

Community Toilets in Mumbai

History, Perspective and Future



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Dependency on Community toilets in India_ Higher dependency in Mumbai



Mission objective

Swachh Bharat Mission, that initiated in 2014 aimed at **eliminating open defecation** by provision of **individual household latrines (IHHL) for the 80% urban households** and **community toilets / public toilets for 20% remaining HH** defecating in open.

“Community Toilets are the shared facilities provided by and for a group of residents or an entire settlement. CT facilities are used primarily in low-income and/or informal settlements / slums, where space and/or land are constraints in providing individual household toilet. These are for a more or less a fixed user group.”

-Swachh Bharat Mission Guidelines, 2014

SBM ODF Protocol - MoHUA

- 1) All households that have space to construct toilet, have constructed one.
- 2) All occupants of those households that do not have space to construct toilet have access to a community toilet within a distance of 500 meters.

Financial Assistance by GoI

1. Individual Household toilets

Central government incentive -

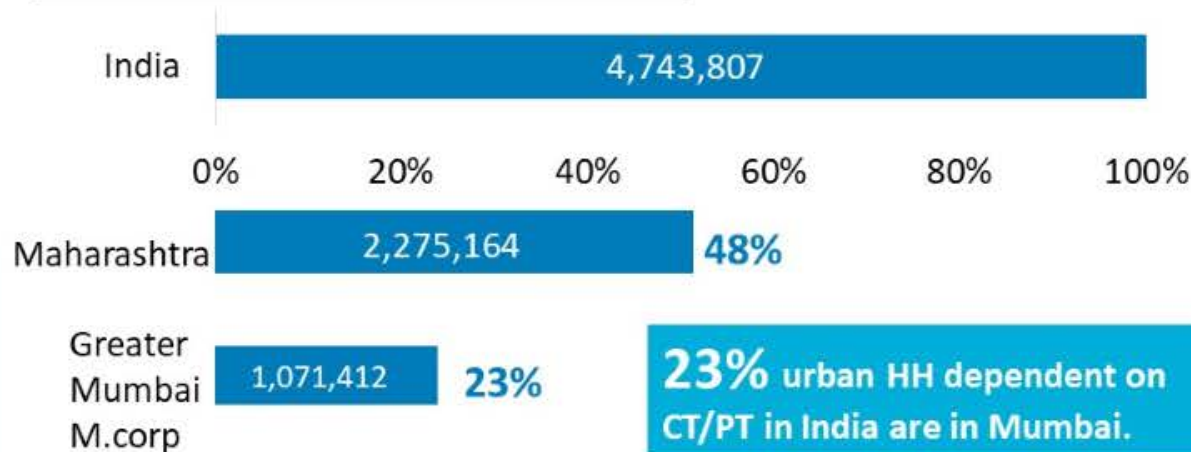
Rs. 4,000 per household toilet

2. Community toilets

Central government incentive -

40% Grant/VGF, for each community toilet block constructed.

HH dependency on CT/PTs in India



HH dependency on CT/PTs in major M.Corps of Maharashtra

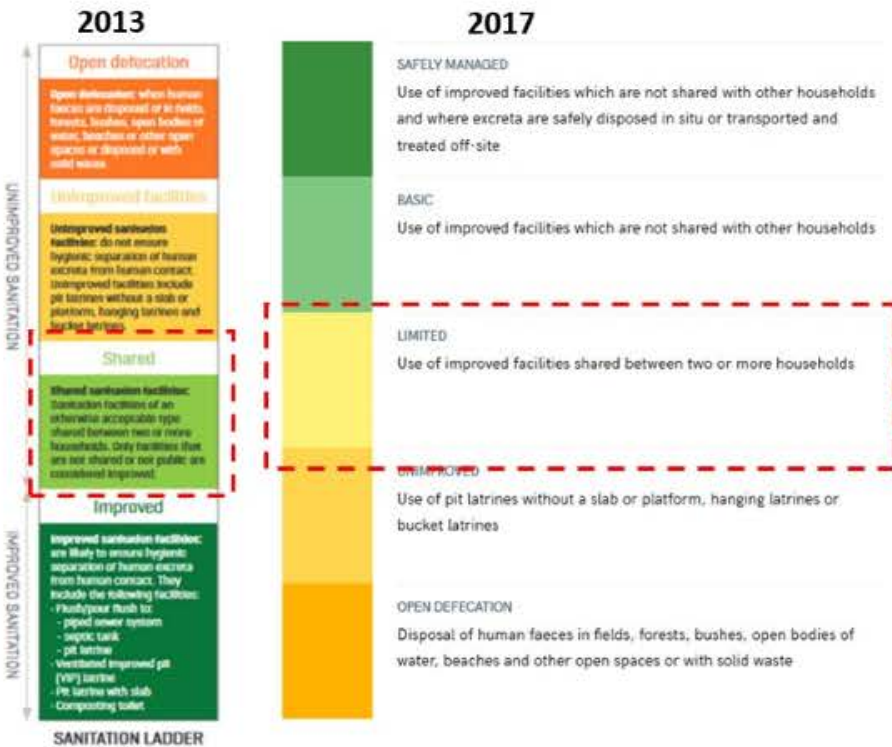


Source: 1. Jamie, J., & Bartram, B. (2005). Joint Monitoring Programme for Water Supply. Retrieved from https://www.who.int/water_sanitation_health/JMP_presentation_july04.pdf (As accessed on 20th January 2020)
 2. Wankhade, K. (2016). Operationalising SDG 6 in Urban India. https://doi.org/10.24943/updsdg2016_6 ; 3. Affairs, M. of H. and U. (2018). Declaring your City / Town SBM ODF + and SBM ODF ++ Toolkit for Urban Local Bodies.
 4. Census of India. (2011). Ministry of Statistics, Government of India.

CTs as Unimproved or Improved sanitation?_ World Perspective

JMP Sanitation ladder

The sanitation ladder in 2013 by **Joint Monitoring Program between UNICEF & WHO** classified, **shared facilities as unimproved** sanitation and has included it under limited sanitation based on the number of users as reported in the new JMP sanitation ladder of 2017 defining limited service as **“People using improved facilities which are shared with other households will be classified as having a limited service”- JMP, 2017.**



Demographic and Health Surveys (DHS) reported that sharing sanitation facilities was a risk factor for diarrhea. They are a threat to ODF sustainability.

World Development Goals

Shared facilities those used by two or more households have been **excluded from the definition of “improved sanitation”** used to monitor progress toward international targets of MDGs & SDGs. The potential reason behind it as stated by studies say that **shared facilities could be unacceptable in terms of cleanliness and accessibility.**

2000-2015 MDG Target 7.C
ENSURE ENVIRONMENTAL SUSTAINABILITY

2015-2030 SDG Target 6.2
2019 India **SDG-6 score- 88**
CLEAN WATER AND SANITATION

“India did not manage to meet the overall target for improved sanitation. This was mainly on account of shared toilets being classified as ‘unimproved’”

“People using improved facilities which are shared with other households will be classified as having a limited service”

SHARED SANITATION FACILITIES CAN BE A SUSTAINABLE SOLUTION !!!

- Sustainable sanitation should be “economically viable, socially acceptable, and technically and institutionally appropriate, and should also protect the environment and natural resources”,- SuSanA
- If the CT/PTs are clean and well-cared for, they become points of congregation and sustainable sanitation option for communities to live.

Source: 1. Joint Monitoring Programme (JMP), J. M. (2017). The new JMP ladder for sanitation. 1–3 <https://sdqindiaindex.niti.gov.in/#/ranking> (As accessed on 24th January, 2020)
 2. Andersson, K., Dickin, S., & Rosemarin, A. (2016). Towards “ Sustainable ” Sanitation : Challenges and Opportunities in Urban Areas. Retrieved from <https://doi.org/10.3390/su8121289>
 3. Heijnen, M., Routray, P., Torondel, B., & Clasen, T. (2015). Shared sanitation versus individual household latrines in urban slums: A cross-sectional study in Orissa, India. *American Journal of Tropical Medicine and Hygiene*, 93(2), 263–268. Retrieved from <https://doi.org/10.4269/ajtmh.14-0812>
 4. Patel, S., S. Burra and Kerr, T (2003). “Community-designed, built and managed toilet blocks in Indian cities,” *Environment and Urbanization*.



PROBLEM STATEMENT

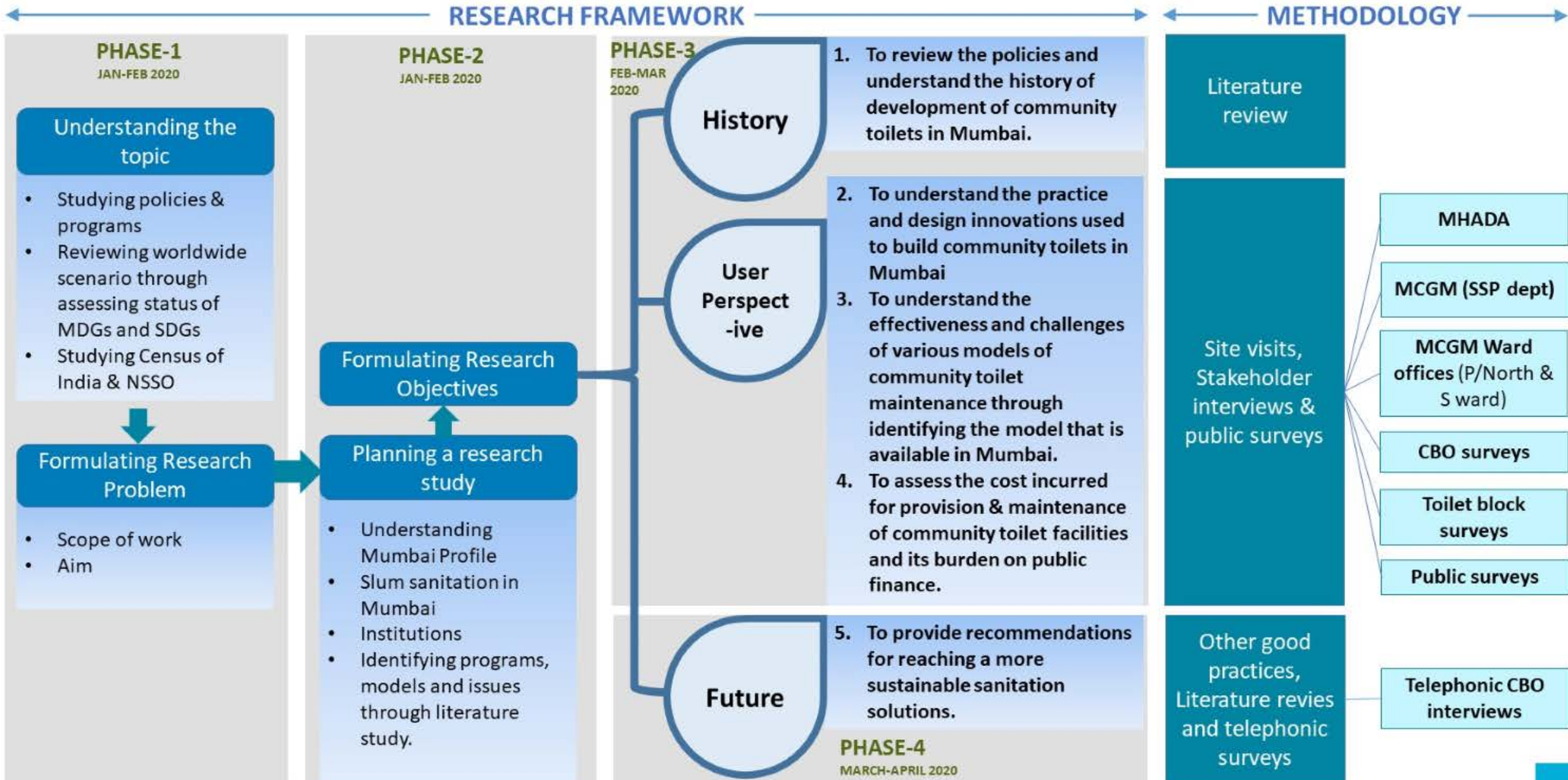
Despite, community toilets being considered as unimproved / limited sanitation practice, household dependency on CT/PTs in Mumbai is as high as **23%** as compared to the total household dependency in India.



RESEARCH QUESTION

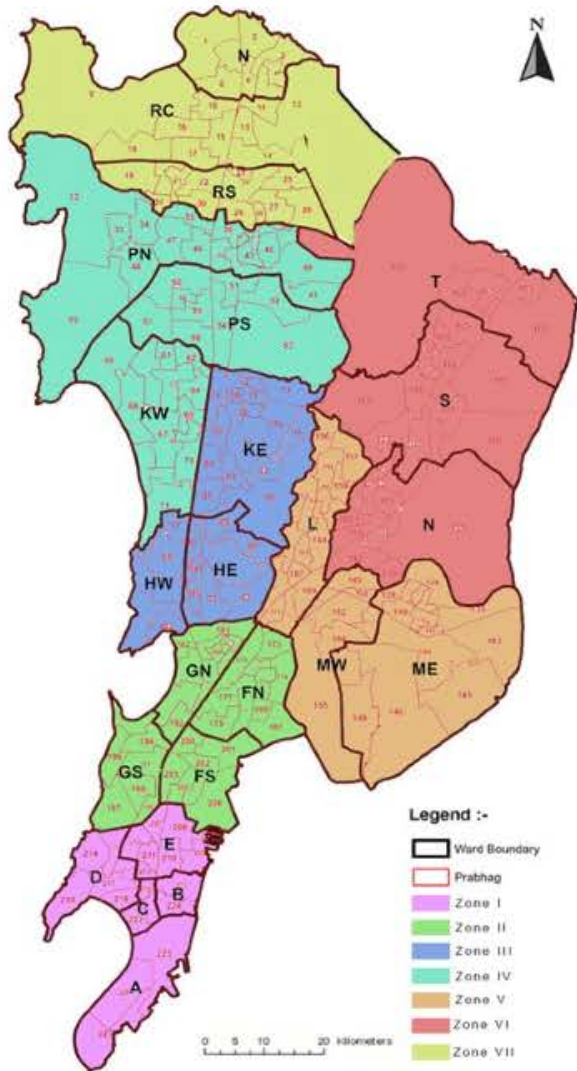
Despite GoI making efforts to move to individual toilets, why are CTs so popular in Mumbai? Are they the right solution? If no, what would be a better solution?

Research Framework and Methodology_ Objectives



Mumbai City Profile_ Slums as second predominant occupancy

Zone and ward map of Mumbai



Institutional city profile-
Greater Mumbai is divided into **7 zones**, each consisting of **3 to 5 wards** ranging up to total **24 wards** with **227 electoral wards**

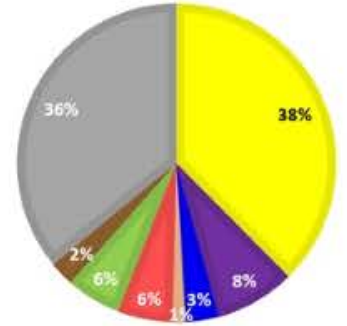
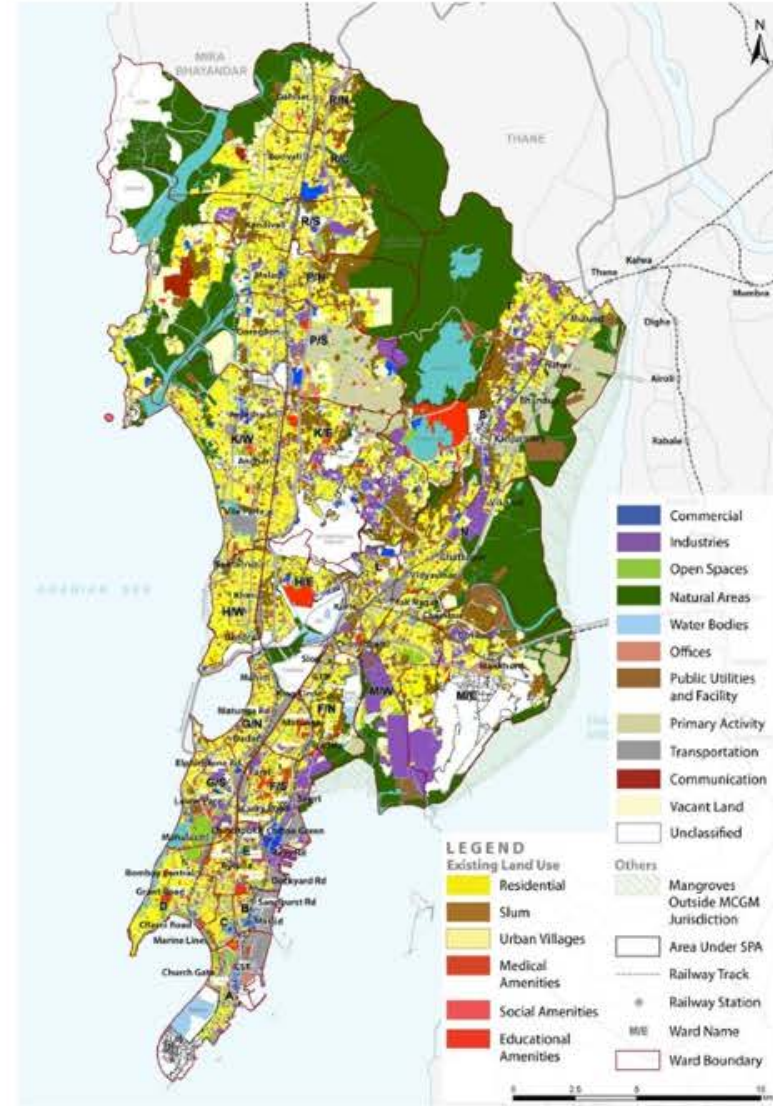
Census 2011 population-
12,442,373 people housed in approximately **27 lakh households**

Population density - 20,482 persons per sq.km.

Area	Total area (Sq.km)	Population density per sq.km
Island city	71.41	43207
Eastern suburb	164.5	23282
Western suburb	222.4	24852

Source: Census 2001-2011, Draft DP Mumbai 2034

Existing land use of Mumbai



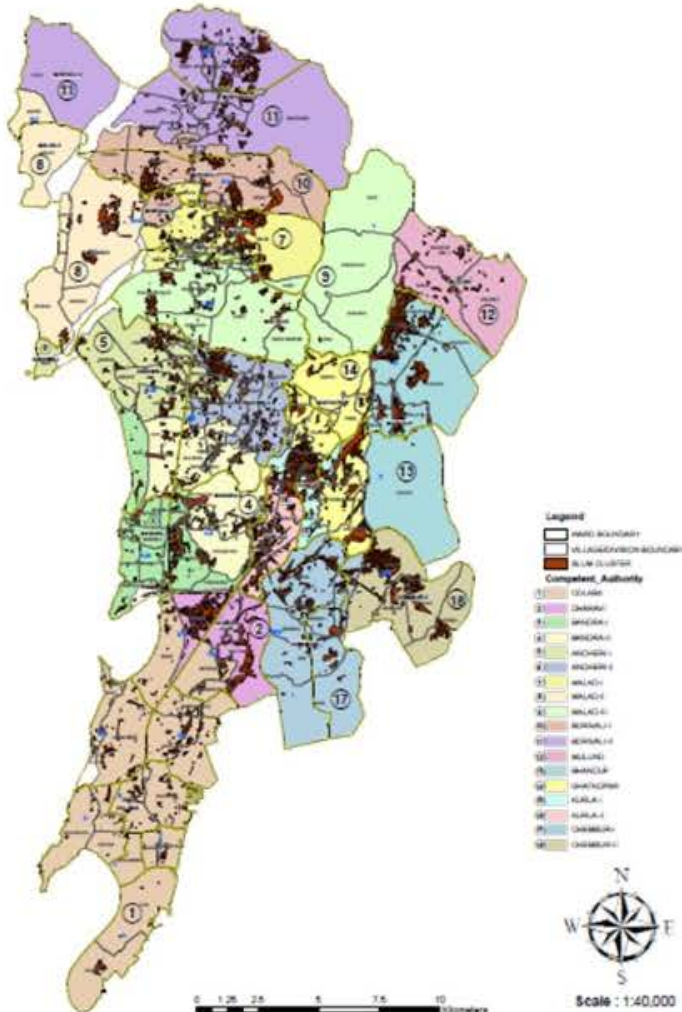
38% Residential land use

The existing land use 2012 has divided residential zone into several **sub categories viz. single family dwelling, multifamily apartments, chawls, Government housing and slum etc.** The multifamily apartments have been the predominant occupants in the city followed by the **second predominant occupancy by slums.**

Mumbai City Profile_ Mumbai has a lot of slums ... and despite development programs access to good quality services is low....

