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REPORT ON
THE STATUS OF CIVIC ISSUES IN MUMBAI

WITH A FOCUS ON

Public Toilets

Community Toilets

Pollution

Image Courtesy : Getty Images

May 2024

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I. Foreword

Mumbai is hailed as the 'city of dreams'. People across India, look towards Mumbai with an aspiration for better economic possibilities and, thus, a better life. The city is home to 1.92 crore citizens, and over 80 lakh commuters travel to the city every day to fulfil their economic and educational needs. Hygienic and healthy urban life is essential for such a large population to nurture their productivity and effectively participate in the city's economy.

The Municipal Budget of Brihanmumbai Municipal Corporation (BMC) is the largest among all Indian Cities. It makes provision for essential public services for the residing and floating population of the city. Praja's 2024 Whitepaper on Civic Facilities analyses civic data on public toilets, community toilets, as well as water and air pollution levels. Ground reality presents a concerning picture of these facilities which ensure the fundamental right to health and life for all citizens.

Swachh Bharat Mission (SBM) sets guidelines for the construction of Public toilets as well as Community Toilets. Annual Swachhata Survekshan is an effective benchmark to assess the sanitation and hygiene of the city. In 2023, Survekshan, Mumbai is recognised as ODF+ with a 90% score in clean public toilet facilities. However, Mumbai's ranking among all cities above 10 lakh population is alarming. Amongst all cities assessed within Maharashtra, Mumbai ranked 37. This rank further dips to 189 in the National Ranking. As a global metropolis and financial capital of India, these rankings press the need to introspect.

As we dive deeper into data on Public Toilets and Community Toilets, nuances trace to multi-fold socioeconomic challenges. While Mumbai is hailed to be a safer and more accessible city to women in comparison to other cities in India, it still falls short of providing an adequate number of Public toilet seats to them. In Mumbai out of 4 public toilet seats, only 1 seat is for women on average. The condition is even dire in wards that attract a high number of the floating population due to their commercial and cultural prominence. C Ward (Marine Lines, Chira Bazar, Girgaon) shows the most alarming imbalance with only 1 toilet seat available for women compared to 6 seats for men. Addressing this gender gap, it should be prioritised to ensure that women are provided with equitable access to sanitation.

42% of Mumbai's population is estimated to reside in slums. Residents cannot avail of in-premise toilet facilities due to the small size of houses. Hence, community toilet facilities are crucial for maintaining the hygiene of the entire neighbourhood and preventing diseases that can easily wreak havoc in these highly-density settlements. On average though, one community toilet seat is available for 86 men and 81 women across Mumbai. This ratio is much higher than SBM norms which prescribes one toilet seat per 35 male users and 25 female users. H/W Ward (Bandra West and Khar) has a critical shortage, with only one toilet seat per 443 residents. (we do not have a gender-wise bifurcation of the slum population thus we cannot provide an exact number here.)

Being a port city, Mumbai shares economic, cultural and environmental links with its rich coastline. Not only sea is important for commercial activities but also for moderating city's climate. Mumbai's coastal waters though record critical levels of pollution. The Central Pollution Control Board (CPCB) prescribe levels of Biological Oxygen Demand (BOD) and Fecal Coli Form in Mumbai's river, sea and creek water to understand pollution. Despite seven wastewater treatment plants and one STP Plant, all beach outlets in Mumbai record BOD and Fecal Coli Form a minimum of 2 times and a maximum of 5 times higher than the desirable norm. High water pollution presents a threat to rich marine diversity around the city and is also a health hazard for people who visit the beach for economic or recreational purposes. Air quality concerns are on the rise too, with public complaints sharply growing by 305% from 2019 to 2023. In 2023, not a single month recorded Good Quality Air in Mumbai.

BMC is responsible for sanitation facilities and curbing pollution. However, for the last two year's city government has been functioning without public representatives (councilors). Councilors are the first point of contact and last mile connectivity to raise and address urban issues of the city. In the absence of councilors and any other alternative, nuances of public issues are not being deliberated. While the Maharashtra State Assembly elections are due later this year, we do not have clarity on civic elections. It is high time; the state government shares its vision for effective and democratic functioning of city governments.

Milind Mhaske,
CEO, Praja Foundation.

II. Acknowledgement

Praja has obtained the data used in compiling this whitepaper through Right to Information Act, 2005. Hence, it is very important to acknowledge the RTI Act and everyone involved, especially the officials who have provided us this information diligently.

