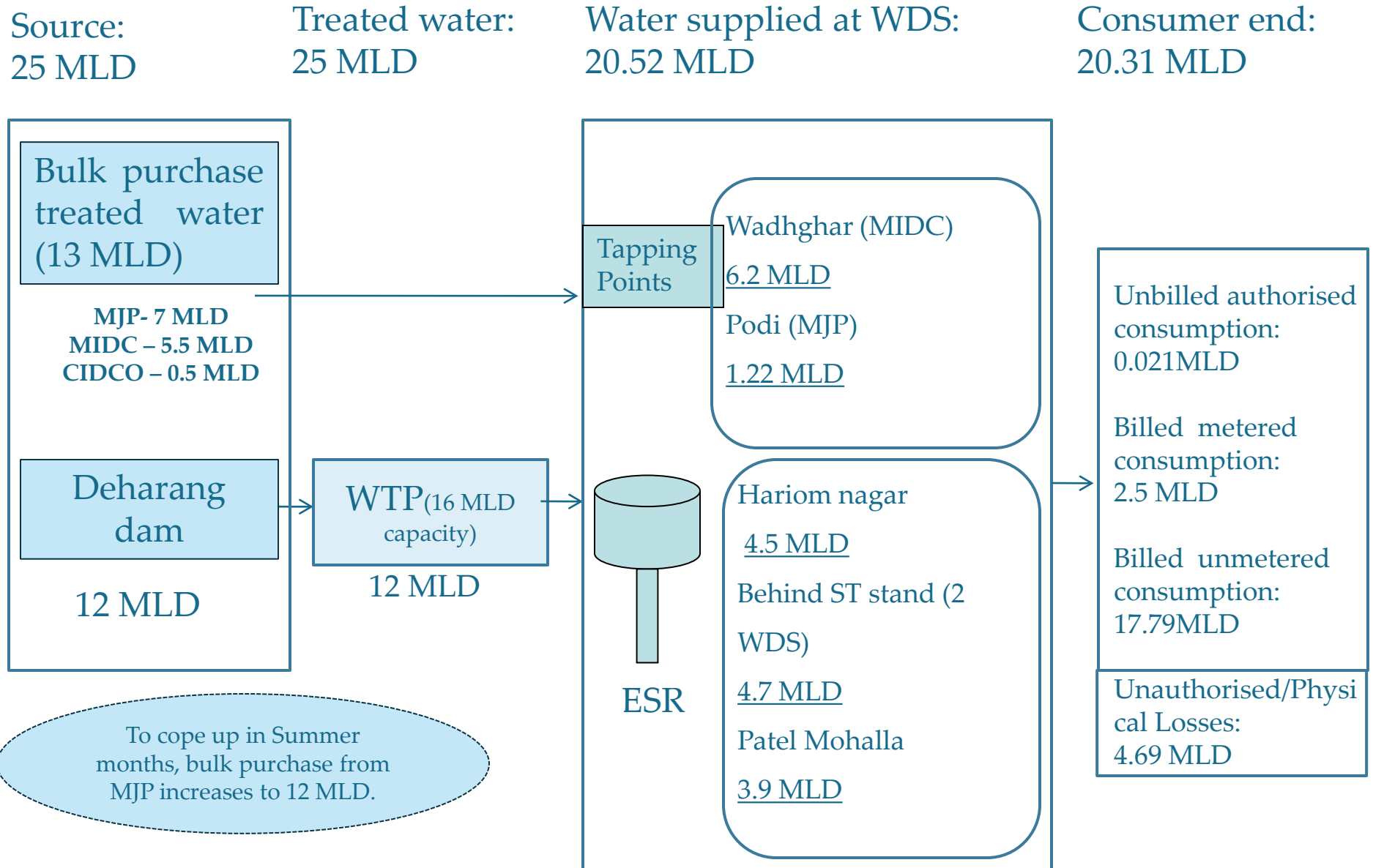
MJP- 7 MLD
MIDC – 5.5 MLD
CIDCO – 0.5 MLD