The rapid process of urbanization in Mumbai have resulted in the large influx of population leading to space congestion and growth of slum population.

SRA slum cluster map



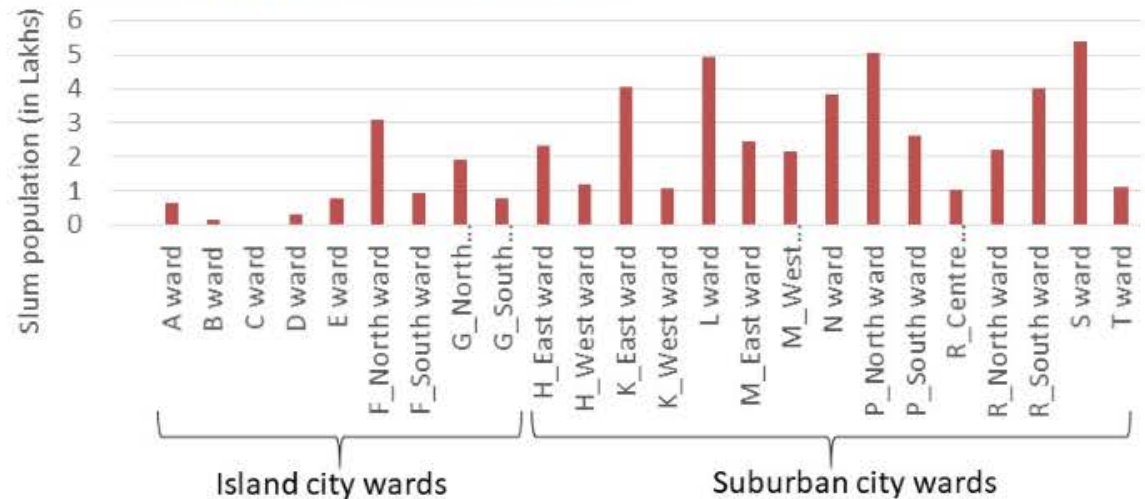
The slums in Mumbai occupy **12% of its geographical area** and approximately **20-25% of the available construction area.**

Slum Schemes History in Mumbai

1. Slum clearance and redevelopment (1896–late 1970s)
2. Slum improvement and upgrading (1976–present)
3. Sites and services provision (1983–)
4. Slum Rehabilitation Scheme (1996)

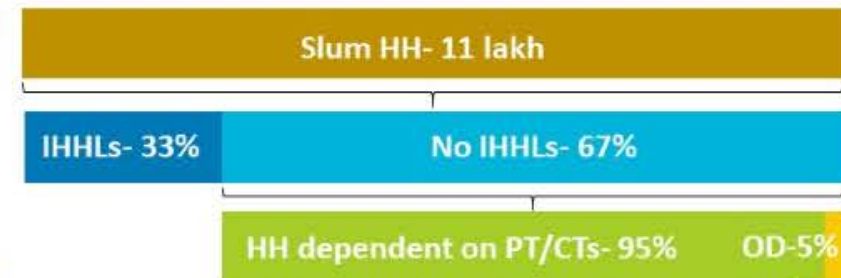
Ward wise slum population in Mumbai

As a result of these slum schemes and rehabilitation, due to higher land value in the island city, **majority of the slums dwellers from the island city were relocated to the eastern and western suburbs** resulting in to shift of higher slum population in these areas.



Slum HH dependency on CT/PTs in Mumbai

67% of the slum HH are devoid of any individual latrine facility in Mumbai leaving **7 lakh** dependent on PT/CTs



Source: 1. Draft Development Plan 2034, Mumbai; 2. Slum Rehabilitation Authority (SRA) (2015). <https://sra.gov.in/page/innerpage/gis-mis-slum-data.php> , Accessed on February 12, 2020

3. QUARTZINDIA (2016). <https://qz.com/india/717519/the-worlds-biggest-survey-of-slums-is-underway-in-india/> , Accessed on March 14, 2020; 4. G O'Hare et al. (1998). "A review of slum housing policies in Mumbai"

Mumbai Slum Profile_ Low access to IHHs seems to be due to...

1. High Density & Lack of Space

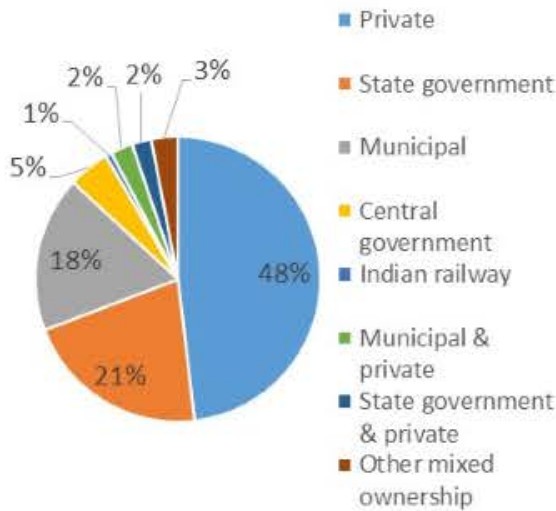


Photo credits: Mrudula

Average HH size 10ft X15ft

The slums are densely packed close to each other with households sharing common walls and average household occupancy of 4-6 people per HH with an average size of 10 X 15 feet i.e. 150 Sq. divided by the narrow lanes.

2. Land ownership and legality of tenure



1. According to the State's Slum Areas Act, notification is granted to the slums is dependent upon the security of the tenure of the housing plots.
2. It is reported that 93 percent of the total slums in Mumbai are notified, with 1995 as a cut-off date.
3. Some of the government have been reticent in providing notification to the slums settled on their land.

3. Sewerage infrastructure and procedural issues

1. The sewerage system of Mumbai dates back to 18th Century and until 1975, most of the Island City was sewered (MCGB, 1975), but only 28% of the suburbs and 15% of the suburbs was sewered.
2. Majority of the suburban slums lack access to the sewerage network owing to narrow lanes and uneven topography of these sum locations.

Existing sewerage map of Mumbai



Source: Mumbai Sewage Disposal Project Master Plan.

Source: 1. Shyamal, S., Moulik, S. G., & Sen, S. (2006). The Mumbai Slum Sanitation Program: Partnering with Slum Communities for Sustainable Sanitation in a Megalopolis. (September).

2. Desai, P. (2014). Sanitation in Slums of Mumbai View from the Field.

3. Primary research. March 2020

Mumbai City Profile_ And so CTs have developed...

1800 → 1900

Formation of Bombay
Municipal Corporation
(BMC)



1800s

Textile mills led to huge immigration of workers in Bombay

1800s

By middle of eighteenth century, two Englishmen were appointed to allot plots to the people who wished to build and live in Mumbai, leading to a sudden influx of people who bought plots in the city.

1896

Plague, and its impact on cotton trade led to the need for a stable work force led to the first public housing in the city.



1860s

The number of chawls built rapidly increased after the 1860s.



Source: 1. SPARC. (2014). *Community toilets*.

2. Burra, S., Patel, S., & Kerr, T. (2003). *Community-designed, built and managed toilet blocks in Indian cities*. *Environment and Urbanization*, 15(2), 11–32. <https://doi.org/10.1630/095624703101286691> (As accessed on 29th January 2020)

3. Karandikar, P., & Anderson, N. (2010). *Chawls: Analysis of a middle class housing type in Mumbai, India*. 1488053, 96. Retrieved from <http://libproxy1.nus.edu.sg/login?url=http://search.proquest.com/docview/848940263?accountid=13876> (As accessed on 29th January 2020)

4. Kumar, R. (1987). *City Lives: Workers' Housing and Rent in Bombay*. Retrived from https://www.jstor.org/stable/4377279?read-now=1&seq=1#page_scan_tab_contents (As accessed on 29th January 2020)

Mumbai City Profile_ And so CTs have developed...

1900 → 1980

Growth of slums and pavement dwellers with growing problems



1911-47

By the first decade of this century Bombay's working class population was already living in overcrowded, ill-ventilated chawls with poor sanitation and water supply.

However for every formal textile or dock worker provided with a house, several other migrants serviced the city and lived informally at the edge of the city

1980s

Bombay Urban Development Program

The BUDP made a strong case for granting land tenureship to and recovering costs from slum dwellers.

1970s

Clearance and Relocation Policy

The earliest 'Clearance and Relocation' policies of the 1970s that resulted in large scale city wide demolitions and evictions of slum residents came under much criticism.

Most slums had no regular amenities and services and pavement dwellers were the most vulnerable of all.



Source: 1. SPARC. (2014). Community toilets.

2. Burra, S., Patel, S., & Kerr, T. (2003). Community-designed, built and managed toilet blocks in Indian cities. *Environment and Urbanization*, 15(2), 11–32. <https://doi.org/10.1630/095624703101286691> (As accessed on 29th January 2020)

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Mumbai City Profile_ And so CTs have developed...

1980→1990

Formation of Alliance between three organizations SPARC- NSDF-Mahila Milan

International Drinking water and Sanitation Decade for achieving the goal of clean water and sanitation by Giving water and sanitation higher priority in planning of resource allocation at higher level.



The formation of SPARC and its alliance with NSDF and Mahila Milan.

The women pavement dwellers in central Mumbai discussed their needs and priorities with SPARC, access to water and toilets was one of the most common themes.

1981

1984

1985

Permissible space for home for slums on Govt. land which were built by their own money. However, it was analyzed that the material cost would go down by 25% if they shared toilets

180 Sq.ft

1986-87

The study made in 1985 came up with the issue of land, amenities and sanitation.



1986

Central Rural Sanitation Program

The strategy was to make the Programme 'community led' and 'people centered'. demand driven approach" to be adopted with increased emphasis on awareness creation and demand generation for sanitary facilities in houses

1985

Urban Basic Services for Poor

Supported actively the achievement of health, nutrition, water, sanitation and other social sector goals providing an enabling and participatory community framework targeting the urban poor.

Source: 1. SPARC. (2014). Community toilets.

2. Burra, S., Patel, S., & Kerr, T. (2003). Community-designed, built and managed toilet blocks in Indian cities. *Environment and Urbanization*, 15(2), 11–32. <https://doi.org/10.1630/095624703101286691> (As accessed on 29th January 2020)

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Mumbai City Profile_ And so CTs have developed...

1990→1995

First Community Toilet constructed in Mumbai.



Beside it was found that with no running water the toilet inside the house was a health hazard and took a very precious space



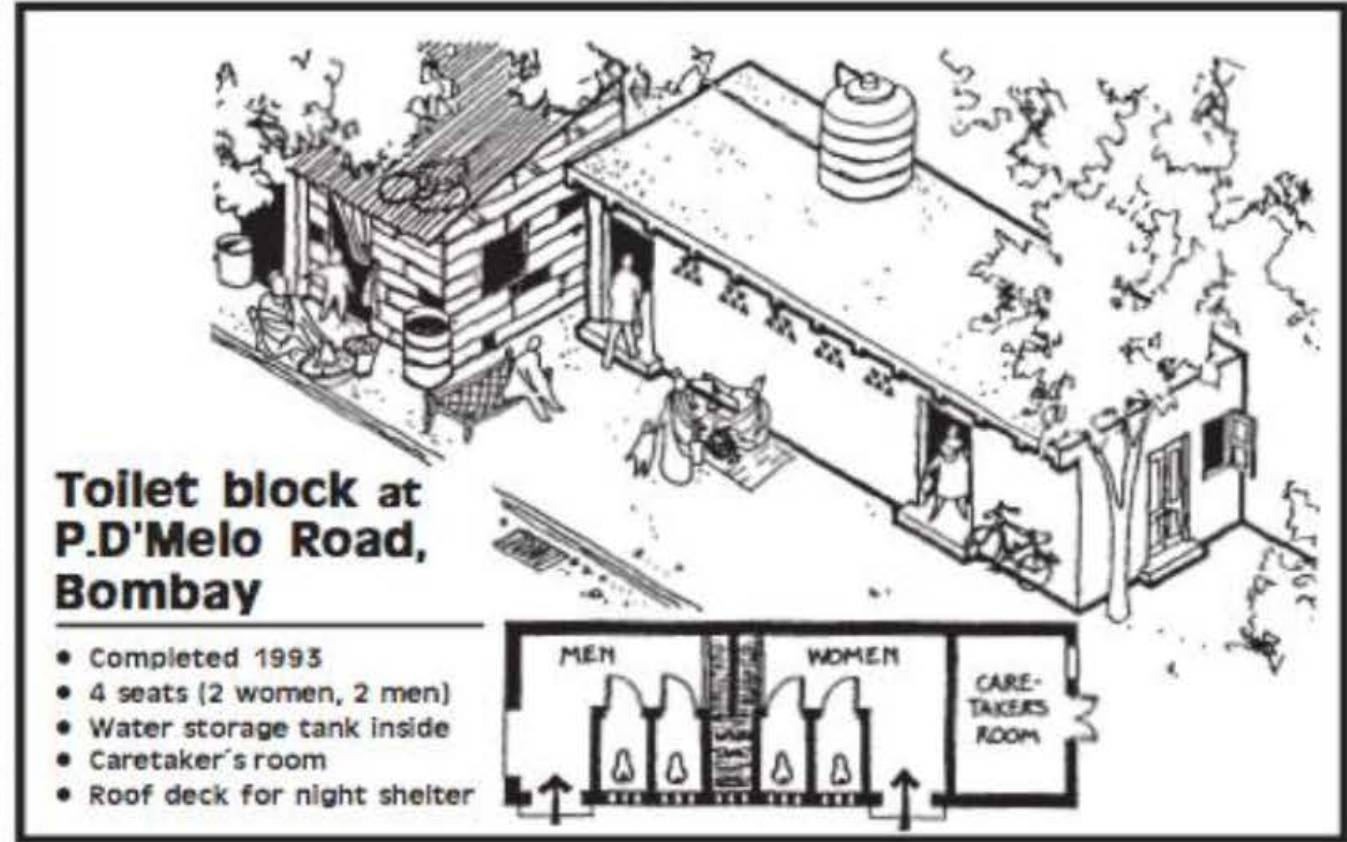
Out of this came the concept of community managed, city financed toilet with separate and equal seats for men and women and separate spaces for children

1993

1993

A First for the city of Bombay:

The roadside toilet block at P. D'Melo Road made history as the first case of a formal city contract for building a public toilet being awarded to the pavement dwellers who will use it.



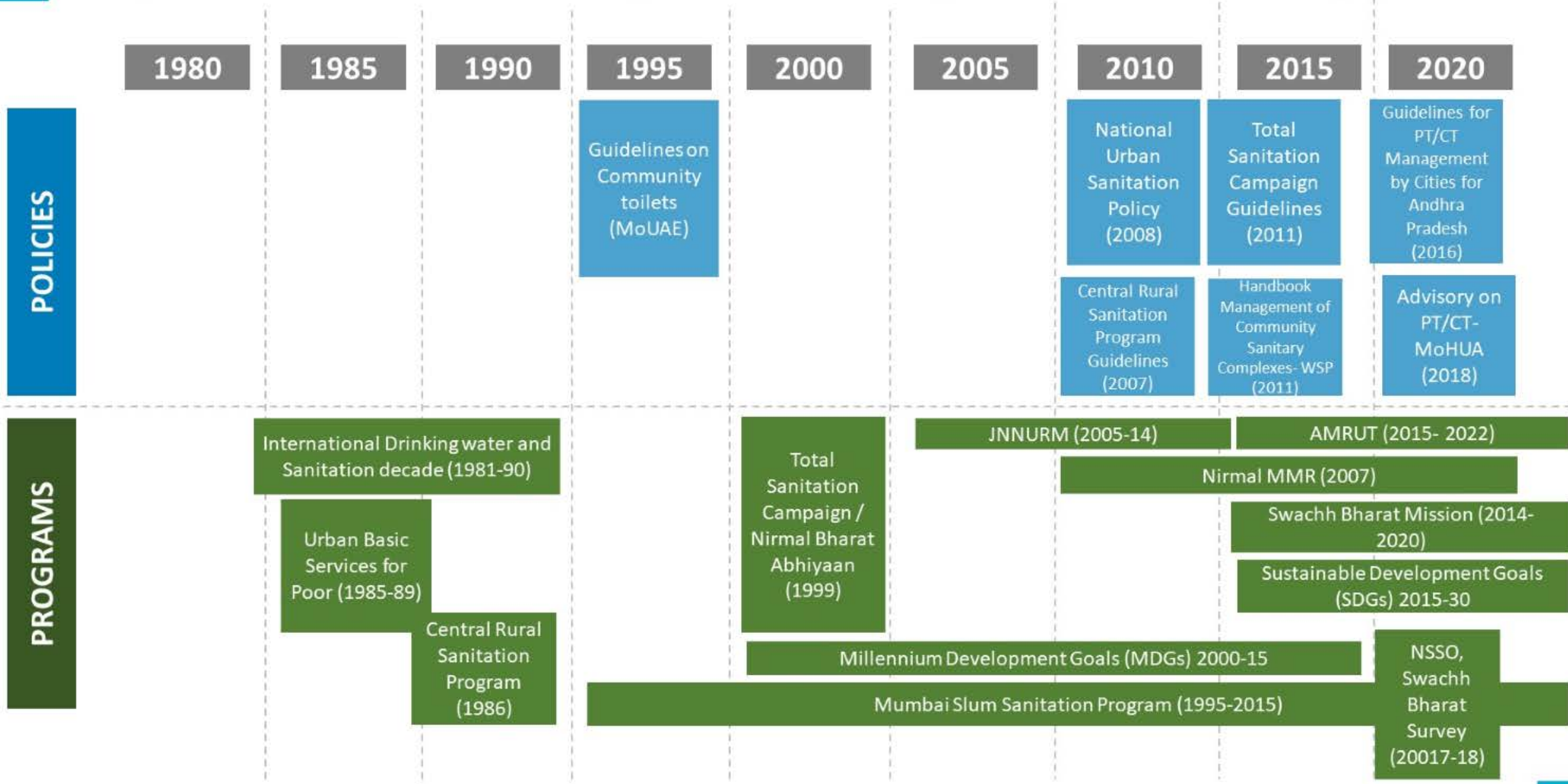
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Inception of Policies and Programs nationally and internationally...

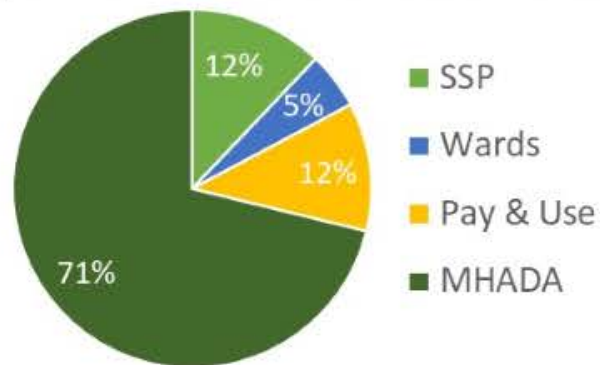




Current Scenario of CT provision in Mumbai...

Current distribution of Community toilets in Mumbai

Distribution and scale of the CTs in Mumbai



71 % constructed by **MHADA**,
12 % are constructed under **SSP**,
executed by MSDP of MCGM
5 % constructed by the **MCGM**
wards after **executed by SWM**
department after the inception of
SBM.
12 % are the **public toilets**
constructed by the private agencies.