We would like to appreciate our stakeholders; particularly, our Elected Representatives & government officials, the Civil Society Organisations (CSOs) and the journalists who utilise and publicise our data and, by doing so, ensure that awareness regarding various issues that we discuss is distributed to a wide-ranging population. We would like to take this opportunity to specifically extend our gratitude to all government officials for their continuous cooperation and support.

Praja Foundation appreciates the support given by our supporters and donors, namely Friedrich Naumann Foundation, Tree for Life Foundation, Lal Family Foundation, A.T.E. Chandra Foundation, Madhu Mehta Foundation and numerous other individual supporters. Their support has made it possible for us to conduct our study & publish this white paper.

We would also like to thank our group of Advisors & Trustees for their guidance. Lastly, it is vital to mention the contributions of members of the Praja team to execute this report. The Praja team including our staff and young fellows and interns have put their best efforts to collect data, analyse findings and draft the report. On a concluding note, we acknowledge their commitment towards the success of this project.

FRIEDRICH NAUMANN FOUNDATION For Freedom. South Asia

Madhu Mehta Foundation

The views and opinions expressed in this report are solely of Praja Foundation and not of our supporters. It does not imply an endorsement from them or any entity they represent.

III. Introduction

Praja has published reports on various key service deliveries such as water supply, solid waste management (SWM), sewerage, air quality, etc. In addition, Praja also analyses the overall complaints registered by citizens on the Centralised Complaints Registration System (CCRS) to understand the rising concerns of citizens in Mumbai. Our reports provide a status of these service deliveries in Mumbai and recommendations for targeted interventions to improve these services.

Sanitation and pollution are key challenges that affects the environment, human health, and socio-economic systems. It is important to address them which can ensure protection to the ecosystems and ensure a sustainable future for generations to come. For the same, this year's report on 'Status of Civic Issues in Mumbai' aims to understand the impact of public services such as public toilets, community toilets and air and water pollution on Mumbai. The report aims to show a correlation between the status of these services and suggest effective recommendations to address these issues.

Public and Community Toilets are some crucial services that affect public health and hygiene. If not managed properly, they can lead to unhygienic living conditions, health-related issues as well as pollution of natural resources. Similarly, water and air quality is an important factor in climate change as pollutants can have a significant impact on the environment and citizens' health.

The report references the guidelines mentioned in the Swachh Bharat Mission published by the Central Government, CCRS citizen charter, etc. The paper correlates this information with data collected via the Right to Information Act (RTI), BMC's Environment Status Report (ESR), and BMC's website to provide a comprehensive overview of the state of these services in Mumbai.

IV. Source of Data

The sources of information for this study have been collected by filing RTIs (Right to Information) to the relevant departments and through Government Websites:

Data Points	Year	Source
Sanitation and Sewerage System		
Public Toilet	Till 2023	Solid Waste Management (SWM) Operation
Community Toilet	Till 2023	24 All BMC Wards
Toilet Facility	2023	Solid Waste Management Operation and BMC Wards
Swachh Survekshan	2023	Swachh Bharat Mission (SBM) Department & Website
Sewer Treatment Plant	2020 to 2023	Sewerage Operation Department
CCRS, BMC Budget, BMC Human Resources		
Central Complaint Registration System	2014 to 2023	Disaster Management
Brihanmumbai Municipal Corporation (BMC) Budget	2017-18 to 2024-25	BMC Portal
BMC Human Resources	Till Dec 2023	General Administration

V. Sanitation and Toilet Sewerage System

Part 1: Status of Public and Community Toilets in Mumbai city and facilities provided by Brihanmumbai Municipal Corporation (BMC)

A. Status of Greater Mumbai according to Swachh Survekshan 2023

Unclean and unmaintained public and community toilets significantly contribute to environmental degradation. Leakage of untreated sewage from these facilities pollutes water bodies, harming aquatic ecosystems and contaminating drinking water sources. Accumulated waste releases harmful gases like methane and ammonia, contributing to air pollution and climate change. Additionally, unclean toilets are breeding grounds for disease-causing pathogens and vectors, leading to health crises that strain local healthcare systems.

Swachh Survekshan is a survey conducted by Swachh Bharat Mission (SBM) Urban where urban localities across India are surveyed with focus on sanitation and waste management in cities. It uses various parameters for ranking cities – service level progress of sanitation and solid waste management (SWM) as submitted by the local governments, direct observation, citizen feedback and various certifications such as Open Defecation Free (ODF) for sanitation and star ratings for SWM.