Deharang
dam

12 MLD

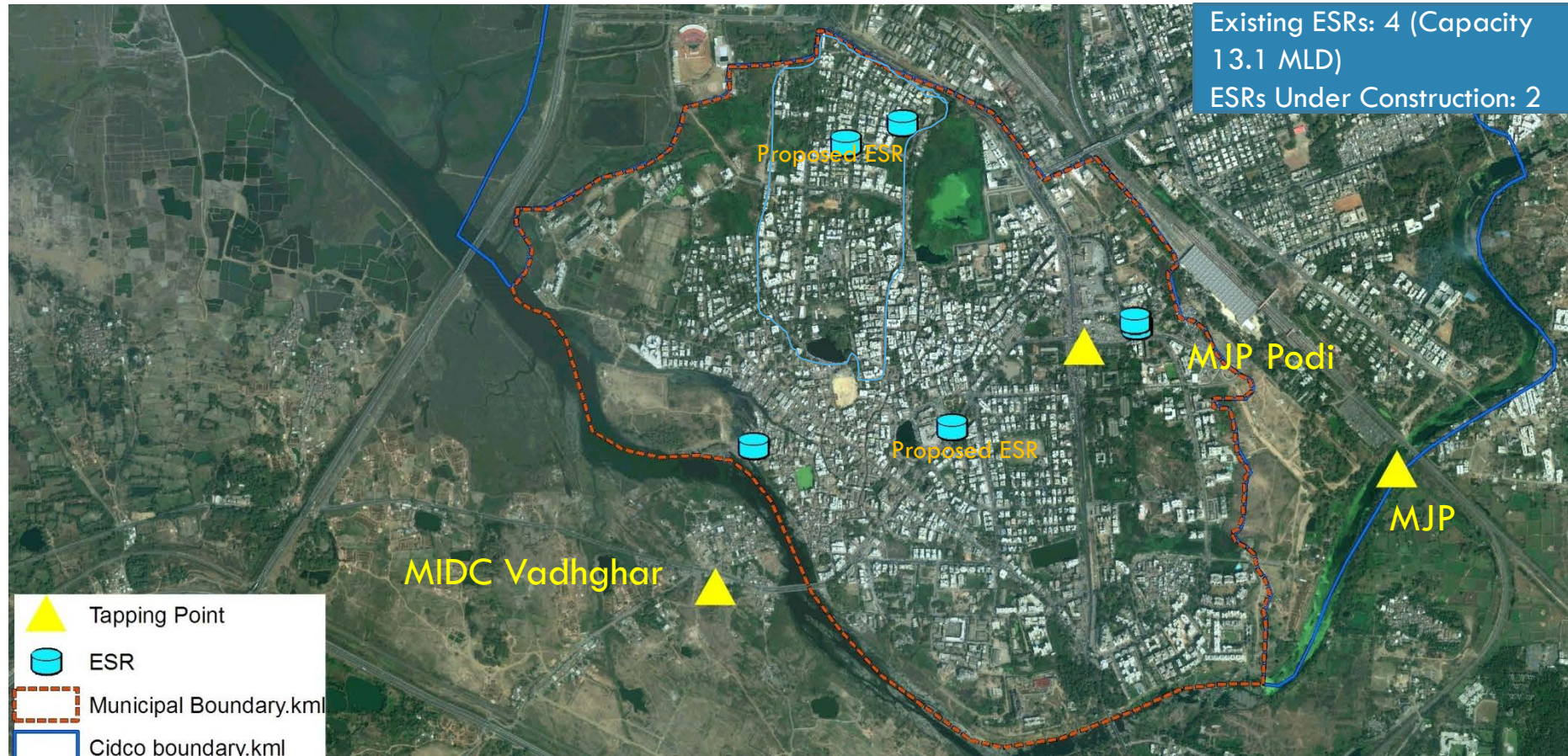


Revised Schematic diagram of water supply system in Panvel



Location of Tapping points & ESRs

7

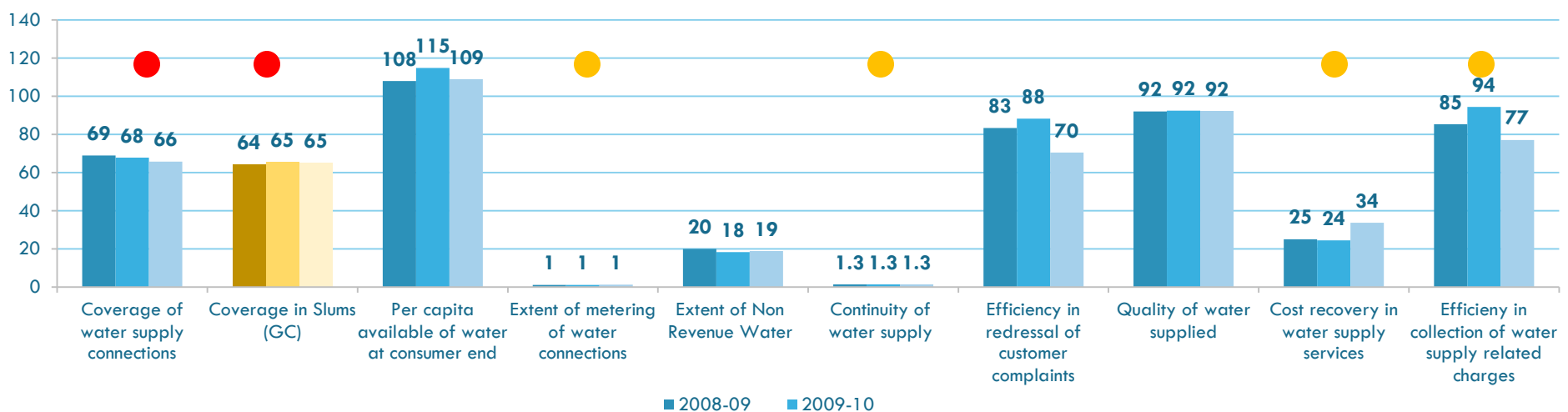


Total Area : 3.63sqkm
Area Coverage of the network : 98%

Distribution Network Area : 3.57 sqkm
HH Coverage : 66%

WS Indicator Values

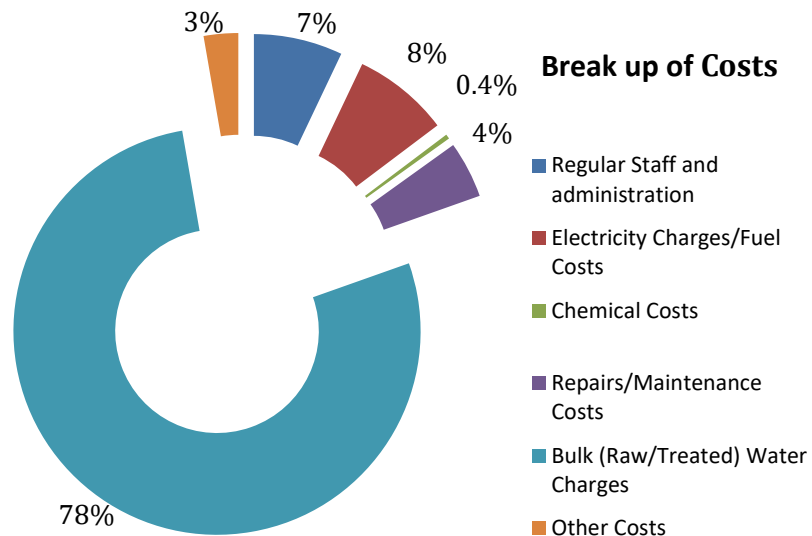
8



- Immediate Priority
- Second Priority

Finances WS

10



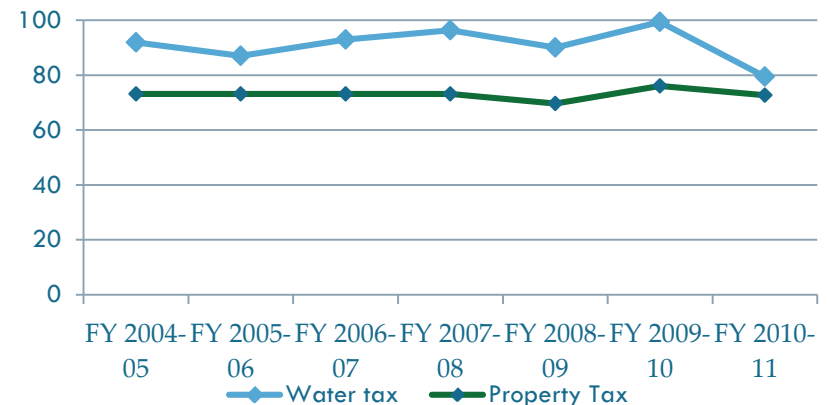