139,587 - of CT/PT seats
3225 IHHLs seats under SBM

Sr. No	Description	Year	No. of Toilet Blocks	Total Seats
1	Lot 1 to 7	1997-2005	324	5680
2	Lot 8 (R)	2006-2013	189	4849
3	Lot 9	2011-2014	235	3840
4	Lot 10	2016-2019	174	4163
5	CTB's constructed by Wards	Upto 2019	389	3278
6	Pay and Use	Upto 2019	881	9675
7	Other Toilet in ward surveyed by CSSL in 2014	2014	2252	55927
8	MHADA	Upto 2019	5417	52175

Source: Slum Sanitation Programme Department, MCGM

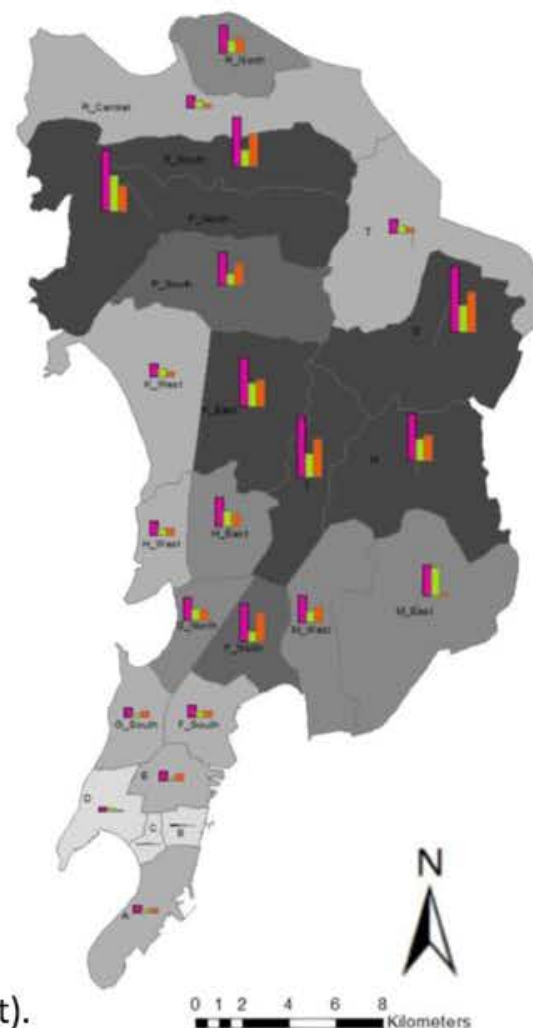
Mumbai lacks total **21,885 seats** i.e. it **falls short of providing access to toilets** to approximately **6.5 lakh slum population** of the city (considering 30 people per seat).

Source: 1. Slum Sanitation Programme Department, MCGM

2. Survey of Toilet Blocks carried by CSSL in 2014, SSP Depts, MCGM. Retrived from Nautiyal, A. (2017). Study of Relationship between Municipal Budget Allocation and Sanitation Service Delivery in Mumbai

Ward wise status of Community toilet blocks

The survey of toilet blocks carried out by CSSL in 2014 represent the ward wise availability and deficiency of toilet seats in Mumbai.



1. It can be observed that in spite of the **highest availability of the seats in the eastern and western suburban wards** as compared to the other wards
2. The **requirement is even higher owing to the higher slum population** resulting in to the deficiency of seats exceeding the availability of seats by a considerable extent.

Legend

MCGM_Wards

Slum_Pop_11

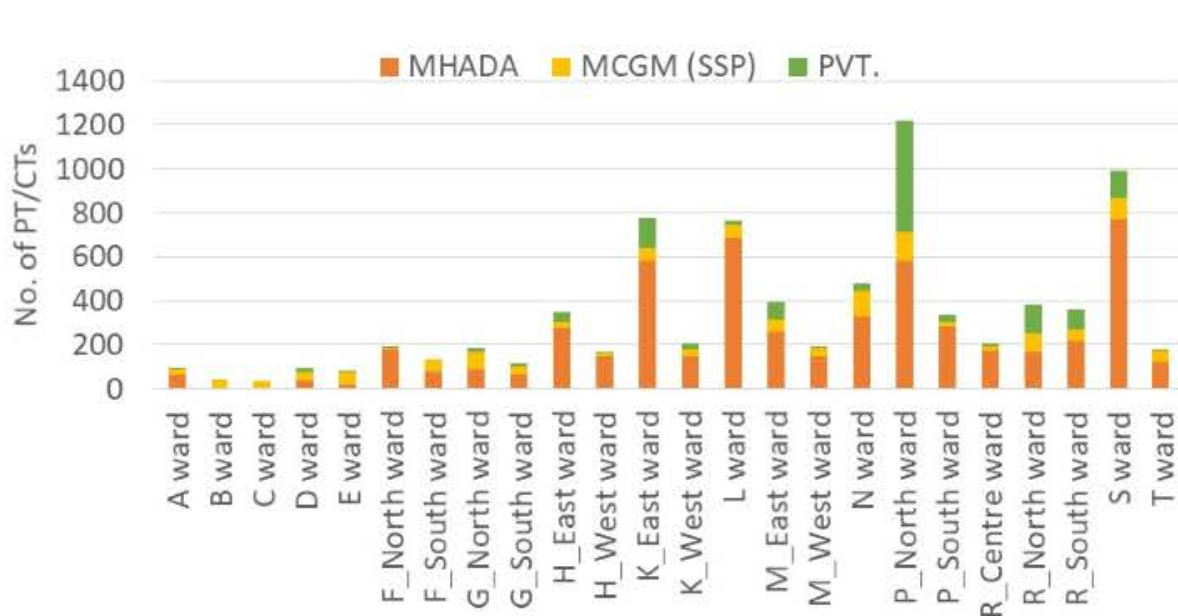


MCGM_Wards



MHADA & MCGM_ The key players of Community toilets in Mumbai

Ward wise distribution of CT/PTs in Mumbai



Source: Municipal Corporation of Greater Mumbai (MCGM) (2015).

- The responsibility of provision of these community toilets in the slums of Mumbai is carried out by multiple governing institutions like **MHADA**, **MCGM** as well as other private agencies as a CSR model like the ones by Hindustan Unilever Limited and Suidha etc.



1. MHADA

Maharashtra Housing Area Development Authority (MHADA) is an implementing state agency. The community toilets under MHADA are constructed through **MPLAD scheme** for which approval is given by the **Mumbai Slum Improvement Board department (MSIB) formed in 1992**



2. MCGM

Municipal Corporation of Greater Mumbai plays a prominent role in providing access to community toilets in slums through the **World Bank initiated Slum Sanitation Program (SSP) in 1995**. This program was **executed by the Mumbai Sewage Disposal Department (MSDP)**.



3. CSR

The private agencies like **Hindustan Unilever Limited**, **Suidha** and **Sulabh** are also the key players in the construction of community toilets and public toilets in Mumbai and follow a **private funding pattern as a CSR model**.

Source: 1. Municipal Corporation of Greater Mumbai (MCGM) (2015).

2. Nautiyal, A. (2017). Study of Relationship between Municipal Budget Allocation and Sanitation Service Delivery in Mumbai.

MHADA model of Community toilets

1. Inception

Members of Parliament Local Area Development Scheme (MPLADS)

- On **23rd December 1993** Prime Minister had announced the **Members of Parliament Local Area Development Scheme (MPLADS)** in the Parliament.
- Objective of the scheme: Creation of durable community assets based on the locally felt needs to be taken up in their Constituencies.**

2. Capital cost funding model

Year	Fund per annum (Crore)
1993-94	0.05
1994-95	1.0
1998-99	2.0
2011-12	5.0

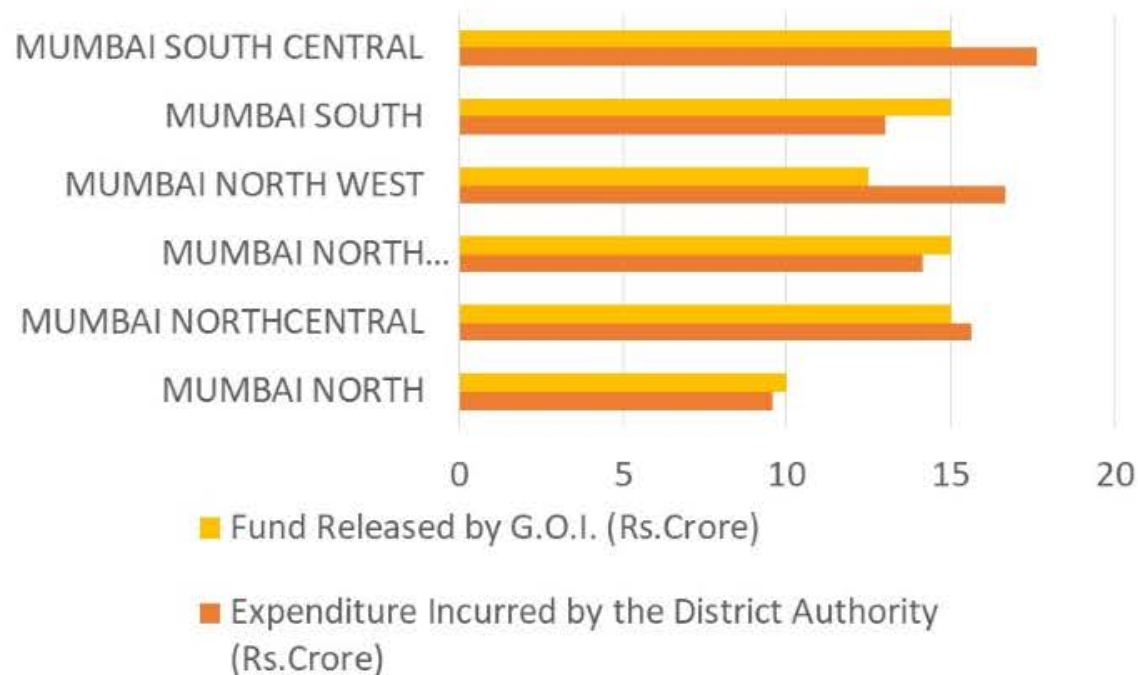
Current fund allocation per constituency **Rs. 5 Crore**

The funding pattern under MPLADS has been fluctuating since its inception with about allocation of **Rs. 5 lakh per MP in 1993** which later was **hiked to Rs. 1 crore per constituency in 1994** and up to **Rs. 2 crore in 1998**. However, currently the fund allocation per MP constituency is **Rs. 5 crore from the year 2011**.

Cumulative Expenditure (Since 16th Lok Sabha 2014-2019)

Expenditure usually done on **drinking water, primary education, public health, sanitation and roads, etc. are being created.**

MPLADS Expenditure (2014-19)

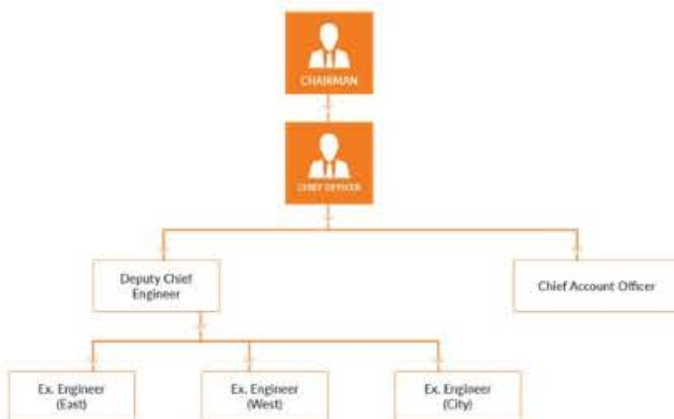


Expenditure = 15-20 Cr > Fund release of 15 Cr

The expenditure has been the highest under these constituencies owing to highest slum population and demand for the infrastructure.

MHADA model of Community toilets

3. Institutional Arrangement



The administrative arrangement of the Mumbai Slum Improvement Board department of MHADA includes the **three Executive engineers for the city, eastern suburb and western suburb respectively.**

4. Process of Construction



- Demand from the local communities through a request to the local leader or counsellor who further puts the **application to the chief officer of the Mumbai Slum Improvement Board (MSIB) in MHADA.**
- The chief officer is then responsible for giving the approval post which the **contractor is appointed who is responsible for the planning, design and construction of the toilet block.**

5. Toilet specification

- **Super structure: Load bearing structure** with typical **12 seater design** and **service life of 10 years**
- **Usage norms: 35 users/seat**
- **Sewage disposal mechanism: Septic tanks or Aqua Privy systems.**
- **Infrastructure: No separate entrance for men and women, No water and electricity connection or caretaker room**
- **Cost per seat: Rs.20, 000 to 40,000/- as till year 2000.**

6. O & M model

- The operation and maintenance mechanism of the toilet blocks is **left over the user groups to decide** however, a very little evidence of formal handing over of the blocks to MCGM for O & M has been observed.
- These MHADA toilets are not run on the pay and use model therefore making it **free for use with no monitoring mechanism.**

MCGM- SSP model of Community toilets_ Inception and Model

1. Inception of Mumbai Sewage Disposal Project (MSDP)

1995- World Bank initiated the Mumbai Sewage Disposal Project up to 2050 through sanction of Rs.1200 Cr loan.

The aim of the project was:

1. **Improvisation in infrastructure** of Mumbai in the form of sewerage development.
2. **Old sewer upgradation.**
3. **Safe treatment and disposal** of collected sewage to the waterbody.

The scope of work was:

To **construct a marine outfall running upto 3.5kms and 45 meters below the sea** at Worli, Colaba, Bandra and Malad for safe transfer and disposal of treated sewage water from STPs.

2. Inception of Slum Sanitation Program

However, the environmentalist then objected over the project stating it to be only focused on developed areas and **MSDP as non-inclusive of the undeveloped & informal settlements.**

This gave rise to the **Slum Sanitation Program under MSDP** thus allocating approximately **10% of the total sanctioned loan for MSDP.**

3. Aim and scope of Slum Sanitation Program



AIM- To improve the sanitary conditions of the slum dwellers in slum settlements and improve the environmental conditions.



The World Bank floated the Staff Appraisal Report stating the conditions and perspective for the use of loan.



Since the then existing service delivery was non-participatory and non inclusive, **SSP was designed with bottom up approach thus making it supply and demand driven.**



The scope of work was:

Planning, designing & construction of community toilets through end to end community participation.



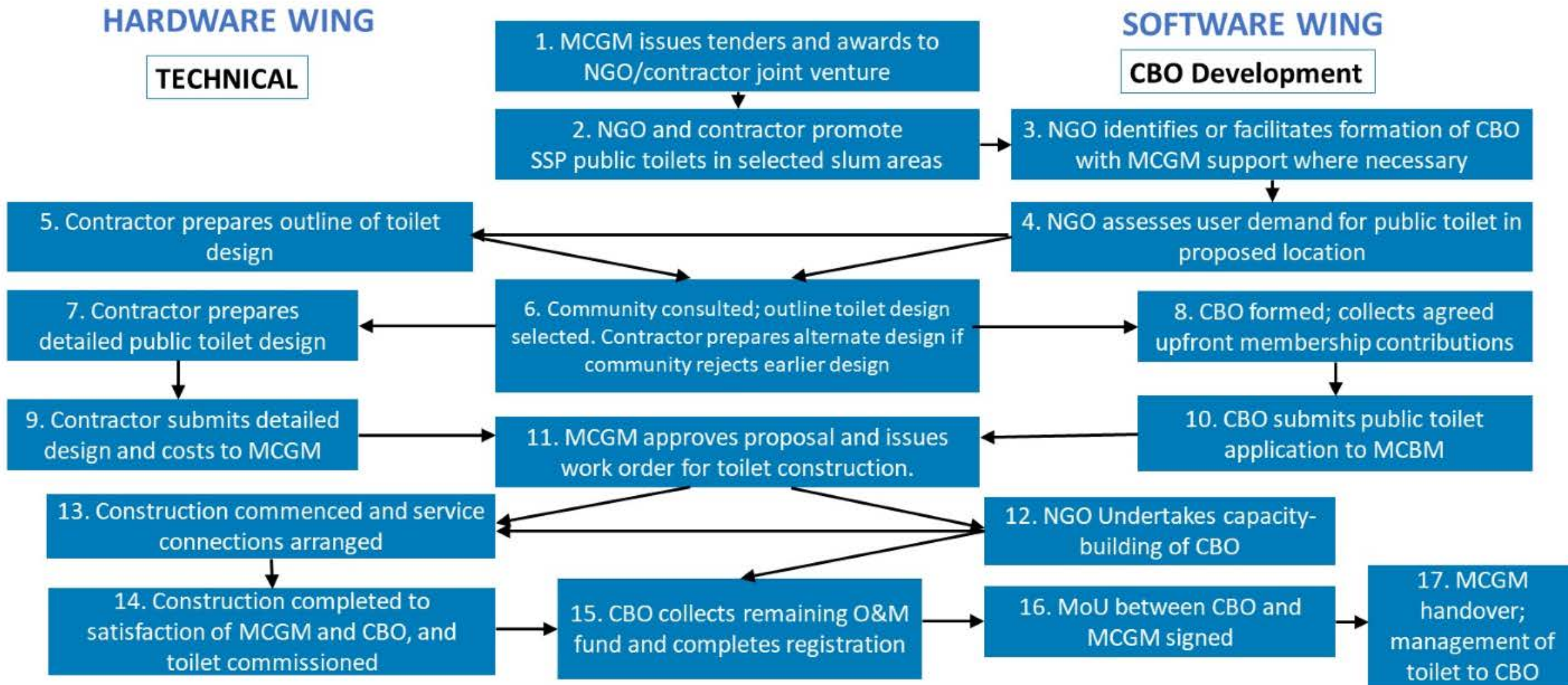
In order to ensure the successful implementation of the program, **Officer on Special Duty (OSD) was appointed.**

Process of Slum Sanitation Program

Contractor- Preparing outline of the toilet design to the completion of the construction to the satisfaction of CBO and MCGM.



NGOs- Formation of the CBOs up to the handing over of the toilet block to these CBOs.

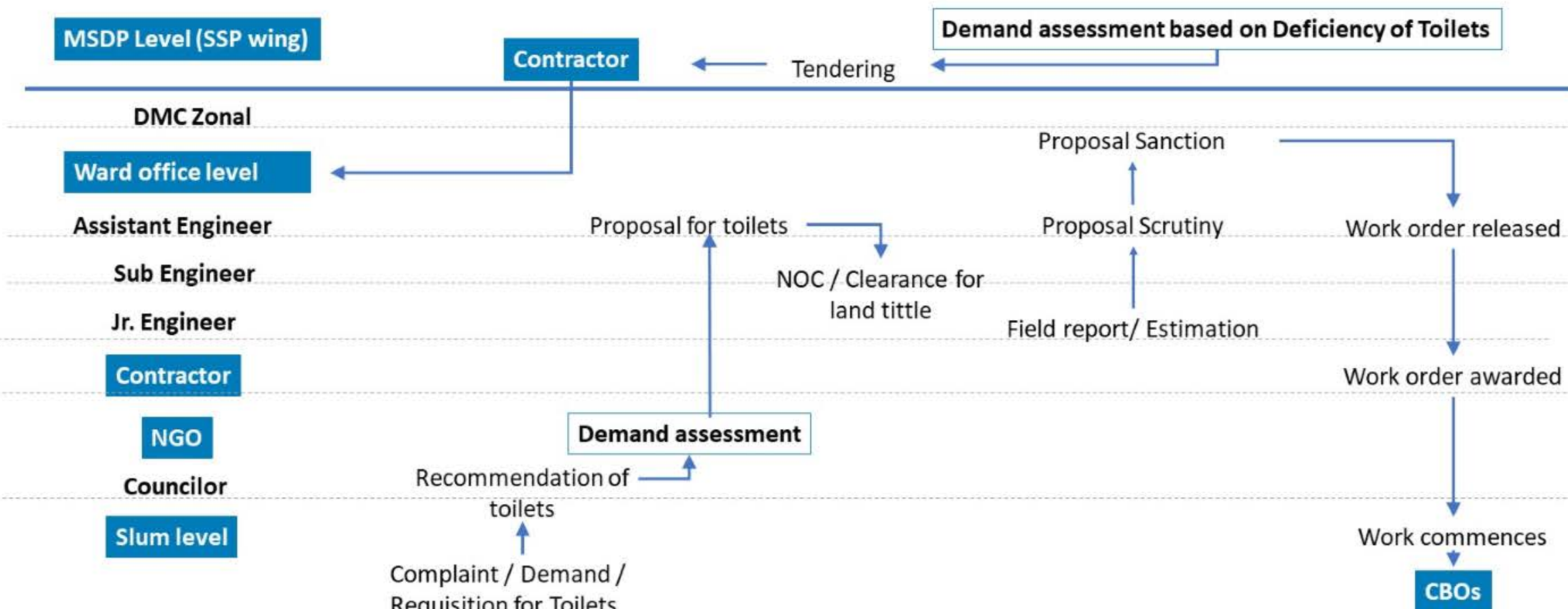


Source: 1. Shyamal, S., Moulik, S. G., & Sen, S. (2006). *The Mumbai Slum Sanitation Program: Partnering with Slum Communities for Sustainable Sanitation in a Megalopolis*. (September).
 2. Primary research. March 2020

Process of Approval for Construction of CT Block under SSP

The process of construction of toilet block is broadly carried out in 4 stages.

1. Demand for the toilet block by the slum community.
2. Demand assessment based on the analysis of the existing availability of the seats and deficiency.
3. Acquiring NOC from the land owner and the work order is released by the Assistant Engineer.
4. The contractor begins the construction after which it is ready to be use by the community and O&M by the CBOs after signing of the MoU.