Mumbai, the financial capital of the country ranked 189 among 446 cities (with more than 1 Lakh Population) in the Swachh Survekshan Survey 2023.

In the ranking for sanitation (open defecation free), [1] that has three parameters ODF, ODF+ and ODF++. Which include various requirements for toilets, toilet facilities and sewerage systems; Mumbai achieved an ODF+ status as of Swachh Survekshan 2023.

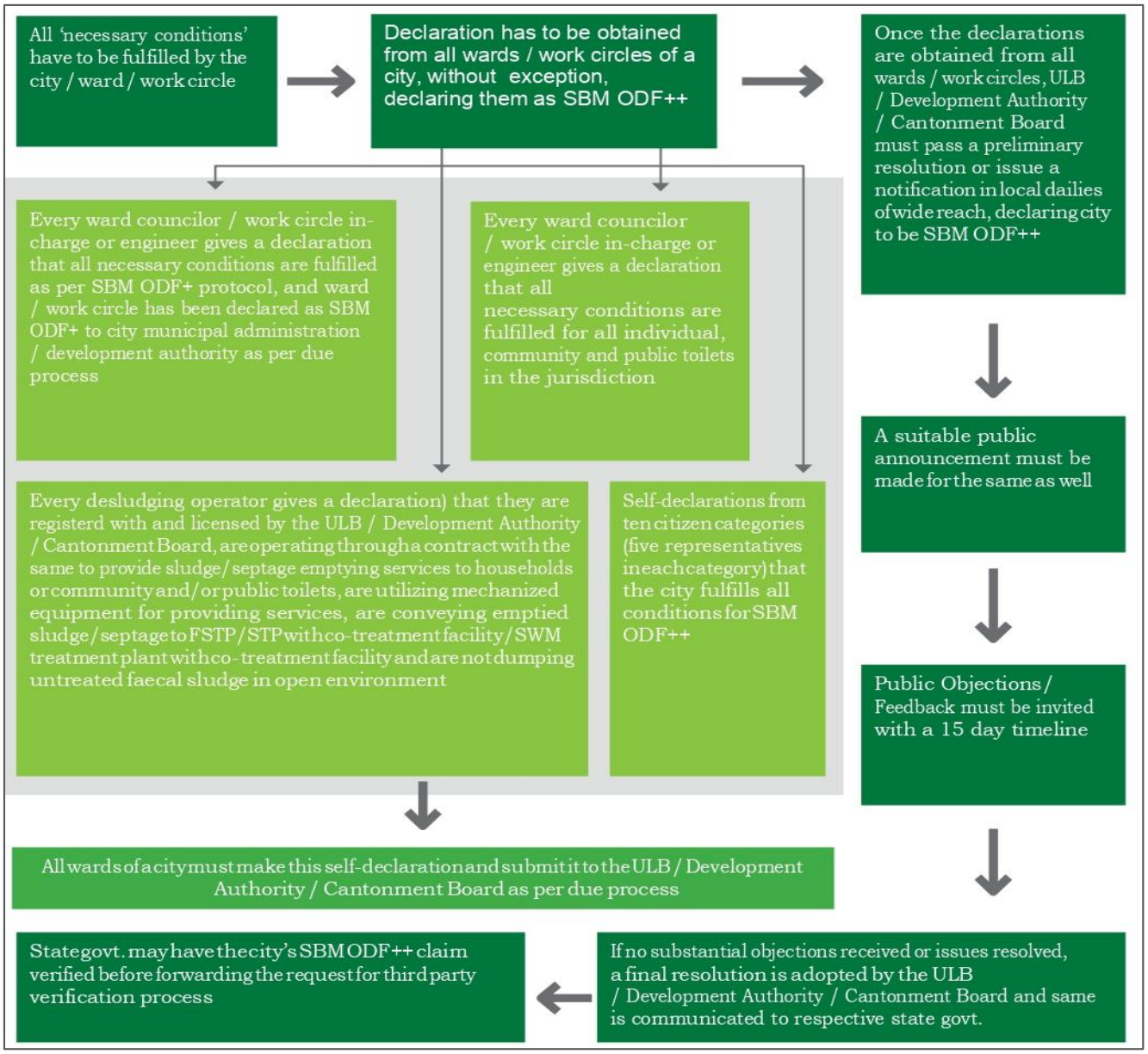
An ODF city/ward is defined as[2] 'A city/ward can be notified/declared as ODF city/ ODF ward if, at any point of the day, not a single person is found defecating in the open.' Under this definition, necessary conditions that are mandated to be achieved before declaring a city as ODF are:

- All households that have space to construct a toilet, have constructed one.
- All occupants of those households that do not have space to construct a toilet have access to a community toilet within a distance of 500 meters.
- All commercial areas have public toilets within a distance of 1 kilometre.
- The city has a mechanism in place through which fines are imposed on people found defecating in the open.