Low Cost Recovery (34%) : Major Expenditure Bulk Water purchase

Collection Efficiency has remained fair throughout (77% lowest in last 7 financial years)

WDS-1 Electricity Charges

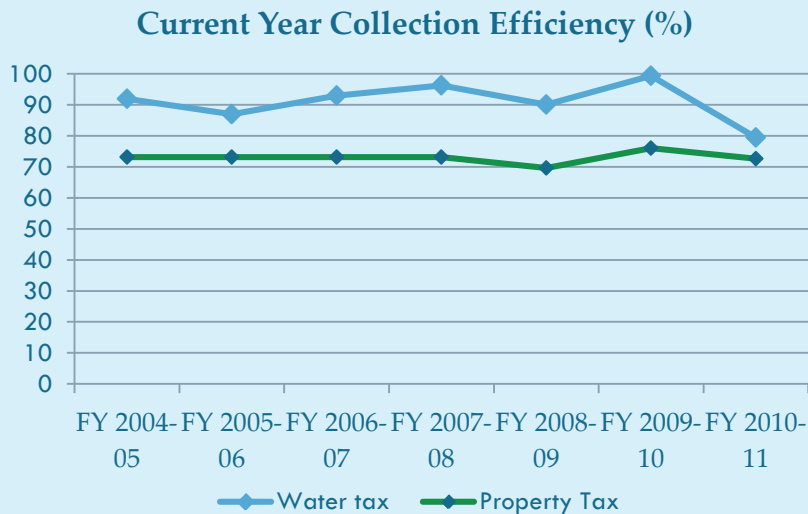
Month	PF	PF Penal Charges	Arrears	Total Bill
Mar	0.88	10,128	-	438,602
Apr	0.88	9,600	(16,580)	368,436
July	0.88	9,098	375,326	349,919
Sep			514,510	461,988
Oct	0.856	20,178	12,948	489,879
Dec	0.846	24,786	30,867	497,955

Current Year Collection Efficiency (%)