Implementation of SSP

1. Institutional Arrangement

	Contract	Period of contract	Toilet blocks constructed	Total toilet seats	
PHASE 1 1997-2005 Finance- World Bank loan	Lot 1-7	1997-2006	324	5680	Implemented by Slum Sanitation Project wing of MSDP department
	Lot 8 (R)	2006-2013	189	4849	
	Lot 9	2011-2014	235	3840	
PHASE 2 2006-2020 Finance- MCGM	Lot 10	2016-2019	174	4163	Contracted out to ward level SWM department after the inception of Swacch Bharat Mission. However, only tendering is done by SSP wing of MSDP department.
	Lot 11	Ongoing		22774 proposed	
	TOTAL	23 years	922	41306	

1. Currently the **tendering work** is directly being done through the **SSP departments**,
2. The **construction of the CT blocks** through the contractor is being done through the **SWM department** of the respective ward offices.

2. Institutional Arrangement

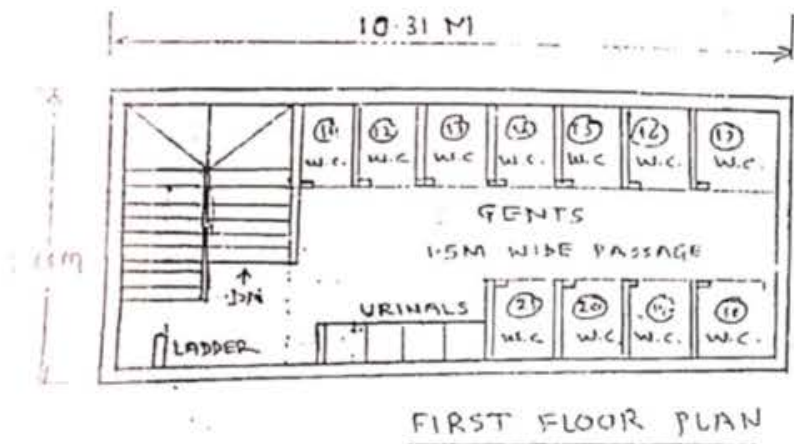
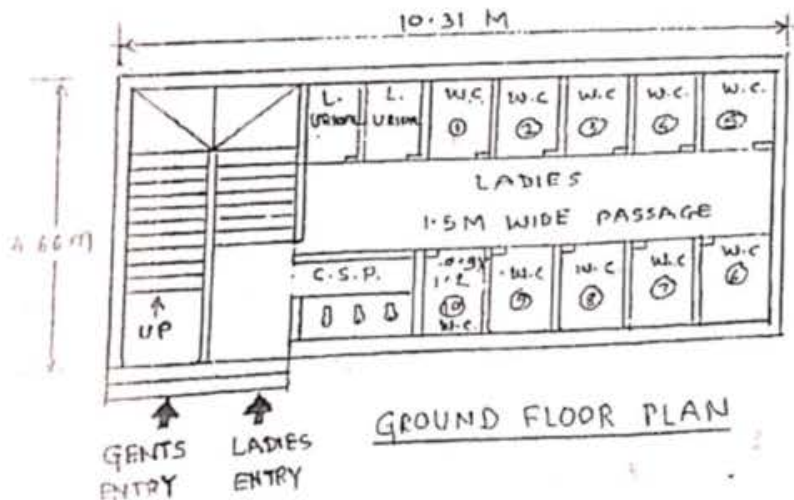


1. The **duties of the officials** for the **process of construction** of toilets blocks has been **divided between three wings of MCGM**.
2. It has been observed that the **functions for construction of the CTBs** have been distributed among **different departments of MCGM** resulting into **lack of collaboration**.

Source: 1. Shyamal, S., Moulik, S. G., & Sen, S. (2006). *The Mumbai Slum Sanitation Program: Partnering with Slum Communities for Sustainable Sanitation in a Megalopolis*. (September).
 2. Primary research. March 2020

MCGM, SSP toilet model

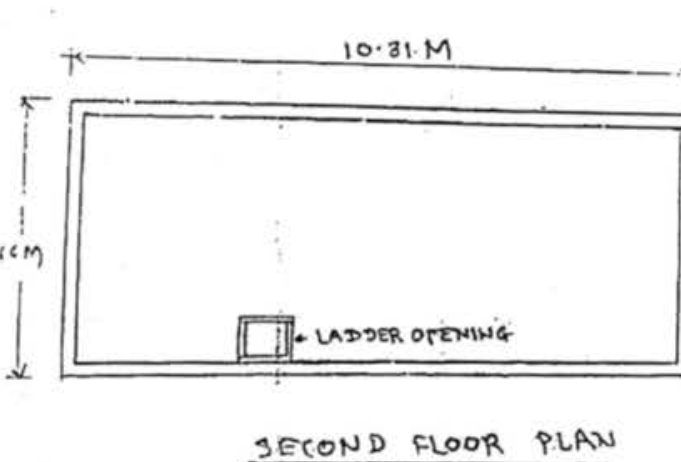
1. Design Specification



- Super structure: **RCC structure** with typical **20 seater design** and **service life of 30 years**
- Usage norms: **30 users/seat**
- Sewage disposal mechanism: **Preferably sewerage connection or Septic tanks**
- Infrastructure: **Water and electricity supply in the name of CBO, Saperate ladies and gents section, children squatting pan, urinals, bathing area etc.**
- Cost per seat: **Rs.20,50,000/- as till year 2020.**

2. O & M model

- The O&M is carried out by the **CBOs through pay and use model** which follows the **monthly pass system** where every member **household has to pay Rs.30-50/-** for unlimited use and the outsider visitor is charged **Rs. 2-5/- per use.**
- The **major expenditure heads** include **caretaker salary, cleaner salary, electricity bill, water bill, cleaning material etc.**



CSR toilet model by Hindustan Unilever Limited

1. Aim and Objective

The Hindustan Unilever Limited is the private agency which envisions to **contribute to the SDGs through the Unilever Sustainable Living Plan (USLP).**

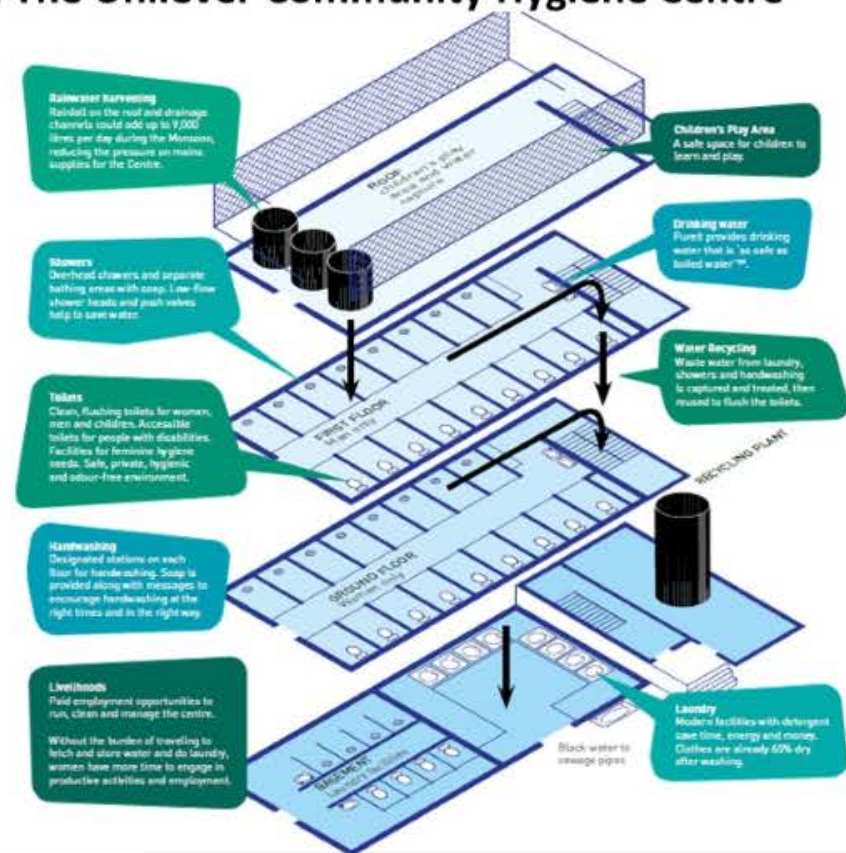
Goal: Improving the health and wellbeing of one billion people.

Aim: To achieve this by helping people gain **access to improved sanitation** through **provision of toilet and promote the benefits of clean toilets.**

2. Design Specifications

- **RCC structures** with care taker counter on the ground floor, **ladies toilet** on the **first floor** and the **gents' toilet** on the **second floor**
- **Drinking water facility** on each floor.
- **24 hours CCTV surveillance** for smooth monitoring and safety measures.
- **Separate night toilet for the senior citizens, physically disabled and children.**
- **Rain water harvesting and recycling water** from toilet flushes, washbasins and showers etc.

SUVIDHA: The Unilever Community Hygiene Centre



3. O & M mechanism

The community hygiene centre follows the **pay per use model** for the toilet use. The member households are charged **Rs. 100-150 per month for a monthly family pass** however, the **children are allowed to use the facility for free.**



Assessment of Community toilets blocks

Selecting Case Studies_ Malad and Bhandup

1. CT blocks Sampling Methodology

Wards with highest slum population and highest number of PT/CTs were selected

- P/North ward, MALAD
- S ward, BHANDUP

Major slums pockets with highest number of CTs were selected

- MALAD- Dindoshi, Kurar, Malvani & Ambujwadi
- BHANDUP- Tembhipada, Kajurmarg east, Hariyali East & West

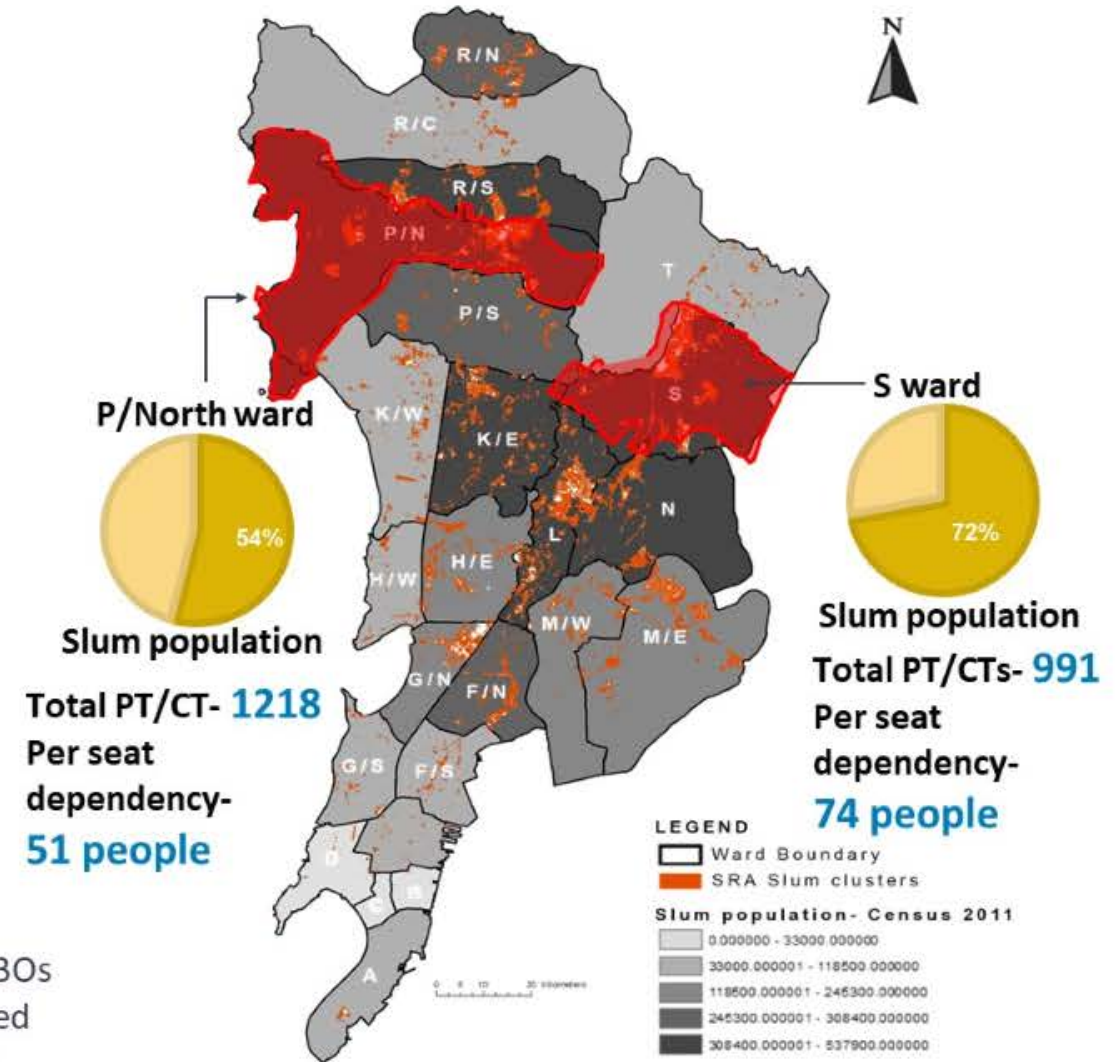
The toilet blocks in each slums constructed under each lot of SSP were shortlisted

- The list of toilets constructed Lot wise was available on MCGM with contacts of registered CBOs

CBOs were contacted and the toilet blocks were visited in each slum pockets

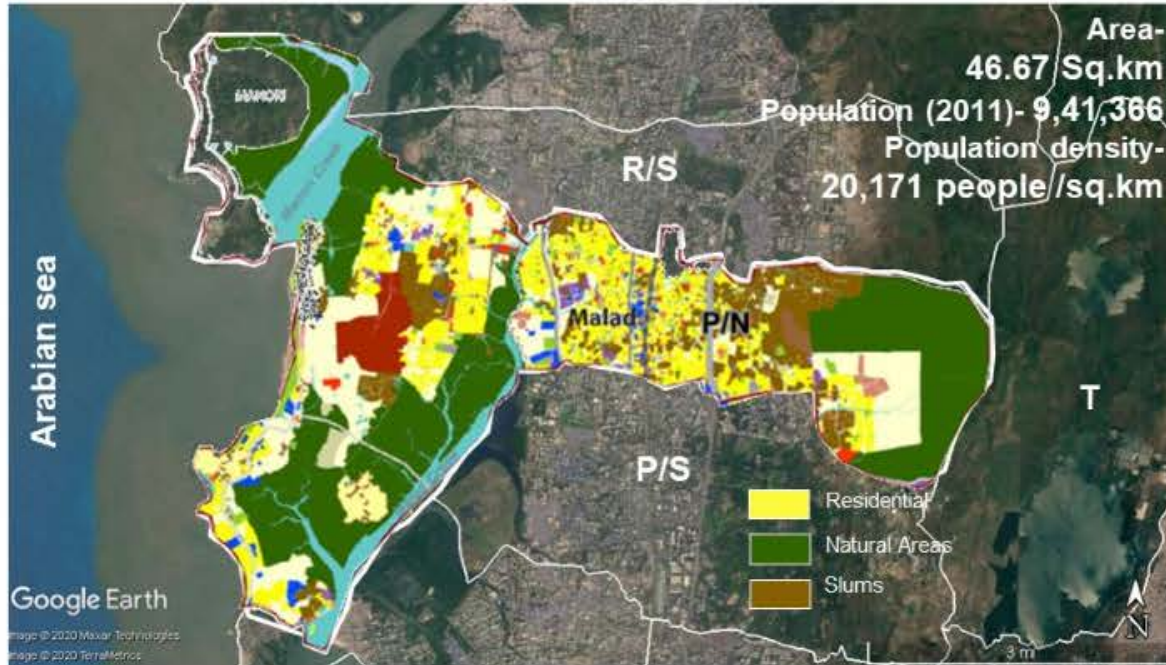
- SSP toilets blocks were studied as per the list of CBOs
- MHADA toilets were studied as per the visibility on site

2. Ward population & slum cluster map



Selecting Case Studies_ P/North ward, Malad

Satellite imagery of P/North ward, MALAD



History & Profile

- The area of P North ward was added to Greater Bombay in 1957.
- The development consist of **Gaothans and Koliwadass like Erangal, Malvani, Aksa, Malad and Kurar etc.** The residents are native people having the main activities connected with fishing and agriculture.
- The major area of P/North is situated in the no development zone.

Source: PN_WARD_Gardens.pdf. (n.d.). MCGM



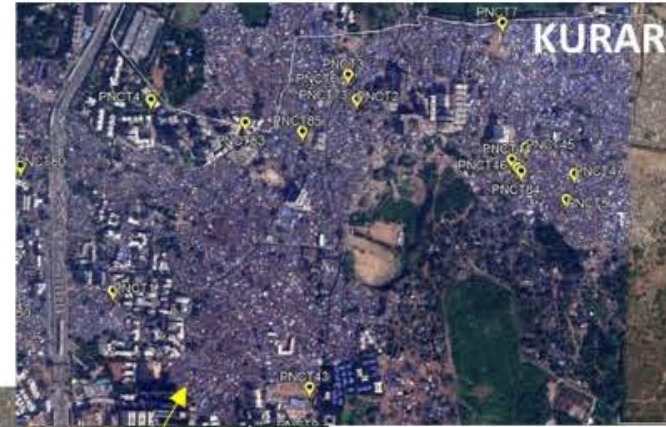
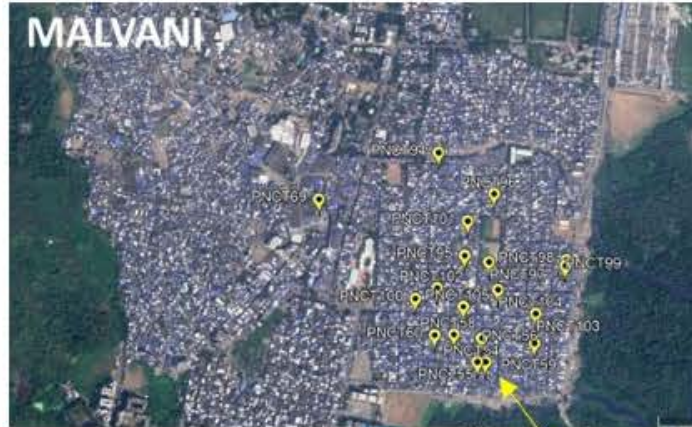
Slum population –	5,04,500 (Census 2011)
No. of slum HH-	68,421 (SRA 2015)
Sewer connection-	49% (w.r.t. street length)
Total no. of seats available-	9805 (Census 2011)
Total no. of CTs-	109 2895 seats (SSP 2020 data)
Users per seat-	51 (IHHL are not considered)

Selecting Case Studies_ P/North ward, Malad

Malvani-

19 CT blocks | Private / MHADA | Protected / Declared | No. of Hutments- 5186 | Avg. per seat dependency- 68

The slum HH of Malvani have IHHLs. The non-slum settlements were formed under slum clearance and redevelopment scheme in 1970s. Colony was developed by MHADA. People rehabilitated from Kurla, Bandra and Parla



Kurar-

13 CT blocks | Private | Declared | No sewer connections | No. of hutments- 8987 | Avg. per seat dependency- 218

Ambujwadi-

9 CT blocks | No. of Hutments- 3300 | Avg. per seat dependency- 66



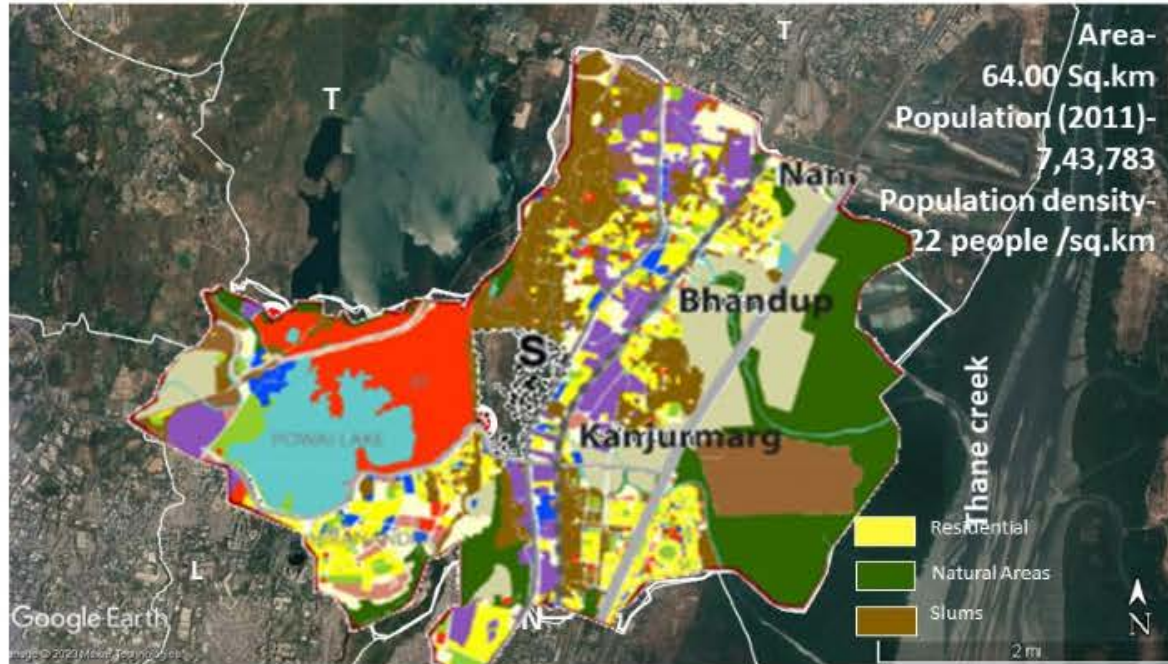
Santosh Nagar, Dindoshi-

31 CT blocks | BMC | Declared | Partially sewerred | No. of hutments- 5428 | Avg. per seat dependency- 49

Slum planned under **sites and services provision** scheme in **1983**. People rehabilitated from Worli, Taddev, Santacruz, Parle.