Under the 'Swachh Certificate for Open Defecation Free Status'[3] banner, Greater Mumbai had been declared 100% Open Defecation Free (ODF) as of 18-08-2018.

[1] https://www.pcmcindia.gov.in/marathi/swm2019/ODFPlus.pdf
[2] https://smartnet.niua.org/sites/default/files/resources/ODF%20Declaration%20booklet.pdf
[3] http://sbmodf.in/?metric=ALL&state=maharashtra&city=greater%20mumbai

Figure 1: Swachh Bharat Mission (SBM) ODF++ (Open Defecation Free) Declaration Protocol[4]



[4] http://swachhbharaturban.gov.in/writereaddata/SBMODFBook24May20.pdf?id=13j48tn4c0wzu2zr

B. Third Party Inspection (TPI) report for Certification of ODF++ Greater Mumbai Municipal Corporation.[5]

Table 1: Summary report of Greater Mumbai in the Swachh Survekshan 2023[6]

ULB Name	Population	% D2D*	% Source Segregation	% Processing	Cleanliness of Water Bodies	Cleanliness of Public Toilet	ODF Status	State Rank	Absolute Rank	National Rank
GREATER MUMBAI	> 10L	97%	65%	49%	100%	90%	ODF+	37	1112	189

*D2D: Door-to-door waste collection

- Absolute Rank: Overall Ranking of the city across all cities evaluated in India.
- State Rank: Ranking of the city within respective states and among all participating cities with population greater than ten Lakhs
- National Rank: Ranking of the city among all participating cities with a population greater than ten lakhs

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Table 2: Toilet Inspection report under ODF category in Swachh Survekshan 2023

Total No. of Toilets Inspected	Clean	Very Clean	Aspirational*	Not Functional**
33	3	20	4	6

* Aspirational: These will have high-end features such as luxurious bath cubicles, touchless flushing, breast-feeding rooms, and automatic sanitary napkin incinerators.
** Not Functional: Toilet not functional/working, in report use term “No Toilet”
Note: The Sample size of 33 toilets inspected is not segregated into community or public toilet

Inference:

- The total number of toilets inspected were only **33 out of which 20 were very clean and 3 were Clean category.**
- Only **0.4% of toilets** were inspected from the total (7,646) public and community toilets block. This is an extremely minuscule number and the inspection coverage of the toilets needs to be widened to reflect the grassroots reality.

Final Remark of Inspection Report:

*As of December 31st December 2023, Brihanmumbai Municipal Corporation can be declared as **Open Defecation Free+***

[5] As per an RTI Response.
[6] https://ss2023.sbmurban.org/#/statedetails

C. Status of Public and Community Toilets in Mumbai city

Sanitation facilities are integral to the development of cities for numerous reasons. Firstly, they are paramount for public health, as access to clean toilets reduces the spread of waterborne diseases and lowers healthcare costs. Moreover, they contribute to the overall liveability conditions of cities, enhancing their image and appeal.

In Mumbai, the provision and maintenance of sanitation services, particularly public and community toilets, involve multiple departments. The responsibility is divided among various authorities. Slum Sanitation Programme (SSP) Department and the Maharashtra Housing and Area Development Authority (MHADA) are responsible for community toilets while Solid Waste Management (SWM) Operation Department for public toilets. To gather information on the state of sanitation facilities, Praja initiated the process by filing Right to Information (RTI) requests to these respective departments. The aim was to obtain comprehensive data regarding the construction and maintenance of public and community toilets under their jurisdiction.

The findings from these RTI requests revealed significant challenges and deficiencies in the current system of sanitation facility management in Mumbai. Firstly, it was observed that there is no centralised data available across the city. Each department operates on a ward-level basis, resulting in fragmented data information management. This lack of centralised management of data complicates the allocation of resources and accountability. Moreover, data collection at the ward level showed inconsistencies and gaps. Many wards did not maintain separate records for male and female toilet seats, nor did they adequately account for facilities for specially-abled individuals. Additionally, details on utilities such as electricity, water supply, and sewerage connections were often missing. The absence of information on sewerage connections is particularly concerning as untreated wastewater can have significant environmental implications.