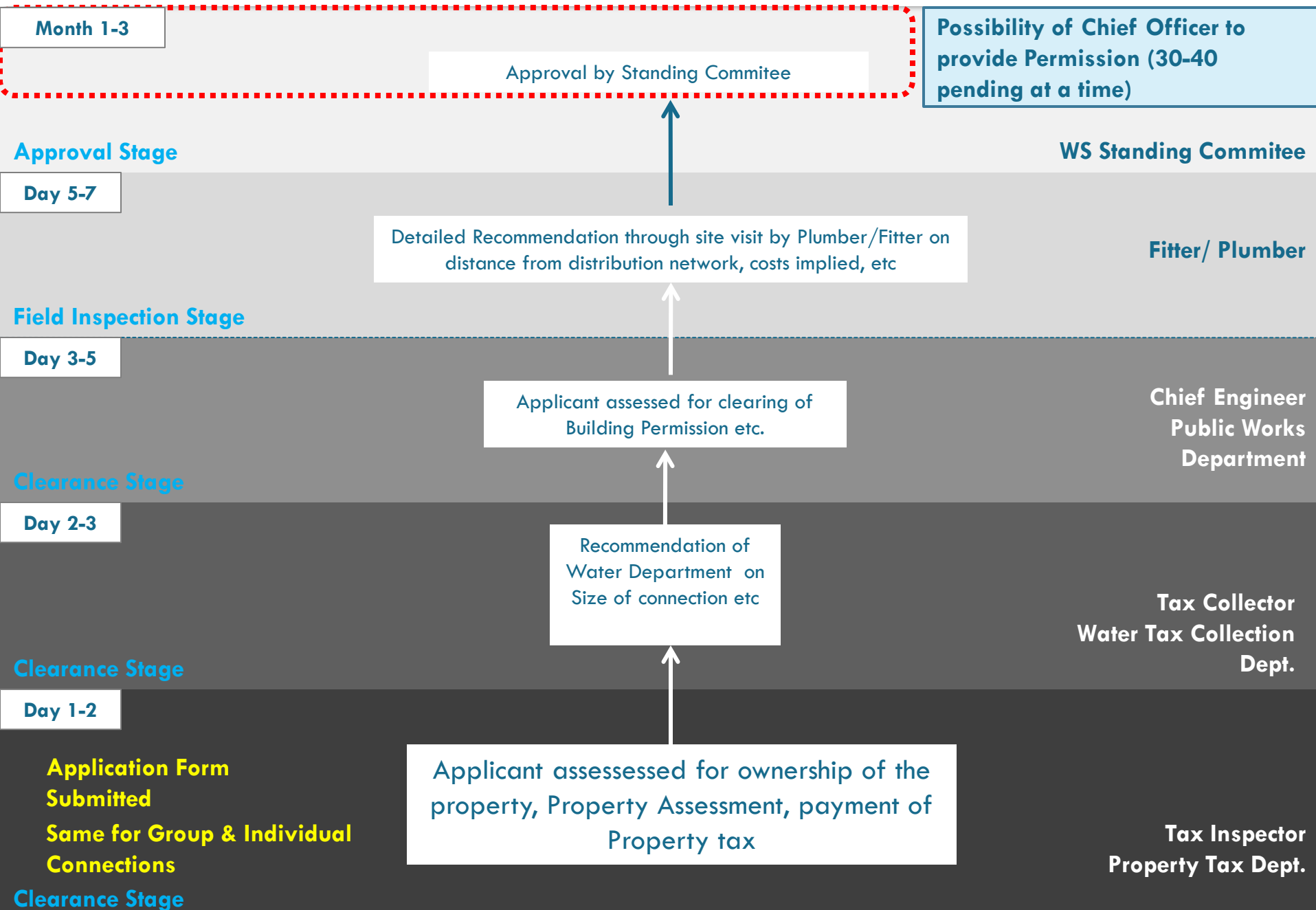
Process

11



- Separate Bills are produced for Water and Property Tax
- Low willingness from the consumer side to pay for property tax
- Water Bills are paid more willingly than property tax bills
- Increased expenditure in door to door delivery and collections
- **Need to combine both the taxes**
- **Introduction of consumer incentives to speed up collections**

Process Improvement __ Water Connection Procedure



Slums- Inadequacy of WS

13

Group Connections

Name of the Slum	No.of Households	No.of Group Connections	Demand of GC
Shivaji Nagar	1368	66	273.6
Aazad Nagar/Navnath Mandir	450	17	90
Laxmi Vasahat	356	38	71.2
Indira Nagar	245	17	49
Patel Mohalla	243	39	48.6
Kachhi Mohall	155	29	31
Ashok Baug	156	67	31.2
Vishranti Talav	26	2	5.2
Bawan Bangla	74	25	14.8
Valmiki Nagar	203	45	40.6
Railway Maal Dhakka	192	15	38.4
Panchsheel Nagar	472	30	94.4
Juna Thana Naka	11	3	2.2
Market Yard	20	1	4
Kaatkar wadi	28	3	5.6
Total	3999	397	799.8

One connection for 5 HHs

Resident Volunteers identified, in order to provide ease of communication for the ULB

Continuity is an issue-Sometimes supply after 12 PM



Source Augmentation

14

Morbi and Deherang Dam- under SNMA Resolution Passed (Not yet sanctioned)

- Survey of Deherang dam for any possibility of increasing the wall height(capacity)
- Purchase of Raw water from Morbe Dam



- Additional pipe network from Deherang
- Construction of WTP
- Construction of additional ESR and GSR at survey no. 114
- ESR completion work
- New pipe network from Godrej society to Navnath mandir to service reservoir at vichumba bridge
- Construction of ESR and GSR in Dakhta Khanda and Mota Khanda on the land that would be taken from CIDCO.
- Reusing washed out water from WTP

Water Audit and Energy Audit - SNMA

15

- ❑ Carrying out detail consumer survey
- ❑ Water audit and leak detection survey
- ❑ Providing and installing flow meter
- ❑ Energy Audit
- ❑ GIS mapping
- ❑ Hydraulic modeling
- ❑ Leak detection and Mapping
- ❑ Suggest measures for improvement of pumping machinery and water supply scheme
- ❑ Suggesting measures for Reduction of energy consumption

Tandon Urban Solutions Pvt. Ltd



Water Supply 24/7

16

- ❑ Willingness to move towards 24/7
- ❑ Pilot testing in Pioneer Society with population of 5000
- ❑ 109 lpcd present percapita supply at consumer end
- ❑ One J.E for WS and Concern towards technical capacity
- ❑ Network is CI pipe based and hence prone to leakages
- ❑ Water Audit recommendations awaited to look into the diagnostics of WS situation in Panvel
- ❑ Need to study network in detail to explore the possibility of linking with other ESRs
- ❑ Require Technical assistance for implementation of 24/7

Possible Steps towards 24/7

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Knowledge Sharing with cities like Malkapur

Identify Area for
Pilot testing
Ward No.5 *

Energy & Water
Audit
Under Progress

Hydraulic testing
of selected DMA

Flow meters at
WTP, WDS and
the inlet of DMA

Providing 100%
connections in
selected DMA

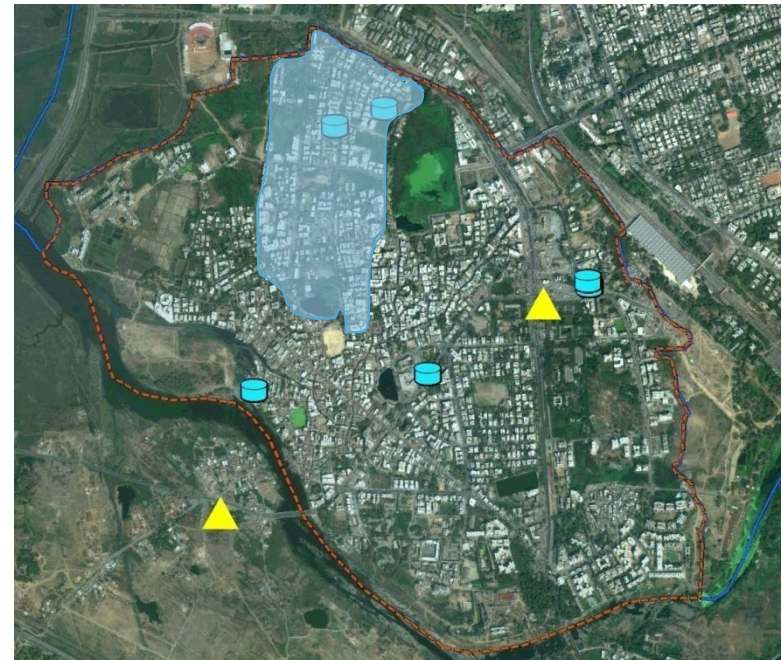
100% metering
in selected DMA
Electronic Meters