Selecting Case Studies_ P/North ward, Malad

Satellite imagery of P/North ward, MALAD



Map Source: Google Earth

History & Profile

- In the year **1980-81**, 'S' ward was created by bifurcating N & T wards.
- The entire area of ward is divided into two parts by central railway line into East and West. The ward comprises of small villages like **Bhandup, Kanjur, Hariyali, Tirandaz, Passpoli, Kopri and part of Nahur.**
- S ward east is covered by salt pan land of Central Government and residentially developed layouts. S ward west is mostly covered by residential / industrial development.

Source: S_WARD_Gardens.pdf. (n.d.). MCGM



Map Source: Google Earth

Slum population –	5,37,900 (Census 2011)
No. of slum HH-	10,648 (SRA 2015)
Sewer connection-	45% (w.r.t. street length)
Total no. of seats available-	7238 (Census 2011)
Total no. of CTs-	110 1750 seats (SSP 2020 data)
Users per seat-	74 (IHHL are not considered)

Selecting Case Studies_ S ward, Bhandup

Tembhipada, Bhandup-

45 CT blocks | Private | Protected | Non-Sewered | No. of hutments- 3026 | Avg. per seat dependency- 31
Chawls started developing since 1980s through migrating population of Agri & Koli. Houses were constructed by the tenants without toilets and were dependent on OD



Kanjurmarg-

12 CT blocks | Private | Protected | Sewered | No. of hutments- 648 | Avg. per seat dependency- 24
Chawls were built by private contractors in 1972 by constructing houses without toilets but providing common toilets by land owners and handing it over the tenants. 2001- BMC started giving toilets services under SSP

Hariyali West-

7 CT blocks | MHADA | Declared | Sewered | No. of hutments- 630 | Avg. per seat dependency- 30
Slum planned by MHADA in 1980s by constructing houses and handing it over the tenants.



Hariyali East-

8 CT blocks | MHADA | Declared | Sewered | No. of hutments- 2560 | Avg. per seat dependency- 150
Slum planned by MHADA in 1980s by constructing houses and handing it over the tenants.



MCGM, SSP Model_ Cleanliness- A key to user satisfaction



Photo credits: Mrudula

Seats- 17 @ Ladies & 22 @ Gents
Water supply- Bore well / MCGM / Private tanker
Electricity- Adani / M (6000/- per month)
Sewage Disposal- Sewer 2 connection / Septic tank
Monthly pass- 30-50 Rs / month (3 Rs per use)
Cleaning frequency- 2 times / day
HH dependency- 150



Photo credits: Mrudula

Poster with details of care taker, seats and working hours



Photo credits: Mrudula

Separate entry for Gents on 1st floor with care taker counter at the entrance



Photo credits: Mrudula

Interiors with 17 ladies seats



Children squatting area

“ Water force of MCGM connection is too low due to which we have to depend on the tanker facility. But with community contribution the toilet block is maintained well and we as a community are satisfied with facility ”

- Punjiben Makuana (Caretaker)



DINDOSHI



KEY MAP

MCGM, SSP Model_ Better Infrastructure leads to better O&M



Photo credits: Mrudula

Night toilets known as 'Ratrich Shauchalay' which functions as toilet for handicapped during the day. The keys are provided to each registered HH



Photo credits: Mrudula



Sanitary pad vending machine

Photo credits: Mrudula



Maintenance register



Family pass



DINDOSHI

MCGM, SSP Model_ Lack of basic infrastructure leading to abysmal conditions



Photo credits: Mrudula

Entrance to the SSP toilet in Tembhipada area of Bhandup with 24 X 7 access but no caretaker facility raising women safety issues as well as lack of cleanliness



Photo credits: Mrudula

Toilet connected to the septic tank and waste water flowing through open drains



Water supply through bore well



Drains carrying kitchen and toilet waste water



BHANDUP



S WARD KEY MAP

MCGM, SSP Model_ Sewage Disposal

Most of the areas if located on the **main road** are **connected to the sewer line** or are **connected to the septic tank** in case of the **dense interior part of the slums**.



Photo credits: Mrudula

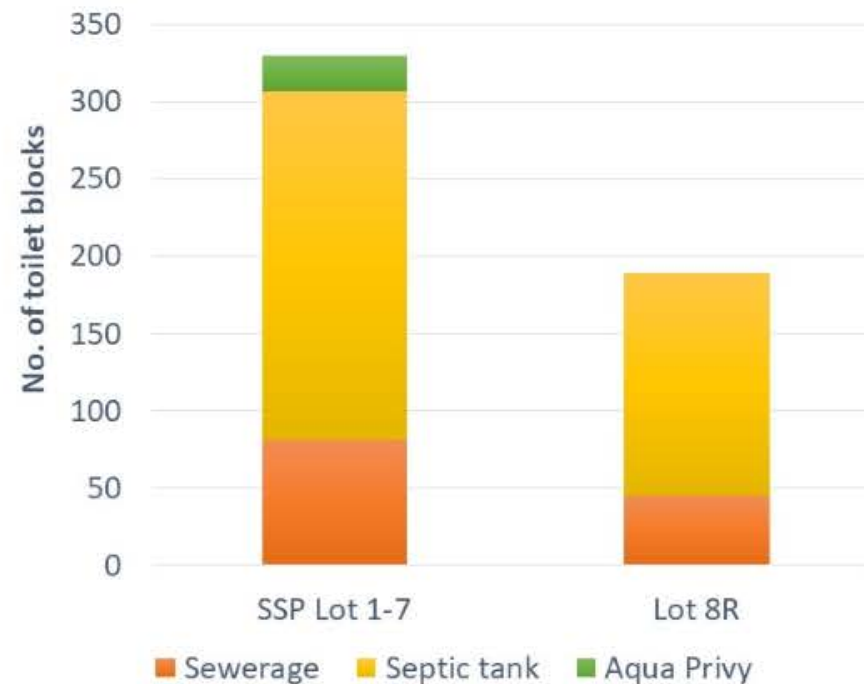


Photo credits: Mrudula

Tembhipada slum in Bhandup is located on a mountain and has a **steep topography and narrow lanes** which also has been occupied the open drains.

Source: 1. Primary research. March 2020

Sewage Disposal Method in SSP Toilet Blocks constructed from year 1997 to 2013



Source: Slum Sanitation Programme Department, MCGM

71% of the toilets blocks are connected to the **septic tank** against only 24% & 5% having sewerage connection and aqua privy tank systems respectively.

MCGM, SSP Model_ Old CTs in the state of disrepair



Photo credits: Mrudula

Old SSP model in total state of ignorance and disrepair

Seats-	8 @ Ladies & 8 @ Gents
Water supply-	Bore well
Electricity-	Adani
Sewage Disposal-	Septic tank
Monthly pass-	30-50 Rs / month
Cleaning frequency-	2 times / day
HH dependency-	109



Photo credits: Mrudula

Waste water flowing in the open drains

“ We have lodged the complaint regarding renovation of the toilet but since the area is under SRA scheme, the request is ignored. The septic tank is cleaned by BMC in some areas and through private agencies by manual cleaning as the toilets are not accessible by cess pool vehicles ”

- Residents



KURAR



MALAD KEY MAP

MCGM, SSP Model_ Old CTs in the state of disrepair



Photo credits: Mrudula



Photo credits: Mrudula

Structural damage of the toilet block



Photo credits: Mrudula

The entrance was dirty, garbage was dumped and water was stagnating



Photo credits: Mrudula

No caretaker facility and lack of cleanliness



KURAR



MALAD KEY MAP

MHADA Toilets_ State of Ignorance



Photo credits: Mrudula

- Seats-** 8 seats common for Gents & ladies
- Water supply-** Bore well
- Electricity-** No connection
- Sewage Disposal-** Septic tank
- Monthly pass-** 30-50 Rs / month
- Cleaning frequency-** 1 time/ day
- HH dependency-** 120



Main entrance



Photo credits: Mrudula

No water connection and hand washing facility



Common entrance fro Gents & Ladies

“ The toilet was constructed under MLA fund in 2000. It is open 24x7 and there is no caretaker facility. People are very reluctant about paying the monthly charges.”
- Residents



BHANDUP



S WARD KEY MAP

MHADA Toilets_ Only Infrastructure provision does not imply public health safety



Photo credits: Mrudula

Old MHADA toilet acting as a breeding space for the stray dogs, pigs and rats which has created a very abysmal surrounding condition



Photo credits: Mrudula

New toilet block constructed near the old MHADA block

“ The toilet was in unusable condition owing to structural damage. Therefore upon the request new toilet was constructed under MLA fund besides the old one. The old toilet however lies unattended by the authorities making it a breeding space for animals”

- Residents



KURAR



KEY MAP

CSR Toilet Model_ Advanced services



Photo credits: Mrudula

- Seats-** 8 seats common for Gents & ladies
- Water supply-** Private
- Electricity-** Adani
- Sewage Disposal-** Septic tank
- Monthly pass-** 100-150 Rs / month
- Cleaning frequency-** 3 times / day
- HH dependency-** 300
- Other facilities-** Drinking water & washing clothes



Information board



CCTV Surveillance



Monthly pass and maintenance register



AMBUJWADI



KEY MAP

CSR Toilet Model_ Difficulty in management despite advance facilities



Photo credits: Mrudula

The clean and maintained toilet blocks with flush system, tap and dustbin available for each toilet seat



A separate night toilet facility for children, men and women from behind. The keys are provided to all the pass holders



Drinking water facility available



AMBUJWADI



KEY MAP

The caretaker complained that **maintenance of the toilet is the biggest challenge** due to the bad behavior of the slum dwellers. Public behavior like **smoking inside the toilet** and **burning the buckets, disposing off the sanitary napkins and plastic bottles in the WC** has led to difficulties in cleaning the toilets resulting into complaints from the cleaners. a

User Perspective_ Willingness for IHHLs



Photo credits: Mrudula

“ We have constructed the toilet through our own expenses as the condition of MHADA toilet was bad. The total expense incurred in construction of the toilet was around 50,000/- in 2015”
- Resident in Kanjurmarg



Photo credits: Mrudula

“ I constructed the household toilet for my old parents as it is difficult for them to access the public toilet. The toilet is connected to the septic tank which is a dugout pit with waste water outlet in nearby drain. There are problems of bad odour in monsoon”
- Resident in Tembhipada

There is willingness for IHHL and the same are being constructed with individual expenditure in spite of no permission from the ULBs. However, these toilet constructed privately connected to the unscientific septic tank and waste water outlet in the open drains. Issues are faced during monsoon as the waste water flows in the open drains

User Perspective_ Construction of IHHLs by adopting unscientific methods of disposal disposal



Photo credits: Mrudula

Narrow lanes leading to the house in slums of Malvani



Toilet constructed in a cluttered space beside the kitchen



Household toilet connected to unscientific septic tank



MALAD KEY MAP

People are unsure of the legality. Even those that have built IHHLs are scared of showing it for fear of it being illegal.

Are IHHLs possible?



Photo credits: Mrudula



Photo credits: Mrudula

Narrow lanes and topography are the biggest hindrance towards provision of sewer connection to the slums

Source: 1. Primary research. March 2020

“ Due to lack of space and sewer network we do not get permission for construction of IHHLs. The cleaning of the septic tank for CTs is done through the private agencies by manual cleaning as the cess pool vehicles cannot enter
- CBO



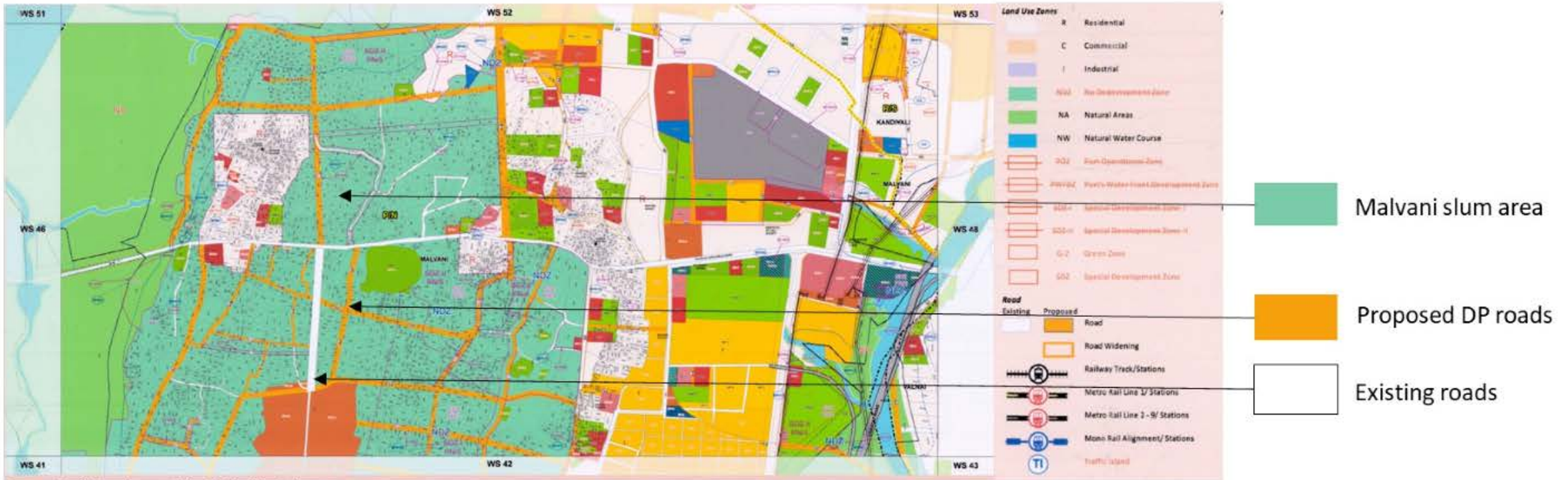
TEMBHIPADA



BHANDUP KEY MAP

Are IHHs possible?_ Hindrances in laying the sewer network

Mumbai Development Plan 2034- P/North ward, Malvani slum



Source: Draft Development Plan 2034, Mumbai

“Malvani slum showing proposed DP roads cutting across the plots. The municipality is facing problems in acquiring plot for laying roads which is posing the challenge for laying sewer lines in the slums.”

- Assitant Engineer, MCGM (P/North ward)

Source: Draft Development Plan 2034, Mumbai



WESTERN SUBURB WARDS KEY MAP



MALAD KEY MAP

Are IHHLs possible?_ Absence of sewer network → Unscientific disposal



Waste water outlets from the household in the open *nallah* running besides the slums

Sewage water running on roads creating unhygienic conditions in slums of Ambujwadi

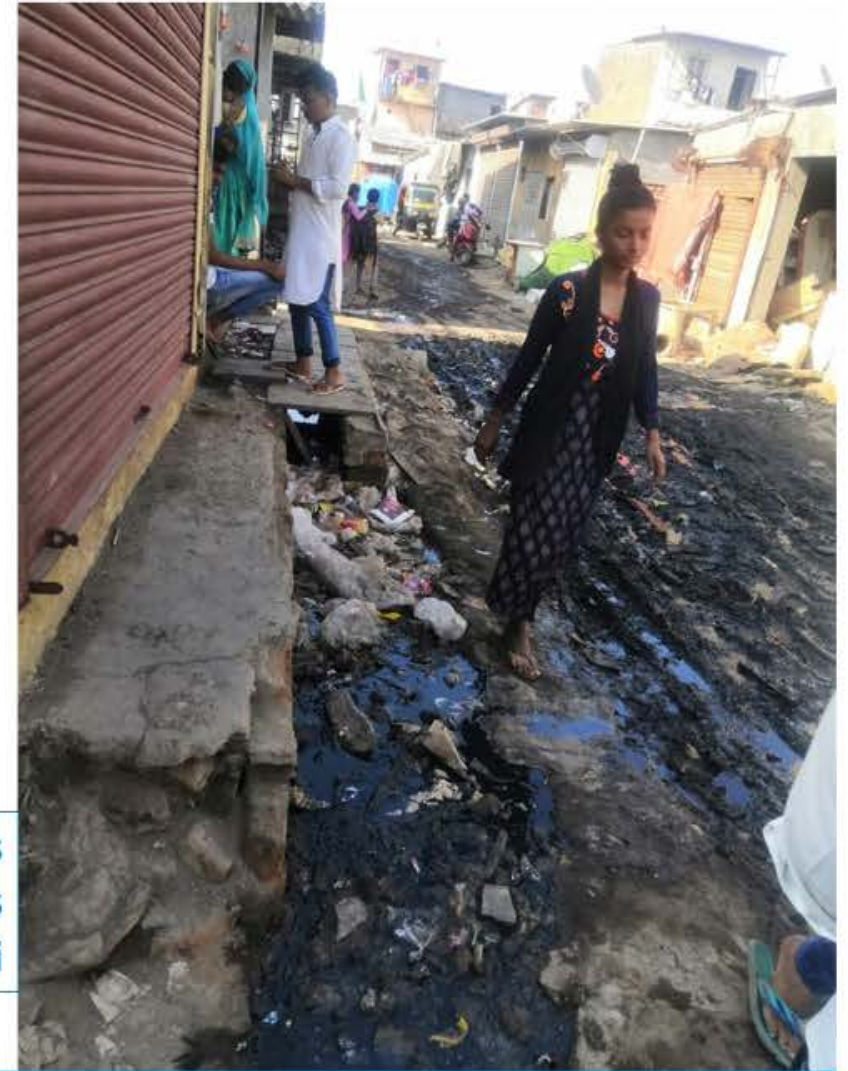


Photo credits: Mrudula

Pushing for IHHL and providing finance without these solutions in a Mumbai slum context will result scale up with negative consequences - eg: unscientific disposal

Shared toilets: A mid-way solution between CTs and IHHLs



Photo credits: Mrudula

Seats-	4 @ Ladies & 4 @ Gents on the ground floor
Water supply-	MCGM
Electricity-	Adani
Sewage Disposal-	Septic tank
Monthly pass-	40 Rs / month
Cleaning frequency-	2 times / day
HH dependency-	60



Forming gated societies to restrict the outsider from using the toilets

“ The user charges collected are the part of maintenance amount collected from the society which is 300 Rs per HH which includes the festival celebration and maintenance of toilet.”

- Residents



DINDOSHI



KEY MAP

Shared toilets: A mid-way solution between CTs and IHHLs



Photo credits: Mrudula

Clean and well maintained interior of the toilet



Community hall constructed on the first floor for functions and gatherings.



Board with list of society members.