The involvement of multiple agencies further complicates the situation. MHADA, responsible for constructing community toilets, seems to lack accurate data management, as evidenced by the redirection of RTI requests to the SSP department and SSP, which in turn forwarded them to all ward offices. Moreover, MHADA's focus appears to be primarily on construction rather than maintenance, with maintenance responsibilities falling to the Brihanmumbai Municipal Corporation (BMC) after an initial period. This causes lack of accountability on Maharashtra Housing and Development Authority's end.

Establishing a single planning authority with centralised data management is essential to streamline operations, ensure effective budget allocation, and hold the responsible department accountable for sanitation infrastructure construction and maintenance.

Under the Swachh Bharat Mission Urban Guidelines (2017)[7] for community and public toilets the prescribed norms for the number of toilet seats is as follows:

Type of Toilet Facility	Male Toilet Seat Norm	Female Toilet Seat Norm	Other facilities
Public Toilets	1 seat for 100-400 males	1 seat for 100-200 females	Water tap with drainage arrangements Separate seat for Transgenders Special arrangements for physically challenged
Community Toilets	1 seat for 35 males	1 seat for 25 females	Adequate bathing facilities

However, there are some serious assumptions made regarding the male-female parity under the SBM. The Guidelines state that 'it may be assumed that two-thirds of the number are males and one-third females' and

[7] http://swachhbharaturban.gov.in/writereaddata/SBM_GUIDELINE.pdf

provide for toilet seat guidelines accordingly. However, if we look at the Mumbai census data male to female ratio is almost half- 57% males and 43% females.

The BMC maintains two types of toilets; Public (Pay & Use) toilets and Community toilets. Community toilets are built by the BMC/State Agency in slum areas and generally handed over to a community/slum under a CBO (Community Based Organisation) initiative.

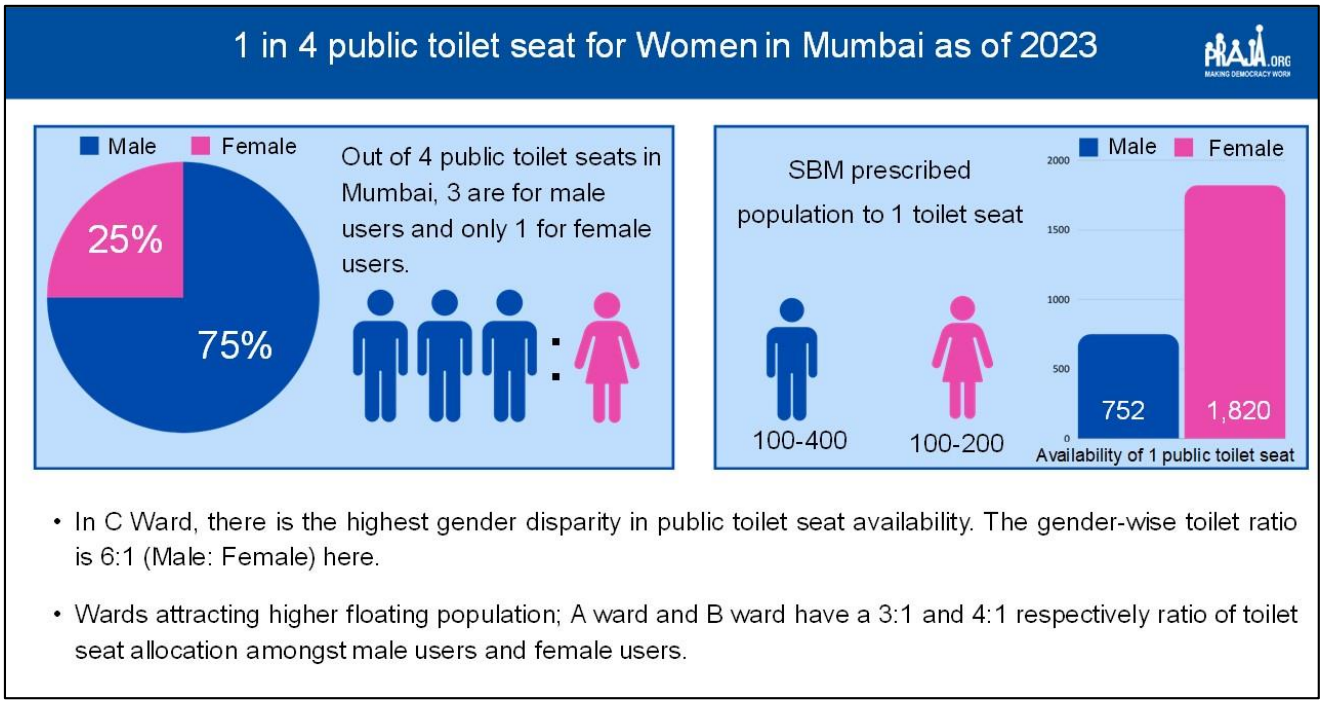
Public Toilet (PT) or Pay and Use

- Public toilets (PT) is a facility provided for the floating population / general public in places such as markets, train stations or other public areas.
- Public Toilets have an official time which may vary city to city. (6 A.M. - 10 P.M.)