Computerized
Records and
Billing system

Records on water
quality tests and
complaints

Complaint
Monitoring

Measures
towards Full Cost
Recovery



*As suggested by ULB

Phase Wise Metering(European Meters)

18

- Lack of Incentive on Consumer end towards shifting to Metering
- Need to make Metering Mandatory
- ULB may supply meters to customers in order to maintain the quality of meters

Assumptions

- 50% ULB Subsidy (ULB willing in Pilot zone
- 1 /2"connection provides 1000 litres/day

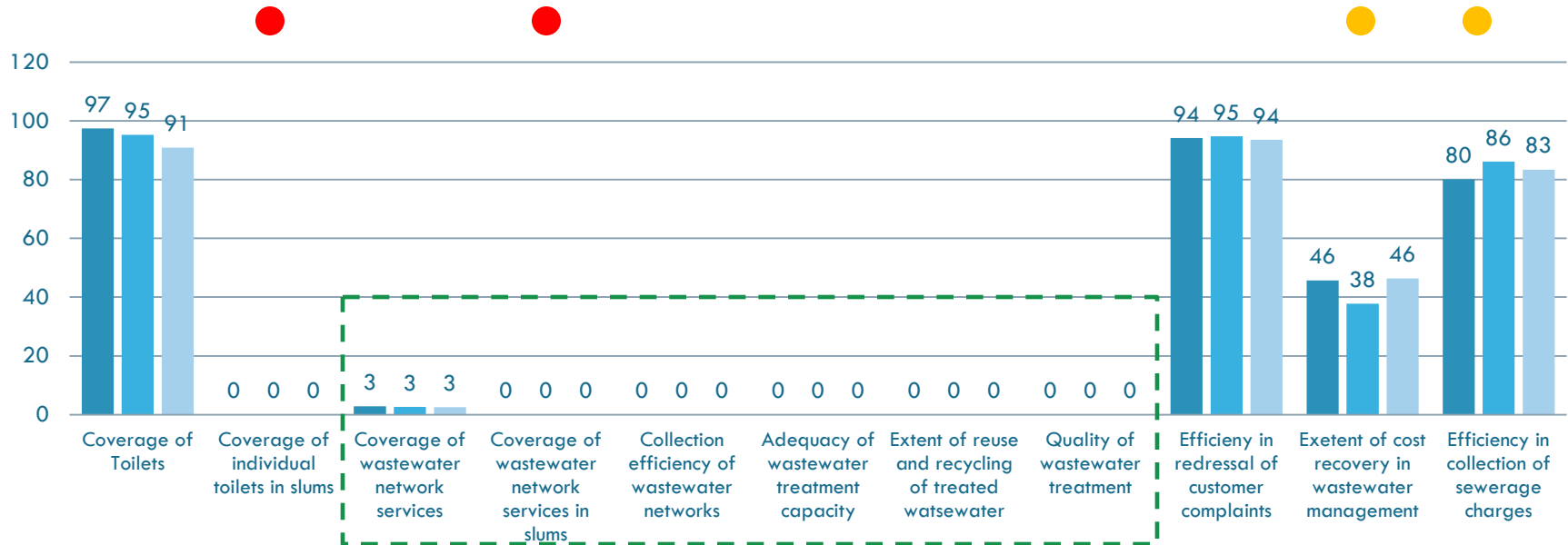
Connections Unmetered	10,898
Cost of a Meter	7,000
Total Expenditure on Metering	7.6 cr.
Total Expenditure on ULB end	3.8 cr.

Phase Wise Introduction of Meters			
Phase Wise Development	Year I	Year II	Year III
No.of Connections to be Metered	3,633	3,633	3,633
Expenditure	2.5 cr.	2.5 cr.	2.5 cr.
Subsidised Expenditure	1.27 cr.	1.27 cr.	1.27 cr.
Increase in Revenue (Assuming an increase of Rs.1505/connection	5.47 cr.	5.47 cr.	5.47 cr.

Volumetric Tariff	Rs.7 /1000 litres/day
Volumetric	2555
Flat Rate	1050
Difference in Income	1505

Wastewater Indicators

19



UGD and STP under UIDSSMT (construction)