DINDOSHI



KEY MAP

Shared toilets: A mid-way solution between CTs and IHHLs



Photo credits: Mrudula

MHADA toilet converted into group toilet due to conflicts over paying user charges, This was done by locking the toilets and providing keys only to the registered households of the society



Photo credits: Mrudula



Common entrance for ladies and gents



KANJURMARG



S WARD KEY MAP

Comparative analysis of CTs in Mumbai

COMMUNITY TOILETS	MHADA (SIB dept.)	MCGM (SSP dept.)	CSR (Pvt.)
Design	Demand driven	Demand driven	Supply driven
Program/ Department	NA / Slum Improvement Board	Slum Sanitation Program (SSP) / MSDP department	Private
Planning	Highly standardized design adopted. No community participation in design.	Flexible approach. Community participation in planning and designing.	Highly standardized design adopted. No community participation in design.
Funds/ Finance	MLA/ MP (LAD) Fund	MCGM funded	CSR
Service life	10 years	30 years	30 years
Usage norm	35 users/ seat	30 users/ seat	25 users/ seat
Water & Electricity	Not Provided	Provided	Provided
Caretaker's room	None	Initially compulsory for toilet blocks bigger than 10 seats. *Currently not provided	Provided

Source: 1. Shyamal, S., Moulik, S. G., & Sen, S. (2006). *The Mumbai Slum Sanitation Program: Partnering with Slum Communities for Sustainable Sanitation in a Megalopolis*. (September).
 2. Primary research. March 2020.

Comparative analysis of CTs in Mumbai

COMMUNITY TOILETS	MHADA (SIB dept.)	MCGM (SSP dept.)	CSR (Pvt.)
Structure	Load bearing	RCC framed structure	RCC framed structure
Waste Disposal	Septic Tank / Aqua Privy (AP)	Preference for sewerage connection	Sewerage connection / Septic tank
Capital costs per seat	Rs. 23,000-40,000	Rs. 50,000-65,000 (till 2005) Rs. 2,50,000 (current)	
Management Arrangement	Left to user group to decide.	CBO is the designated maintenance agency	Suvidha / Other private agencies
Tariff	Free usage	Rs. 30 to Rs. 50 per month for unlimited use by all family members	Rs. 100 to Rs. 150 per month for unlimited use by all family members
Monitoring	None	Quarterly by Ward Junior Overseas (JO)	Private
User perspective	"The toilets are provided on demand to the 'Amdar / Khasdar' regarding the requirement of seats. We are not consulted for design of the block." - Residents of P/North & S ward	"CTs that are being managed efficiently by the CBOs are in usable conditions. However some CBOs are unable to maintain cleanliness" - Residents of P/North & S ward	

Source: 1. Shyamal, S., Moulik, S. G., & Sen, S. (2006). *The Mumbai Slum Sanitation Program: Partnering with Slum Communities for Sustainable Sanitation in a Megalopolis*. (September).
2. Primary research. March 2020.



Big Municipal Investments!!!

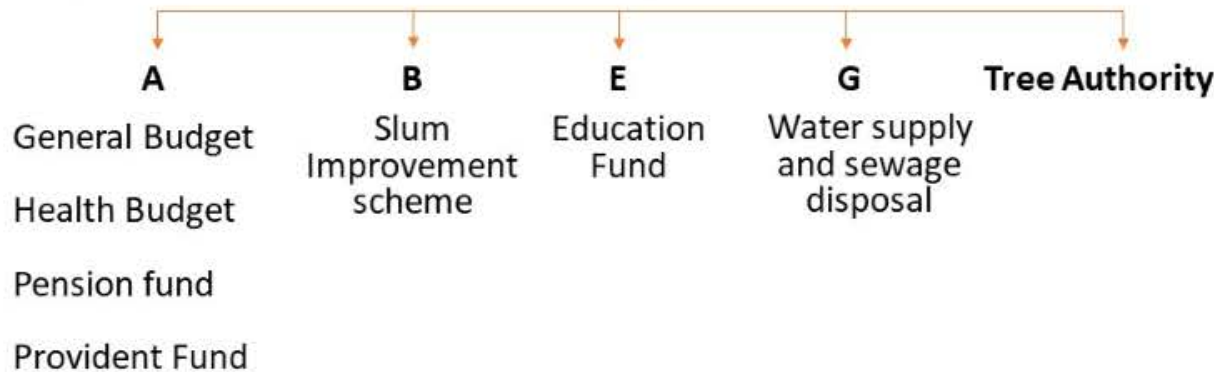
Big Municipal Investments

1. MCGM Budget Heads

Fund Code	Budget Head
11	General Budget
12	Health Budget
21	Improvement Schemes
22	Slum Clearance
23	Slum Improvement
30	Education Budget
40	Water Supply & Sewerage
50	Tree Authority
60	Provident Fund
70	Pension Fund

Source: MCGM Budget Books

2. Classification of Budget Heads



Source: 1. MCGM Budget Books

2. Nautiyal, A. (2017). Study of Relationship between Municipal Budget Allocation and Sanitation Service Delivery in Mumbai.

3. Primary research. March 2020

3. MCGM Budget size

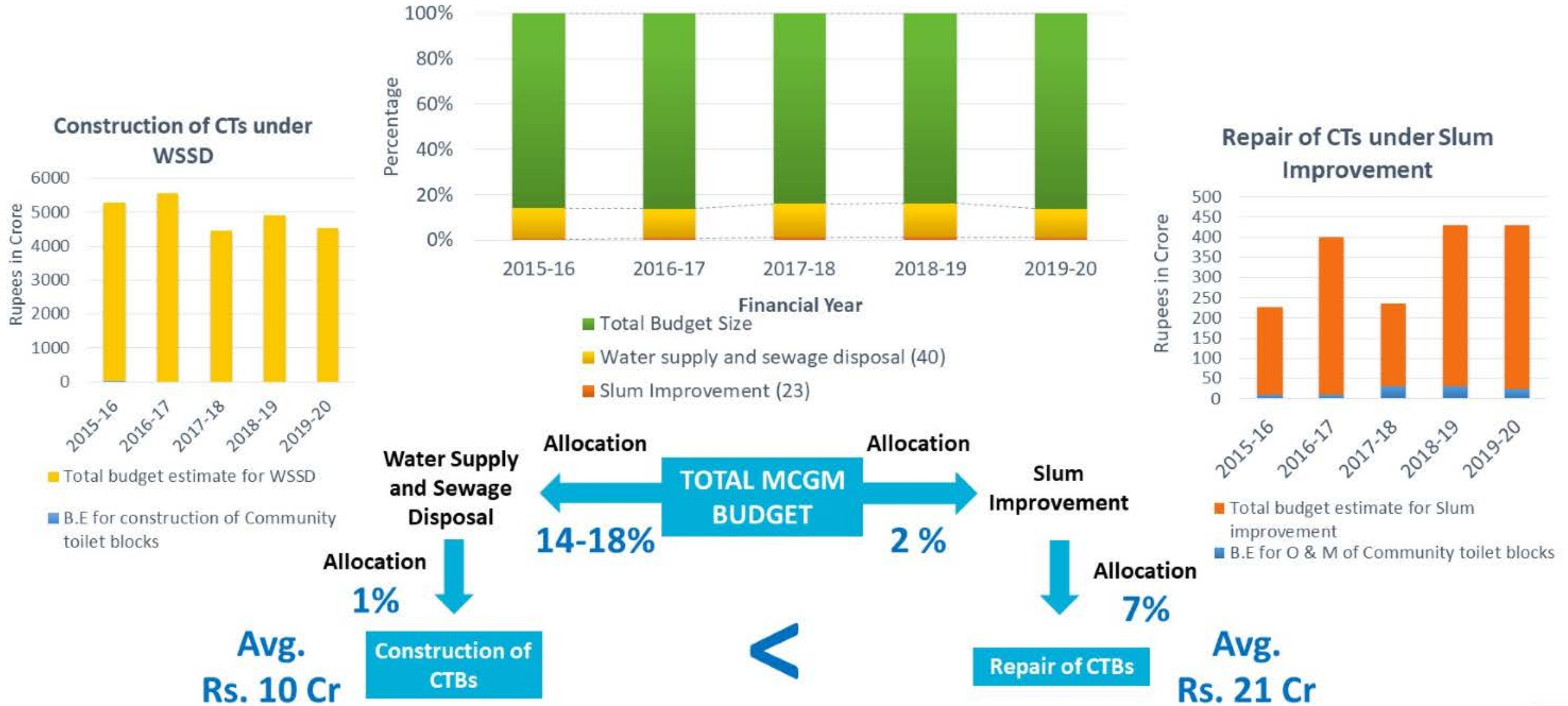


Source: MCGM Budget Books

Average **year to year rise** in the Municipal budget over last **five years is 9.7 percent**

Big Municipal Investments_ Allocation for Construction & repair of CTs

3. Budget allocation for Water Supply and Sewage Disposal and Slum Improvement



Source: 1. MCGM Budget Books

2. Nautiyal, A. (2017). Study of Relationship between Municipal Budget Allocation and Sanitation Service Delivery in Mumbai.

3. Primary research. March 2020

Big Municipal Investments_ Construction of CTs

1. Year wise expenditure under Lot 1-8 of SSP (F.Y. 2000-01 to F.Y. 2008-09)



1. The **year wise average expenditure** for **Phase-I of SSP** has been **less than Rs.15 Crore** (Rs.6.84 Crore) which completed the **construction of total 513 CTBs**.
2. Scope of work included **program publicity, formation of CBO, construction of CTs upto signing of MoU and handing over to the CBOs**.

Expenditure
Rs.15 Cr
↓
513 CTBs

2. Budget vs Actual expenditure on new toilet construction from F.Y. 2013-14 to F.Y. 2019-20



F.Y. 2013-14

Budget estimate
Rs.25 Cr
Actual expenditure
Rs.18 Cr

Budget estimate

dropped by

40%

Expenditure
decreased by
50%

F.Y. 2015-16

Budget estimate
Rs.10 Cr
Actual expenditure
Rs.9 Cr

Big Municipal Investments_ Wide scope of work for construction of CTs

1. Multiple Account Heads and scope of work for Toilet construction

GL Code	Particulars of Project	Budget Estimate (2018-19)
505300028	Slum Sanitation Implementation Programme implementation part of MSDP (Lot - 6 & 7)	50000
505300029	Slum Sanitation Implementation programme implemantation part of MSDP stage II (Lot - 8)	1000
505300032	Planning, Designing & Construction of Community Toilet Block in Zone-I, II, III, IV, V, VI & VII (Lot - 9)	3000
505300052	Engaging project management services of NGO's to rehabilitate PAP under SSP & to assist to community development cell of MSDP deptt. In day to day activities of ongoing SSP	1000

1. The **capital investments** are not only incurred for the construction of community toilet blocks but are **also inclusive of the other works** carried out under the **multiple account heads**.
2. This **scope of works** are represented by different GL code and functions carried out under **Chief Engineer of MSDP** for the construction of the **community toilet blocks**.

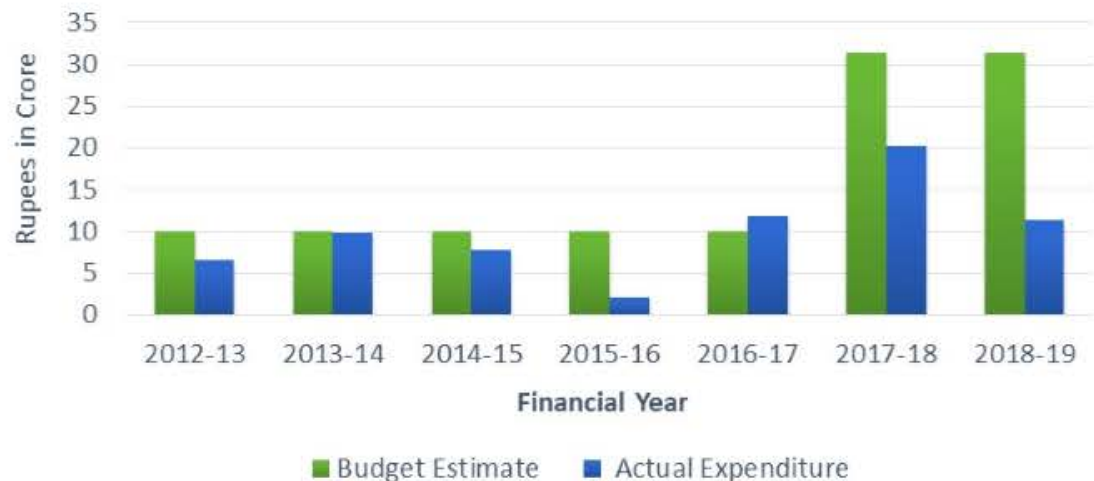
SSP Implementation Program under MSDP

Planning, designing and construction of CTs

Project management services by NGOs for community development

Big Municipal Investments_ Repair and maintenance of CTs

1. Year wise Allocation vs Expenditure for repairs and maintenance of existing toilet blocks



F.Y. 2012-2017

Average Budget estimate
Rs.10 Cr

Actual expenditure
Rs.8 Cr

Rise in Budget estimate by
32%



Rise in expenditure by
50%

F.Y. 2017-2019

Average Budget estimate
Rs.31 Cr

Actual expenditure
Rs.16 Cr

2. Multiple Account Heads for Toilet Repairs

Account code	Account Head
230511310	Civil Repairs, Electrical Repairs, Operation & Maintenance of Toilets Constructed by MCGM
230803503	De-sludging of Septic Tank

Source: MCGM Budget Books

3. Account head wise actual expenditure for the repair and maintenance of existing toilet blocks



Decreasing
Desludging of Septic tanks

45% of total expenditure on O&M

Increasing
Civil and electrical repair

55% of total expenditure on O&M

Source: 1. MCGM Budget Books

2. Nautiyal, A. (2017). Study of Relationship between Municipal Budget Allocation and Sanitation Service Delivery in Mumbai.

3. Primary research. March 2020

Big Municipal Investments_ Rising expenditure on repairs & maintenance of CTs

1. Year wise budget estimate for construction and repair of CTs



F.Y. 2013-2014

F.Y. 2020-2021

Construction of CTs

Budget estimate
Rs.43 Cr

Budget estimate
Rs.1 lakh

Repair of CTs

Budget Estimate
Rs.10 Cr

Budget Estimate
Rs.20 Cr

Decrease in Capital
Budget estimate by
70%

Rise in O&M
budget estimate by
45%

- The expenditure on **construction of the community toilets** has **decreased through out the years.**
- The **expenditure on repair of these community toilet blocks** has **increased considerably** for last five years sharing.
- About **67 percent** of the **total budget allocation for community toilets** is only for the **repair of CTs.**

Source: 1. MCGM Budget Books

2. Nautiyal, A. (2017). Study of Relationship between Municipal Budget Allocation and Sanitation Service Delivery in Mumbai.

3. Primary research. March 2020

Big Municipal Investments_ Higher Construction cost and land prices

1. SSP BOQ for construction of CTs

BILL OF QUANTITIES

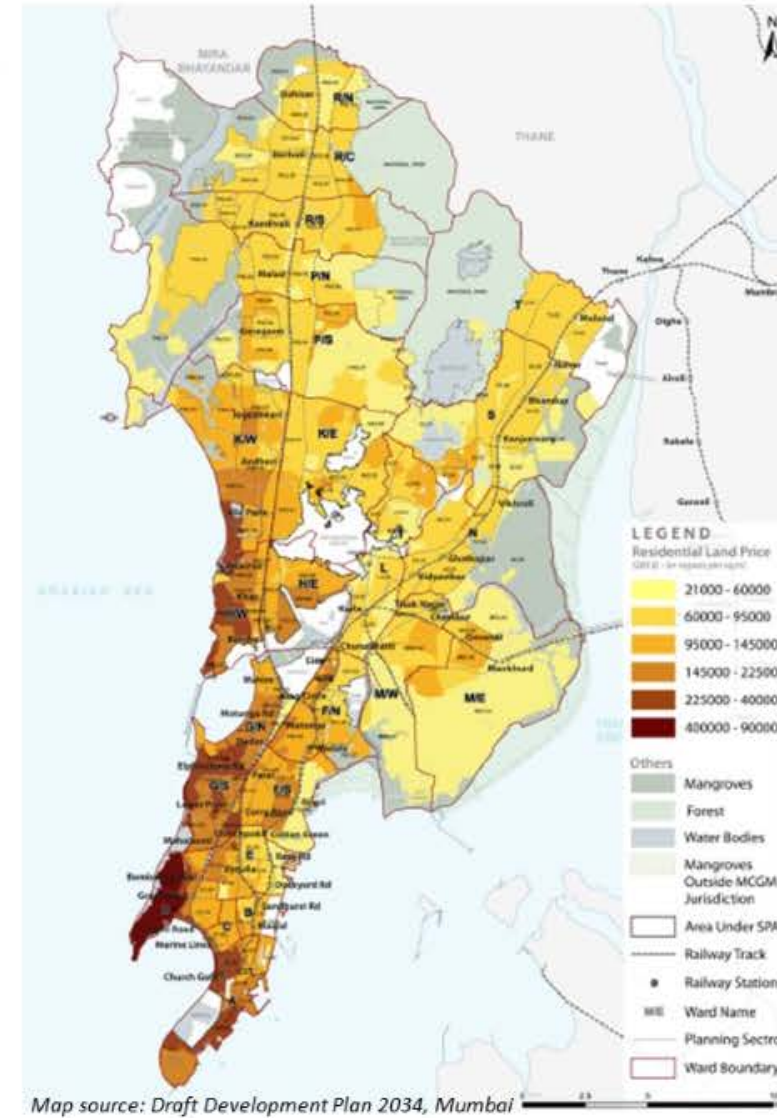
Name of Work: Planning, Designing and Construction of RCC community toilet blocks in 'D' Ward under Lot 11R contract.

PART -A - Civil Work

Sr. No.	Item No.	Description	Quantity	Rate	Per	Amount
1	R2-SBM-1	Carrying out Programme publicity of the Slum Sanitation Programme in slum community area and forming Community Based Organisation (C.B.O.) and get registered C.B.O. from Charity Commissioner of Trust. Note: Before quoting the rates, bidders shall read requirement of staff and other procedure of mobilisation/formation of CBO as per Annex. 'E'	12	1,36,862	CBO	16,42,344
2	R2-SBM-11.2.1	Demolition of old existing Toilet Block and carrying away unserviceable material, debris from the site including de-sludging of existing Septic Tank/AP Tank, breaking of R.C.C. Slab, walls, foundation etc. of toilet block and refilling /back filling the same with good earth.	30	9,020	Seat	2,70,600
3	R2-SBM-11.2.2	Demolition of old existing RCC Toilet Block and carrying away unserviceable material, debris from the site including de-sludging of existing Septic Tank/AP Tank, breaking of R.C.C. Slab, walls, foundation etc. of toilet block and refilling /back filling the same with good earth.	9	14,217	Seat	1,27,953
4	R2-SBM-3	Construction of ground floor temporary Toilet Block with 25 cm thick B.M.Wall and 30 cm thick partition wall with cement plaster on both sides in proportion 1 : 4 with 58 cm long soil pan having I.P.S. flooring, FRP frame & door and 6 mm thick Non-asbestos high impact Polypropylene reinforced cement corrugated sheet as a roof including necessary disposal arrangement (soak pit and connection of over flow pipe to nearby drain)	39	47,386	Seat	18,48,054
5	R2-SBM-4	RCC Toilet Block for Community: Planning, designing & construction of RCC framed type ground+1 floor and ground+2 community toilet with septic tank (including connection of over flow pipe to drain) OR with sewer line under the Slum Sanitation Programme in slum communities area. Rate includes all electrification and all electrical fixtures such as tube lights, exhaust fans whatever required. Note: 1) The unit rate shall be quoted by referring Special Instructions to the bidder on pg. no. --- and various drawing of toilet blocks. Note: 2) Rebate : Rebate for not using RMC in Rs. 1000 per cum. Note: 3) Rebate : Rebate for excavation (for demolition and reconstruction sites)				
	A	Type I - Gr.+1 & Gr.+2 with Septic Tank	437	36,657	Sq.M.	160,19,109
	B	Type II - Gr.+1 & Gr.+2 with Sewer line connection	437	32,145	Sq.M.	140,47,365
6	R2-SBM-11.5	RCC Toilet Block for Community: Planning, designing & construction of RCC framed type ground floor community toilet (including connection of over flow pipe to drain) under the Slum Sanitation Programme in slum communities area. Rate includes all electrification and all electrical fixtures such as tube lights, exhaust fans whatever required. (This rate is applicable to the construction of CTB having maximum 10 seats.) Note: 1) The unit rate shall be quoted by referring Special Instructions to the bidder on pg. no. --- and various drawing of toilet blocks.				