- Immediate Priority
- Second Priority

Existing Situation

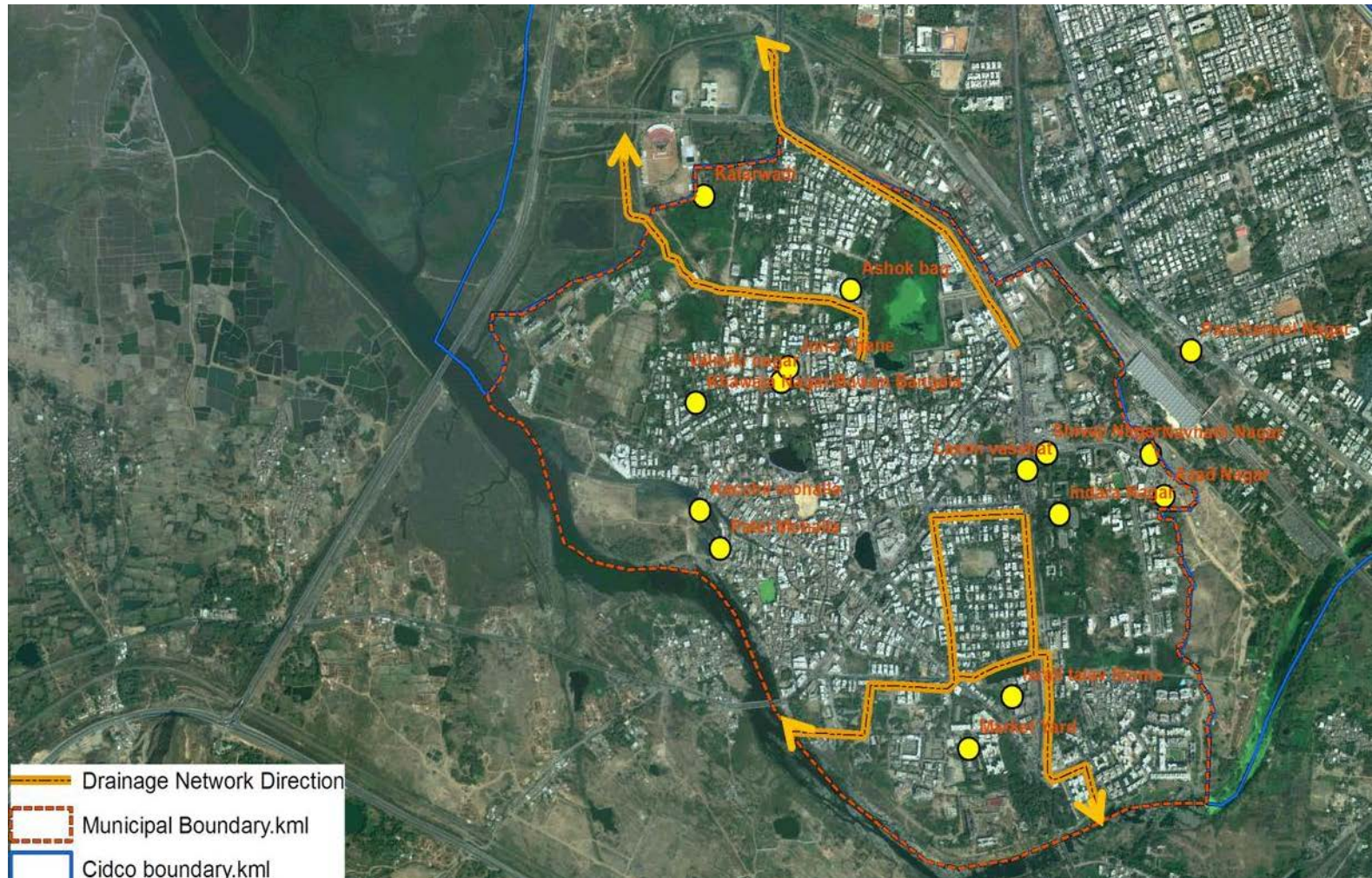
20

UGD Area coverage	30%
HH coverage	2.5%
Area covered by covered drainage network	1.3sqKm
Area covered by open drainage network	2.23 sqKm

- No treatment, sewage directly meets river
- Broken Network & accumulation of sewage
- Choked drains due to Garbage Accumulation
- **Drain cleaning is contracted for the main drains** (Payment of the contractor based on cubic meter of waste collected and transported from the large drains in the city)
- Complete absence of drains (Open & Close) in Slums



21



22

-

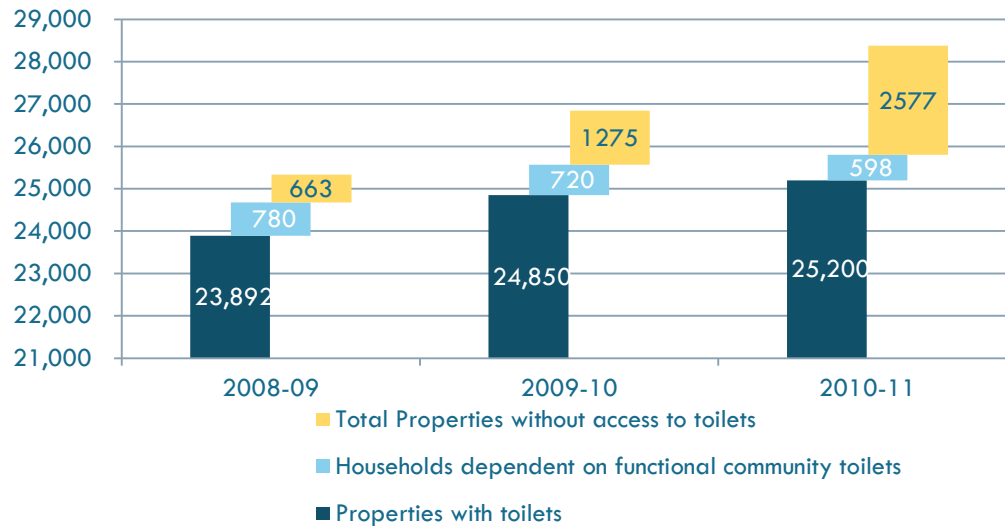
Sanitation

23



Toilets

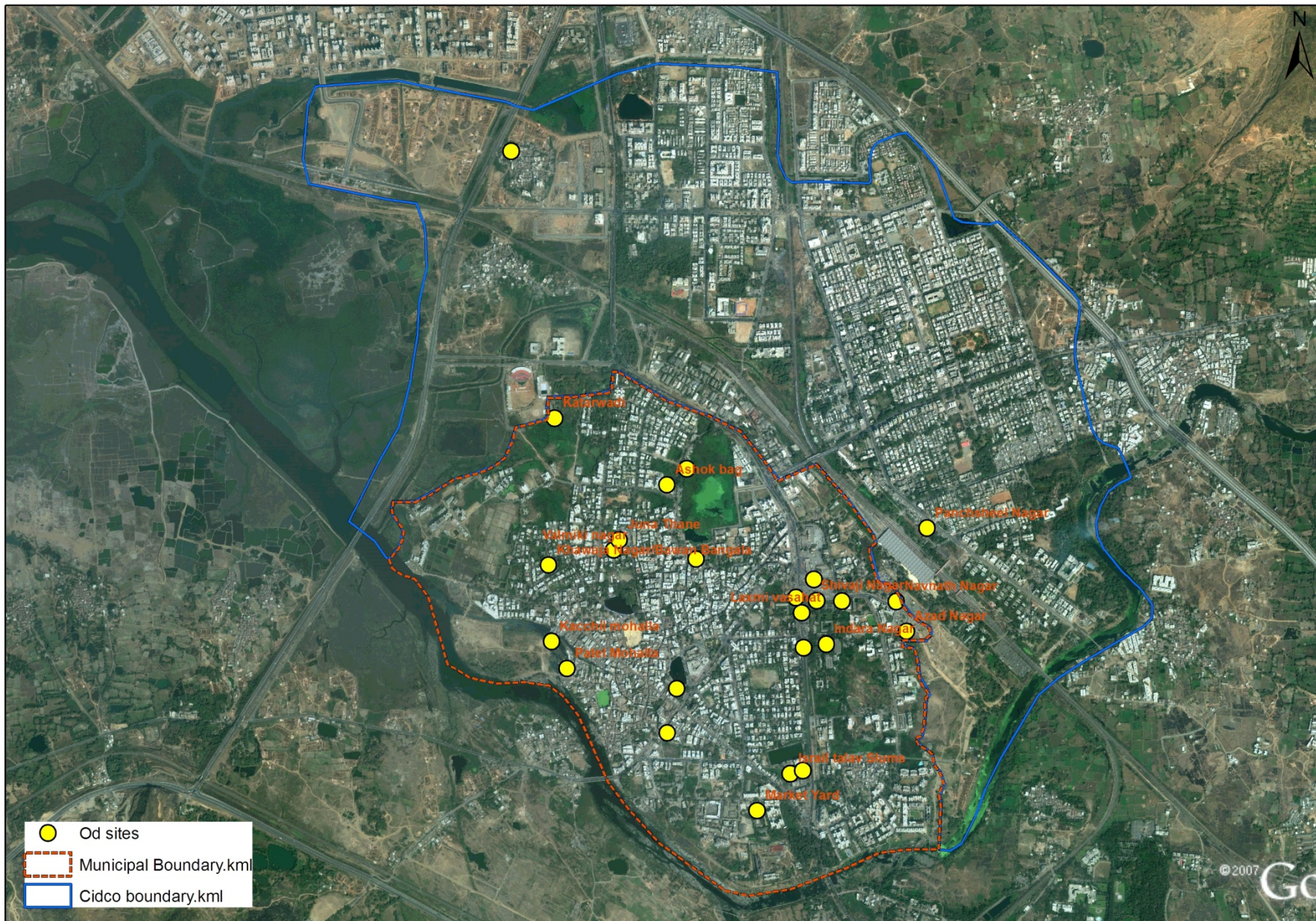
25



- Detailed Toilet Survey under Progress
- NGO named STAR undertaking the survey free of cost
- No expenditure incurred on part of the ULB



OD Sites



Open Defecation

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Reasons for Resorting to OD (FGD)

- **Access: No Individual Toilets**
- **Access: Complete Absence of CTs or P&Use within or around few slums**
- Strong Behavioural traits
- Lack of awareness of health issues
- Maintenance & cleanliness in & around Toilets
- Affordability

Other Issues in Slums

Solid waste in slums limited to the main road
Internal Collection absent
Extremely unhygienic conditions
Absence of drainage Network within slums
No pavements



OD Estimation & Gap in the availability of Toilets

28

Slum Population	10,947
Surveyed Population	31,905
Individual Toilets	0
Total No. of Toilet Seats	263
Estimated Population with access to Community Toilets	13,150
Estimated Population resorting to OD	18,755
Gap in Toilet Seat(Considering 50/seat)	375
Gap in Toilet Seat (Considering 25/seat)	1091

Costing for Toilet construction

29

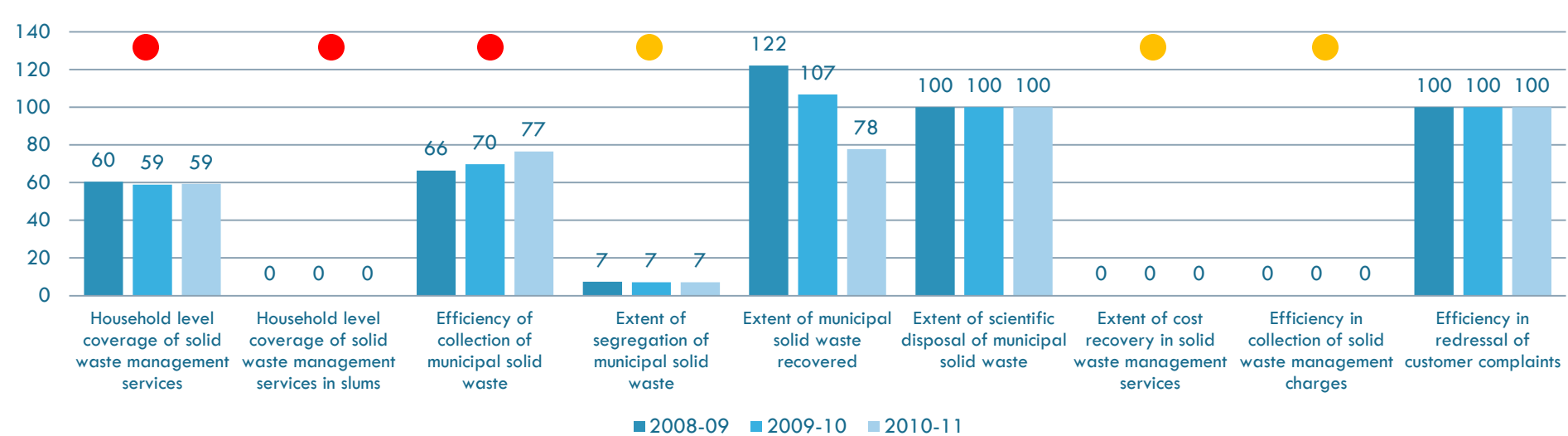
	Gap	Community Toilet	Group Toilets
Cost per seat		60,000	15,000
Scenario 1 (50)	375	2.25 cr.	
Scenario 2 (25)	1,091	6.55 cr.	1.64 cr.