Approximate civil work cost per CT block=
Rs. 52 Lakh

2. Residential land price in Greater Mumbai



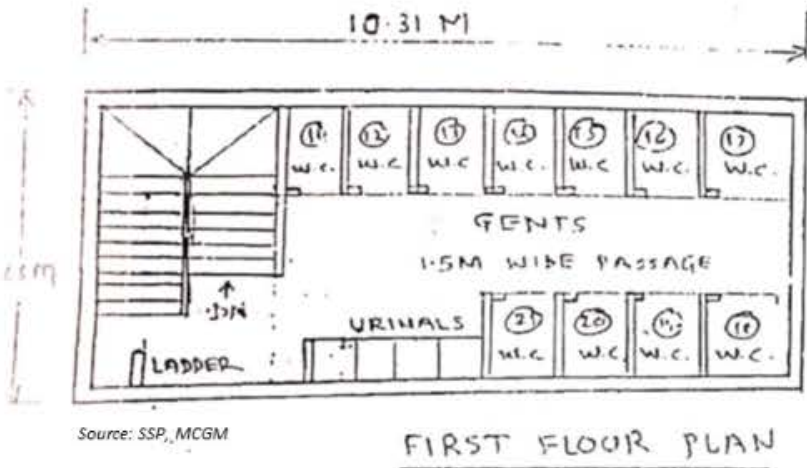
The residential property rates are considerably higher in the Southern and Western coast as compared to those in the North and East.

The average residential land price in Mumbai according to the DP 2034 is as high as **Rs. 263,714 per square meter.**

Average land price in the eastern and western suburbs of Mumbai which comprises of the highest slum households is **Rs. 80,250/- per square meter.**

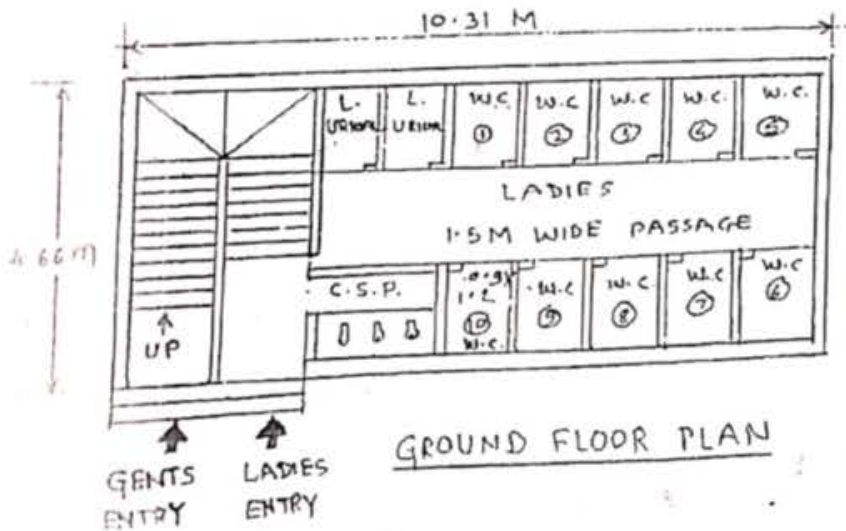
Big Municipal Investments_ Higher Construction cost and land prices

1. Design of SSP Community toilet block



Source: SSP, MCGM

FIRST FLOOR PLAN



GROUND FLOOR PLAN

2. Area calculations for one CT block

1. Total area= **96.0 sq.mt**
 - Ground floor: $10.31 \times 4.66 = 48.04 \text{ sq.mt}$
 - First floor: $10.31 \times 4.66 = 48.04 \text{ sq.mt}$
2. Area per unit seat= **4.5 sq.mt**

3. Land price calculation for construction of one CT block

1. Average residential land price per sq.mt in Mumbai= **Rs. 80,250/-**
2. Floor Area for one toilet block as per standard SSP toilet design= **48.04 sq.mt**
3. Land price per SSP CT block with total 20 seats= **Rs. 39 lakh**

4. Total cost incurred for construction of one Community toilet block (20 seats)

Approximate civil work cost of one CT block= **Rs. 52 Lakh**



Approximate land cost for one CT block = **Rs. 39 Lakh**



Approximate total cost for one CT block= **Rs. 91 lakh**

Cost per seat **Rs.2.6 lakh**

Cost per seat **Rs.4.5 lakh**



Is the big investment worth???



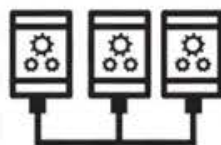
The trap of procedural, policy and public health issue!!!

Trap of Procedural, Policy and Public health issue

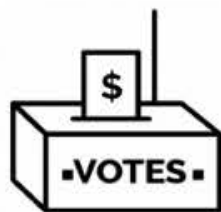
Trap of procedural issues



These CT in Mumbai are constructed by multiple governing institutions like **MHADA, MCGM and private agencies.**



The slum dwellers does not have satisfactory sanitation facility as the provision of sanitation is handled by **multiple institutions with no standardization and no internal co-ordination**



Slum sanitation is influenced by the **political interference** due to the **only focus on construction of toilets** but **ignorance towards provision of basic infrastructure facilities and repairs etc.**



No monitoring is done for MHADA toilets as the procedure of structural auditing of the toilets before duly handing over to the MCGM is on hold. This has resulted in to state of **disrepair and abysmal condition of these toilets.**

The **monitoring** for the SSP toilet by the Junior Overseas every three months as per the SSP protocol is **not being done** to the complete extent resulting in to the state of disrepair of the CTBs.

Trap of Procedural, Policy and Public health issue

Trap of procedural issues



Thus, households are constructing the IHHLs using **unscientific ways of disposal** being unsure of the legality are hesitant of revealing it for the fear of it being illegal.



The CBOs fail to lodge a complaint or request related to the CTBs due to the **unawareness about the divided responsibilities** of amongst the hardware and software wings of the MCGM. CBOs do not have a platform to state their doubts or issues regarding the CTBs.

Lack of capacity building of the CBOs after the handing over the community toilet blocks by the ULB has resulted into lack of awareness amongst the CBOs leading to **ill maintenance of the toilets**.



There is **willingness for IHHL** amongst the slum dwellers and the same are being constructed with individual expenditure in spite of **no permission from the ULBs / lack of knowledge about the SBM scheme**. This has resulted into less number of applications for IHHLs to the MCGM.



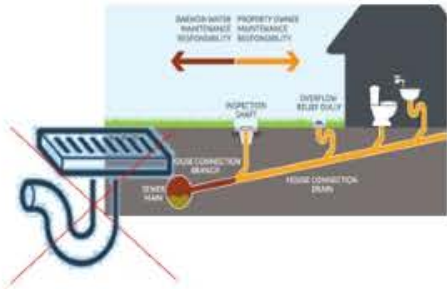
However, these toilet constructed privately connected to the **unscientific septic tank and waste water outlet in the open drains**. Issues are faced during monsoon as the waste water flows in to the open drains.



No such survey has been done by MCGM to identify such **illegally and unscientifically constructed IHHLs**.

Trap of Procedural, Policy and Public health issue

Trap of Policy issues



Lack of sewer network due to the high housing density in slums is resulting in **disapproval to construction of IHHLs** to slum dwellers by ULBs



The **permission for construction of IHHL under SBM** in Mumbai is **granted only if there is scope of connecting the toilet to sewer network**. (IHHLs with connection to septic tanks are not allowed under SBM in Mumbai). This has resulted into the disapproval of applications for IHHLs from MCGM.



The **MCGM is facing problems in acquiring plot for laying the proposed DP roads** which are cutting across the slum housing plots thus, posing the **challenge for laying sewer lines in the slums**.



The **procedure of structural auditing of the MHADA toilets** in order to duly hand it over to the MCGM **has not been done** resulting into abysmal condition of these toilets.

Trap of Procedural, Policy and Public health issue

Trap of Public health issues



However, CTs are the **sustainable option** only if they are **clean and well maintained**.



Some of the **toilet blocks are in total state of disrepair** due to various factors like location, older construction (SSP toilet constructed around year 2000), lack of care taker facility and users reluctant to pay the user charges leading to **financial disability of the CBOs etc.**

The **CBOs are unable to appoint a 24X7 care taker** due which they are unable to monitor the toilets resulting in to **unsafe, unsuitable and unhealthy conditions.**

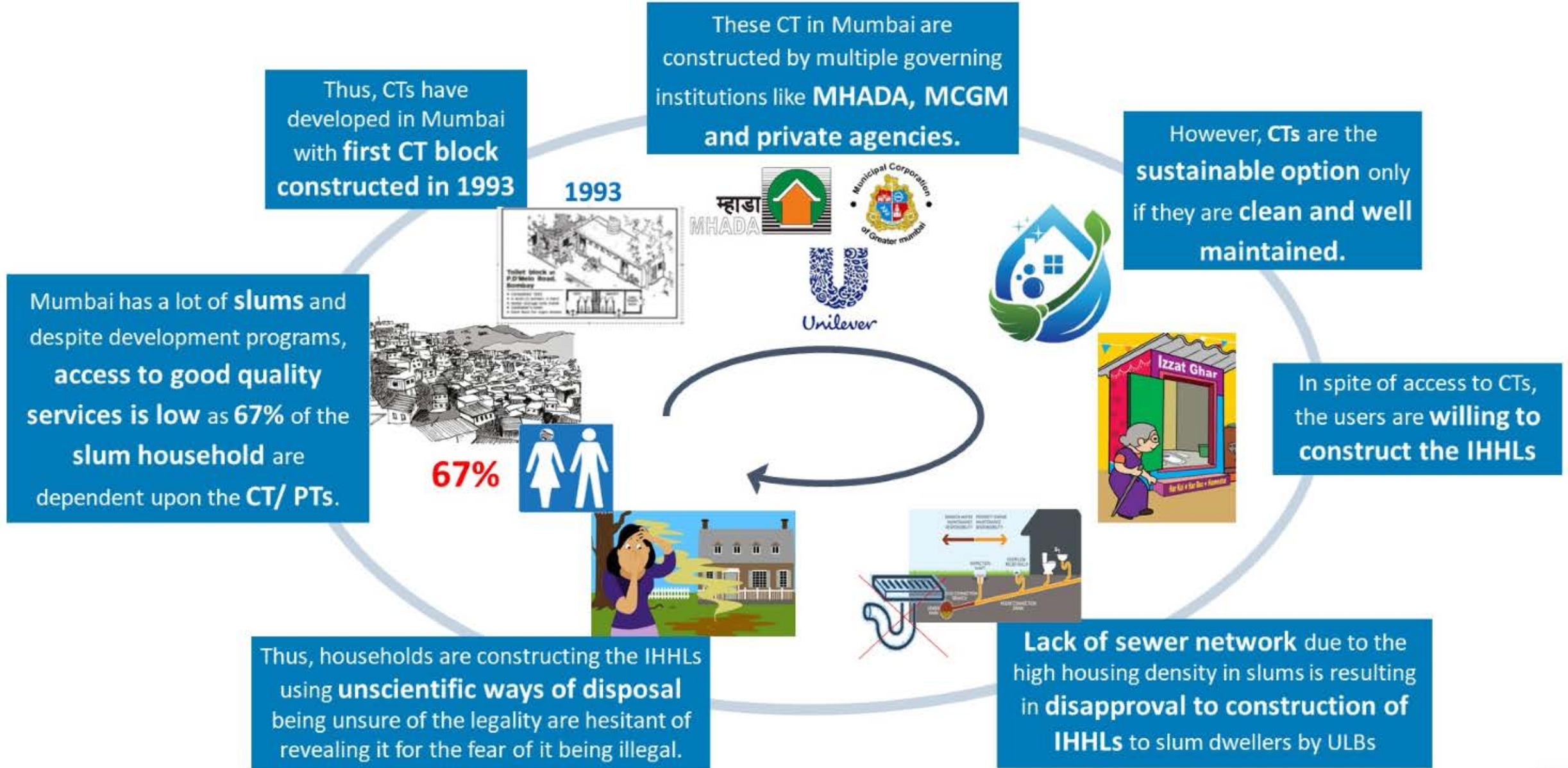
Lack of awareness towards the hygiene of the users is observed due to **lacking provision of dustbins and washbasins in some CTBs like the case of MHADA and Old SSP toilets.**

Issues like **higher electricity bill and water scarcity** are posing financial burden on the CBOs

Toilets connected to the septic tank pose challenge for the cess pool vehicles to enter the area owing to which many a times the **cleaning of the tanks is not done** leading to the issues like bad odor in the toilets and surrounding area making it unbearable for use.

Lacking sense of behavior and ownership amongst the slum dwellers resulting into disposal of sanitary napkins in the toilet trap or nallah by women, smoking inside the toilets by men is posing a **risk to public health**

The Vicious Cycle of Sanitation in Slums of Mumbai_ An Overview





UP FRONT

Are slums more vulnerable to the COVID-19 pandemic: Evidence from Mumbai

Shaonlee Patranabis, Sahil Gandhi, and Vaidehi Tandel · Thursday, April 16, 2020

How Can India Fight COVID Without Proper Sanitation For the Poor?

DEEPIKA SALUJA, AKANSH KHANDLWAL & KARAN RABBAR | 2 DAYS AGO

OPINION 7 min read

Like ENGAGEMENT



Coronavirus Tracker (INDIA)

Total
11933

Deaths
392

Recovered
1344

Source: MoHFW

Coronavirus Outbreak: Now, NGOs Refuse To Clean Community Toilets Across Mumbai

Updated: Apr 14, 2020, 18:51 IST | Prajakta Kasale | Mumbai

Say BMC has not provided them with gear to protect workers from contracting COVID-19; some fear boycott by their neighbours

Unclean community toilets source of Covid-19 infection: Govt

Tue, Apr 14 2020 08:51:38 PM

Slums: the hotspots of pandemic & threat to public health???

The present dense living conditions of the cities in India owing to the presence of slum settlements which are crowded and house to poor inhabitants has accelerated the possibility of the rapid spread of the current COVID-19 pandemic.

1. The COVID-19 Containment zone map of Mumbai

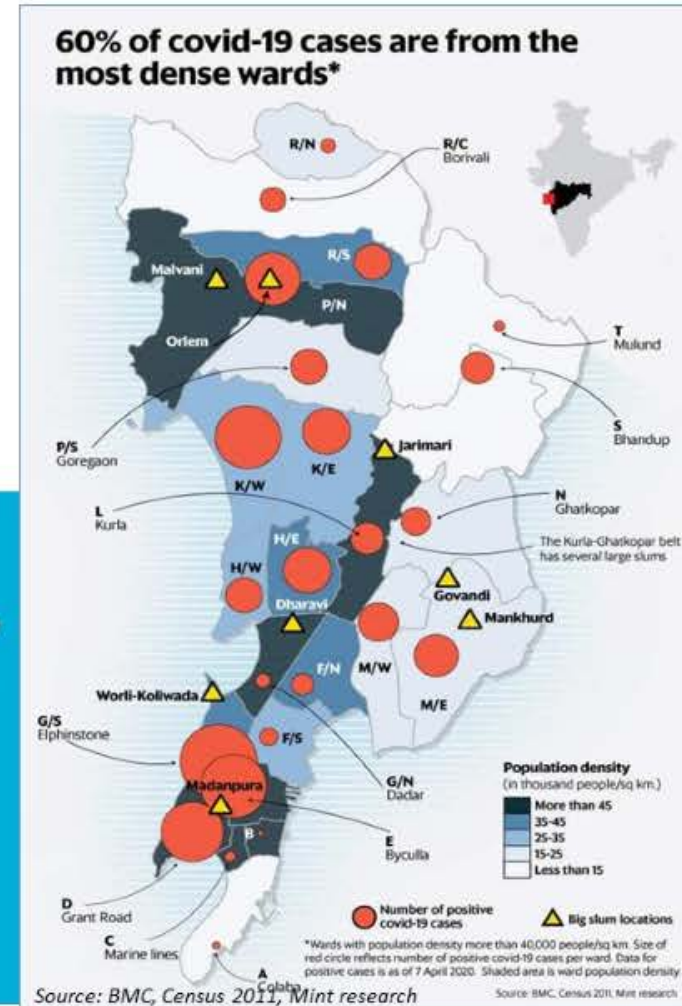


The MCGM had declared total **141 containment zones** in the city upto March 31, 2020 which **rose to around 490** by April 14.

The Ministry of Health, Government of India has described a 'Containment Zone' as a "defined geographic area" where a "large outbreak" of positive COVID-19 cases are found and which is, therefore, sealed by the government. (Brookings 2020)

Source: 1. MCGM, April 2020
2. BMC, Census 2011, Mint research

2. Map showing highly dense wards with large slums pockets affected by COVID-19



The MCGM has identified most of the slums in Mumbai close to the containment zone.

Dharavi, one of the biggest slum in Asia, identified with 962 cases as on May 13, 2020.

The Worli-Koliwada slum in the G/S ward has been marked as the high risk region for the outbreak of COVID-19 infection.

COVID-19 pandemic_ Preventive measures

The World Health Organization states that, the spread of the COVID-19 can be controlled by taking a few preventive measures like cleaning hands often with soap or sanitizer, avoiding frequent touching the face, covering the mouth while coughing or sneezing and on the top of all maintaining social distance by avoiding the mass gathering and visit to crowded places etc.

1. Maintaining Social Distance

Social distancing

When possible, keep 6 feet between you and others when you are out.

Social distancing is an effective tool for preventing the spread of disease. It can include large-scale measures like canceling group events or closing public spaces, as well as personal decisions such as avoiding crowds.

- Avoid**
- Group gatherings
 - Sleep overs
 - Playdates
 - Concerts
 - Theatre outings
 - Athletic events
 - Crowded stores
 - Visitors in your house
 - Non-essential workers in your house
 - Mass transit systems
 - Malls
 - Workouts in gyms



Use Caution

- Visit local restaurant
- Visit grocery store
- Get take out
- Pick up medications
- Play solo sports (like tennis)
- Travel

Safe

- Take a walk
- Go for a hike
- Yard work
- Play in your yard
- Clean your home
- Read a good book
- Listen to music
- Cook a meal
- Family game night
- Go for a drive
- Group video chat
- Stream a show



2. Regular Hygiene



Wash your hands with soap and water regularly



Throw used tissues into closed bins immediately after use



If soap and water is not available, use hand sanitizer with at least 60% alcohol



Cover your nose and mouth with handkerchief/tissue while sneezing and coughing



Wash hands before touching eyes, nose and mouth



Avoid mass gathering and crowded places

Community Toilets_ A Challenge in maintaining social distance in slums posing threat to public health...

- One hypothesis is that the **lack of secure property rights given to slum dwellers holds them back from getting better access** to amenities and housing, which **reduces their ability to safeguard themselves against rapidly spreading infections.**
- The existing Containment Zones in Mumbai are within or very close to slums. The reason for this phenomenon is likely to be **difficulties in maintaining social distancing or hygiene standards and shared communal facilities including toilets.**

The secretary of **Ministry of Home Affairs** **uttered that the Inter-Ministerial Central Team (IMCT)** of Mumbai had surveyed the Mumbai's major slums such as Dharavi, Wadala and Goavndi.

They found that the slum residents have no option other than defying the lockdown in order to access these community and public toilets.

Narrow toilet entrances with crowd during peak hours



67% of the households in slums are **devoid of any individual latrine facility** in Mumbai.



78 % of community toilets in Mumbai's slums lack a reliable supply of water, pointing out that public infrastructure is ill-equipped to cater to hygiene needs.

“ The use of community toilets in Dharavi has been identified as one of the factors that may have led to a sudden spike in the number of confirmed cases in the areas.”

- **Punya Srivastava, Secretary with the Ministry of Home Affairs (MHA)** (Source: India Today, April 2020)

Source: 1. MCGM, April 2020

2. Draft Development Plan of Mumbai 2034

3. India Today, April 2020. Retrieved from <https://www.indiatoday.in/india/story/maharashtra-mumbai-covid-coronavirus-dharavi-govandi-wadala-slums-mha-community-toilets-1670623-2020-04-24> (Accessed on April 23, 2020)

Curbing the effect of pandemic_ Efforts made by MCGM, CBOs & NGOs

1. Measure taken by the MCGM to avoid infection

Spraying in infected areas

Dharavi slum being one of the major hotspots of Mumbai consisting around **225 PT/CTs** are being disinfected with a special treatment solution known as **Zhuno sanitizer** imported from New Zealand which ensures effective prevention of corona.



Photo credits: The Citizen

Sanitizing the doors, knobs and handles



Sanitizing the users during entry and exit from the toilet

2. Measure taken by the CBOs & NGOsto avoid infection

Management and Sanitization of Community Toilets organized by CBOs



Photo credits: Mrudula

Efforts of CBOs for maintaining social distance

A few **NGOs** have also sprung into action by successfully reaching out to the CBOs and the most vulnerable group such as **senior citizen and disabled people** and donating the hand wash and sanitizers to them.