	Individual
Cost per seat	15,000
HHs with No Toilets	3,751
Total Expenditure	5.63 cr.
Expenditure (10% Beneficiary Share)	5.06 cr.

- ➡ Space constraints in the city
- ➡ Preference of Group/Individual Toilets over Community toilets
- ➡ Considering the UGD network under construction the cost of Toilets will further Reduce

Solid Waste Management Indicators

30



● Immediate Priority
● Second Priority

Present Scenario

- 23 out of 38 wards served by ULB in 3.64 sq.km
- Population served by DtD collection – 90,000 approx.
- 31 MT daily waste generation i.e. 290 gms/capita
- Permanent SWM disposal site – 19 km. from city
- Temporary dumping at Navi Mumbai Municipal Corporation disposal site
- Solid waste in slums limited to the main road
- Internal Collection absent

Issues in Solid Waste Management

32

- ❑ In order to make the **city bin free**, **ULB removed all the bins** from the city in 2003-04 leading to widespread solid waste being dumped on roads
- ❑ **SWM Contract for Collection and Transportation** (.nov 2008-nov 2013)
- ❑ Societies and apartment complexes maintain private bins
- ❑ In absence of systematized collections & public ignorance widespread littering is prevalent
- ❑ Issues related to choking of drainage network are common





SWM Actions

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EXPENDITURE on SWM

Exp.Head	Annual Expenditure
Collection charges to contractor	13,400
Transportation charges to contractor(440/ton)	49,78,600
SWM processing charges to CIDCO(550/ton)	56,57,500
Total ULB Expenditure	1,06,49,500

Rs. 1.06 cr. **Expenditure** incurred annually against 0 income

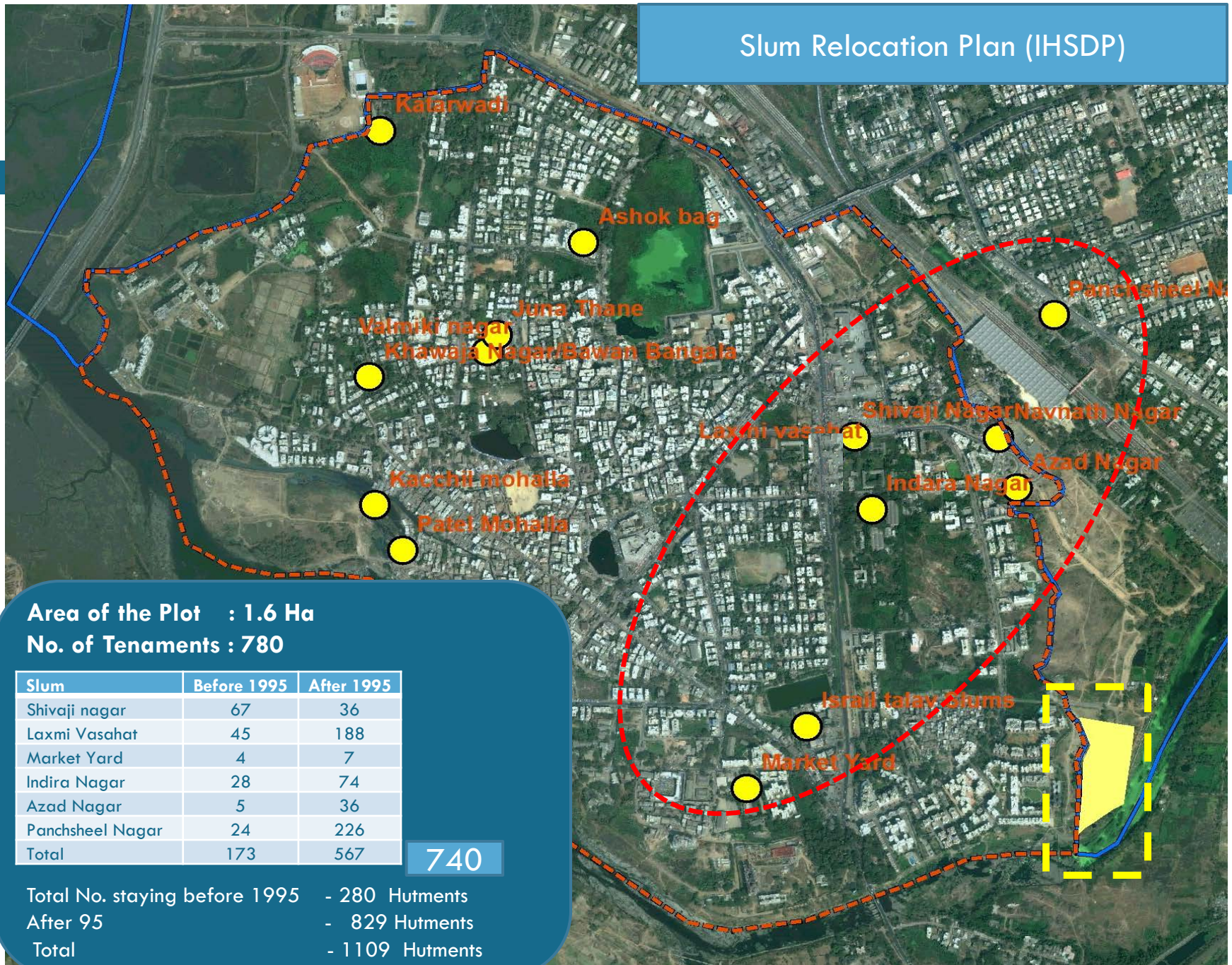
ACTION: Introduce SWM charges as part of property tax

OTHER ACTIONS

- Provide more fleet for transportation
- Review of Contract based on performance
- Need for system optimisation like area wise scheduling of garbage collection
- Public awareness and sensitisation through IEC is a priority
- Resolution for Provision of 2 bins for facilitating segregation at Source
- Penalty for throwing garbage on streets instead of DtoD (CO has the power).

Slum Relocation Plan (IHSDP)

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Thank You