The unending effects of pandemic on Community Sanitation!

1. Diversion of MPLAD fund in COVID-19 fund

Allow MPLAD funds to be used in State's dedicated Covid-19 fund, Bihar urges Centre

Shishir Sinha | New Delhi | Updated on April 05, 2020 | Published on April 05, 2020

- Bihar has urged the Centre to permit **money from Members of Parliament Local Area Development** to be **deposited in a special fund set up by the State government to tackle Covid-19 pandemic irrespective of the constituency.**
- **Experts feel this model could be replicated across all States and two Union Territories (with State Assemblies) as this will provide additional funds to fight the virus.**

2. Financial burden on CBOs for Cleaning Maintenance of CTs

Support Cleaning Maintenance for 1 Community Toilet/Month in Covid19					
	20 Seats	1 Toilet	1 Community Toilet		The Community Toilets and or Pay and Use Toilets (offering free services will be supported through your support.
	50 Users	1 Seat	/ Seat / Day		
	1,000 Users	1 Toilet	/ Toilet / Day		
	30,000 Uses	1 Toilet	/ Month / Toilet		
	200 Families	1 Month	/ Month / Toilet		
	6000 Families	1 Month	/ Month / Toilet		
S. N.	Particulars	Unit	Requirement Per Community Toilet	Unit Rate, INR	Toilet Cost / Month
1	BROOM	PC	2	55.00	110.00
2	WIPER	PC	2	90.00	180.00
3	COTTON GLOVES	PAIR	4	30.00	120.00
4	BLEACHING SOLUTION	LITRE	17	40.00	680.00
5	WHITE PHENYL	LITRE	60	30.00	1800.00
6	LIQUID SOAP	LITRE	75	30.00	2250.00
7	SANITISER ALCOHOL BASE	LITRE	1	435.00	435.00
8	COTTON MASK (washable)	PC	15	25.00	375.00
9	BUCKET - 20 LITRES	PC	1	250.00	250.00
10	HAND WASHING SOAP	KGs	6	50.00	300.00
Total Cost Per Toilet per Month (INR)					6500.00

Support! **Your Contribution Counts** to Reduce the Infection & Transmission Due to **COVID 19**

Cost per use, INR	0.22
Cost per user per month, INR	6.50
Cost per family per month, INR	32.50

The unending effects of pandemic on Community Sanitation!

1. Issues faced by the slum dwellers and the CBOs



1. In spite of the lock down the slum dwellers are unable to stay inside the house as they have to step out to **access the toilets and bathrooms.**



2. Use of masks has been mandated for the users, however, still the **slum dwellers are scared to access this toilets as maintaining the social distance is a great challenge** especially during the peak hours.



3. The problems are even severe for the **senior citizens who are the most vulnerable to the COVID19 infection as they too have to use these shared sanitation facilities.**



4. CBOs are facing issues like **lack of PPE kits for the cleaners, hand washing soaps, sanitizers etc.**



5. CBOs are facing issues like **shortage of water especially now when the water demand is high to ensure the periodical cleaning of the toilets.**



5. Due to the lockdown, the **income of the slums dwellers who majorly consist of daily wagers, labors etc. has been stopped due which they are unable to pay the monthly user charges which is posing additional financial crisis on the CBOs.**



6. Since the water and electricity bills are high, CBOs are facing **financial crisis and demanding concessions in water and electricity bills.**



Need for strategic approach in breaking the Vicious cycle...

Strategic approach in breaking the Vicious cycle

Aim:

To ensure safe access to toilets for urban poor through creating an enabling environment with an emphasis on public health and hygiene that brings greater development and public health returns.





Other Good Practices

Other Good Practices

1. Slum Networking Program, Ahmedabad Municipal Corporation, 1995



Ahmedabad Municipal

IMPACTS:

- SNP program of Ahmedabad city is an example of strong and substantial partnership among various stakeholders of the civil society who engaged themselves in providing better physical quality of life to its poor fellow citizens.

2. One home one toilets, Shelter Association

Vision: An India where every citizen has access to basic infrastructure and secure tenure, leading to equal distribution of rights.

Mission: To empower communities living in informal settlements to pursue their right to dignity and an elevated quality of life.

SA's projects across Maharashtra:

Navi Mumbai

Sanglis

Kolhapur

Pune



SA's Sanitation Model

3. SAMARGRA Toilet model, Pune



Photo credits: SAMAGRA



Key learnings:

1. Community should be part of a project from the project conceptualization stage itself.
2. Value added services can help sustain toilet O&M models, and in fact, make it a profitable proposition.
3. Behavior change can happen only through small/incremental progress. And once behavior gets changed this way, there is no going back. The impulsive behaviour change programmes are not only ineffective, but also have unintended consequences.
4. Where the physical space is not engaging, there is no willingness to pay.

Source: 1. AUDA. (2006). Slum Networking Project (SNP) Ahmedabad Municipal Corporation.

2. 'One Home One Toilet' 25th January 2017 About Shelter Associates (SA). (2017). (January).

3. Chaturvedi, S. (2016). Retrieved from <http://www.indiasanitationcoalition.org/resources/Case-study-Samagra.pdf> (Accessed on February 2020)

Concept of 'Own' toilets and its efficiency over CTs



1. Phenomenon of Publicness v/s Ownership



The phenomenon distinctly states that **higher the user dependency on the toilets, lesser is the sense of ownership** amongst the users.

Source: CWAS (2011). SUPPORT TO CITIES IN ACHIEVING ODF STATUS.

Norman, G. (2011). When are communal or public toilets an appropriate option? Topic Brief, 1–18.

2. CWAS comparative analysis between IHHLs, Group toilets and Community toilets- Experience of Wai and Sinnar

Criteria	Type of toilet facility		
	Individual toilets	Group toilets	Community toilets
Space efficiency	☐	◐	●
Cost effectiveness for household	☐	◐	●
Level of cleanliness	●	◐	○
Cost savings for the ULB	●	◐	○
Ease of Access	●	●	◐
Safety and User friendly	●	●	◐

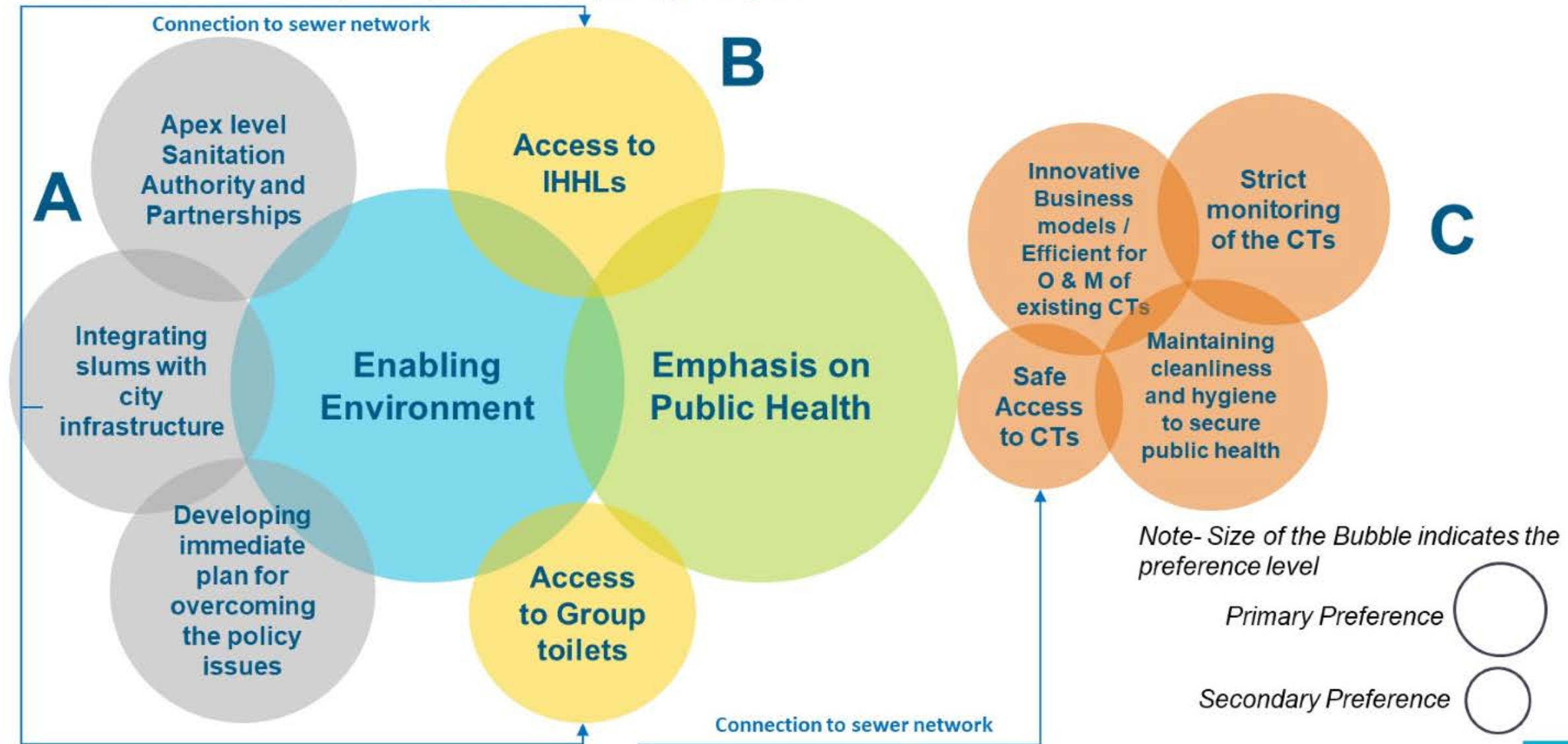
- CWAS states that **community toilets prove to be a space efficient and cost effective solution sanitation option for households** but could be a **financial burden for ULBs as well as an unhygienic option for households**, however,
- **IHHLs prove to be cost saving option for ULBs and hygienic, easily accessible and user friendly option of the households.**
- But in cases where **IHHLs would seem to be an impossible option due to other potential reasons, group toilets may prove to be a mid-way solution which are space efficient, cost effective, clean and safe option for households and also cost saving for ULBs.**



Recommendations...

Improving the poor sanitation conditions in slums of Mumbai

Provision of safe sanitation infrastructure in order to reverse the scenario of low access to good quality services leading to deterioration of public health and environment. This can be done by developing innovative planning strategies.



Access to IHHLs / Group toilets

DATA DRIVEN APPROACH-

Creating a slum database using Information Technology



1. Data Collection

- Rapid slum Infrastructure mapping*
- Rapid slum household survey*

*Using open source platform for Android Operating System on Mobiles/Tablets

2. Integrating data & mapping information on Geographical Information Systems (GIS) platform.

MAPPING OF:



Households with **individual household toilets**



- **Sewage disposal** mechanism of these households with individual household toilets
- Overall **extent of Sewer network** of the slums



Households without individual household toilets and **dependent on CT/PTs**



Households **willing to have individual household toilets.**



Type of **toilet preference** for households without IHHLs.

1. IHHL
2. Group Toilet



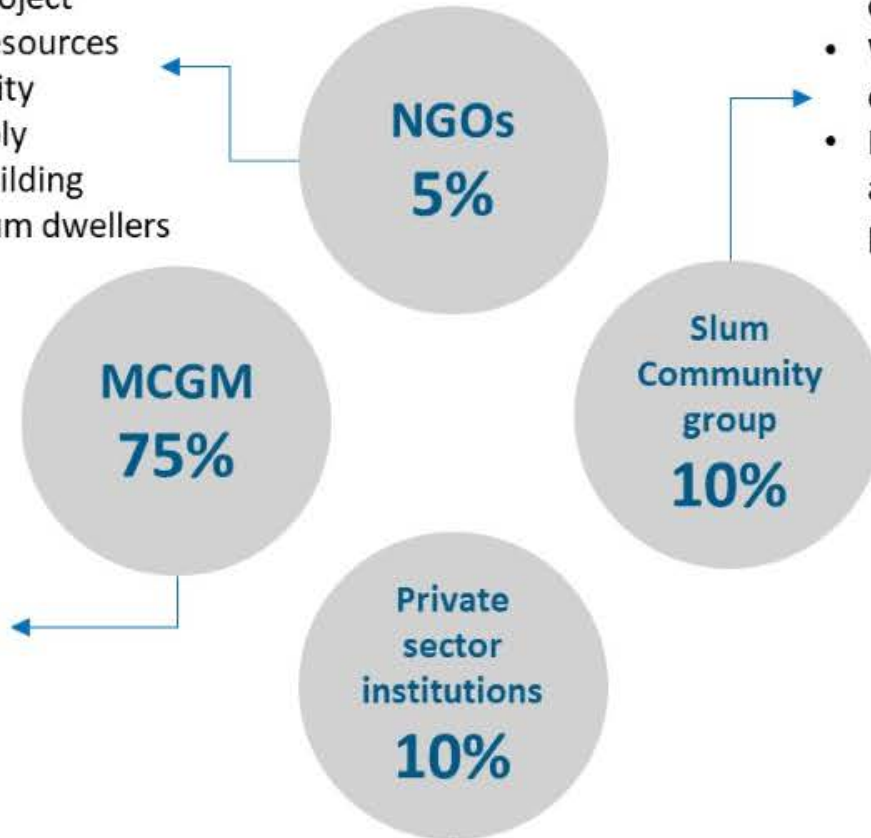
Type of household **water supply connection**

Based on this, a detailed programmed for house level sanitation infrastructure in all slums can be carried out

Multi-stakeholder partnership model

1. Responsibility and cost sharing partnership

- Assist the community
- Motivate slum dwellers to participate in the project
- Mobilize financial resources within the community
- Improve water supply
- Periodic capacity building programs for the slum dwellers



- Identify the slums
- Facilitate the partnership
- Strengthen sewage network.
- Improve water supply

- Form neighborhood committees
- Work closely with the executing agency
- Participate in health and socio-economic programs.

- Execute the project
- Assist the community in upgrading skills.

2. Ensuring transparency & sustainability for smooth service delivery

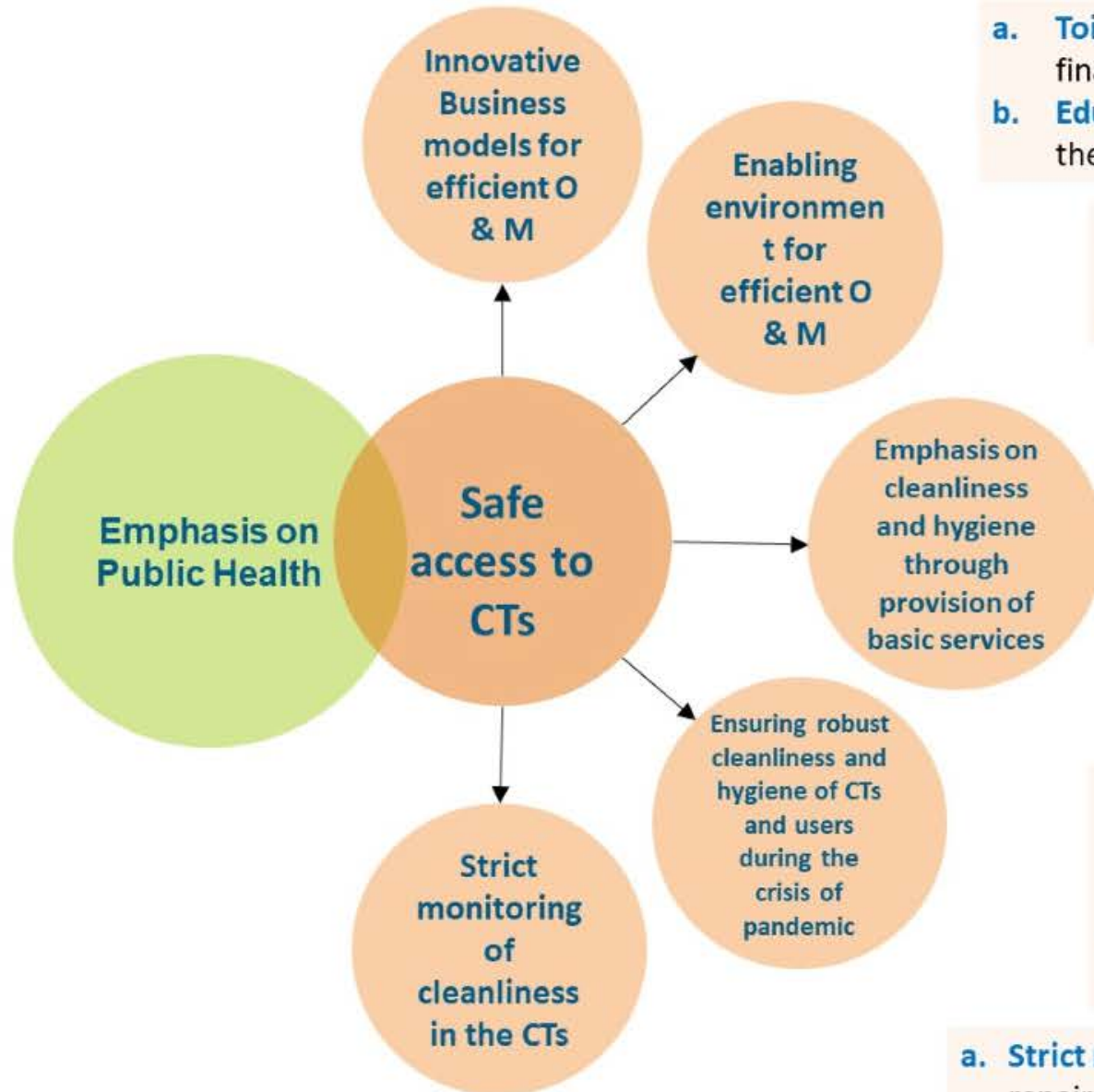


- Monthly Monitoring Meetings
- Joint planning of service delivery
- Training of the NGOs
- Open interaction



- Long term commitment to the slums dwellers
- Community involvement at all the stages
- Demand base design of the toilets.
- Financial viability

Ensure safe access to CTs



- a. **Toilet plus: multiservice centres:** more acceptable to users and more financially viable if they are located within units offering other services.
- b. **Educating the toilets users on health and hygiene** and thus **rewarding** them for adopting the healthy hygienic behaviour.

- a. **Provision of caretaker** rooms for CTs
- b. Transparency in Service provision **and setting up complaint redressal cell**
- c. **Capacity building programs for CBOs**

- a. All toilets should be provided **with 24X7 water supply and electricity** with **concession in water supply and electricity bills**
- b. **Upgradation** of MHADA toilets
- c. **Temporary cleaning** of MHADA toilets
- d. Upgradation or provision of **facilities for disabled and elderly**
- e. **Provision of wash basins, hand wash and soaps in the toilets**
- f. Separate provisions of **children toilets in all the CTs**
- g. Awareness on **Menstrual hygiene**
- h. Awareness regarding **women safety and dignity**

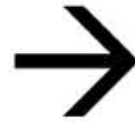
- a. Providing **sanitation kits to CBOs**
- b. Following water, sanitation, hygiene, and waste management as a **safety measure against the epidemics while using CT/PTs**
- c. Strictly following of **COVID-19: Guidelines on disinfection of PT/CTs**
- d. **Provision of Personal Protective Equipment (PPE) and training program for toilet cleaners**

- a. **Strict monitoring of cleanliness and hygiene of toilets** in addition to the civil repairs by MCGM. Should be done with **long-lasting partnerships with NGOs**

Community Toilets_ Conclusion

Investing in sanitation

Through constructing only community toilets infrastructure and spending double the amount of capital cost on repairs and maintenance



Investing in sanitation

Through creating enabling environment for the urban poor to gain access to IHHLs or group toilets

AND

Provisions for securing public health and hygiene in the community toilets

Which will generate massive environment and public health returns with great development

Community development



**Community development +
Environment and Public
Health returns**

Way Forward

1. Exploring the concept and applicability of innovative technologies for on-site treatment solutions and shallow sewers for slums in Mumbai.
2. Exploring the development and approaches for forming a city-level community sanitation policy for standardization of construction or design of CTs in Mumbai.
3. Finding a more sustainable operating model for CTs through studying global and national best practices.
4. Evaluating the scalability and sustainability of the private CT models like HUL.
5. Broadly studying the applicability of IHHL v/s CTs from hygiene, space efficiency, economics point of view.

Community Toilets

History



Access

Perspect
-ive



Safe Access

Future



Enabling environment and
Securing Public health

THANK YOU...

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