Community Toilet (CT)

- Community toilets (CT) facility is a shared facility provided for a defined group of residents or an entire settlement / community.
- It is normally located in or near the community area and used by almost community members.

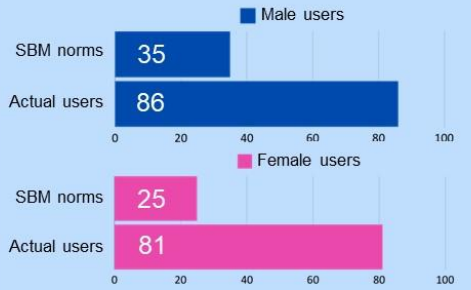
Key Findings:



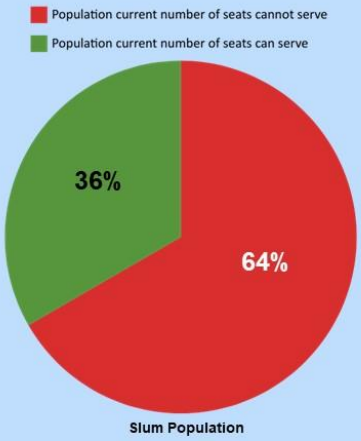
- In C Ward, there is the highest gender disparity in public toilet seat availability. The gender-wise toilet ratio is 6:1 (Male: Female) here.
- Wards attracting higher floating population; A ward and B ward have a 3:1 and 4:1 respectively ratio of toilet seat allocation amongst male users and female users.

Only 1 community toilet seat is available for every 443 users in Ward H/W as of 2023

Slum Population to 1 Community Toilet seat ratio



Total Slum population covered by total Community Toilet seats

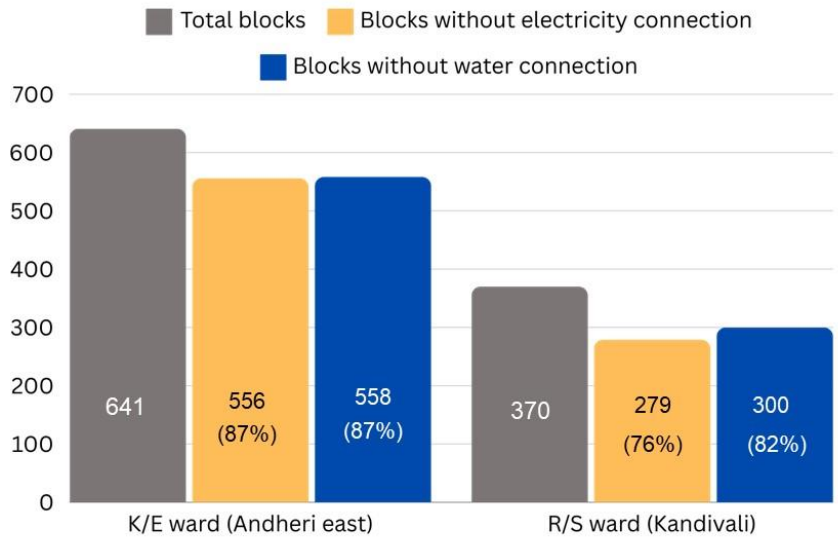


Based on a comparative analysis of community toilet seats and projected slum population 2023, current number of toilet seats is adequate to serve only 1/3 of the total slum population of the city.

(Projected Slum Population 2023 is derived by calculating "BMC Environment status report 2023"* % Slum population 2011)

- 1 Community toilet seat is available for 249 users in Ward E and 119 users in F/S Ward.

Out of total Community Toilet Blocks in Mumbai 69% lack water connection and 60% lack electricity connection.



For more details on the data received regarding ward-wise facilities, refer to Table No. 8 on Page No. 18 of the white paper

Table 3: Status of Overall Toilet blocks in Mumbai as of December 2023

Ward	Population 2023	No. of Toilet Blocks	Total number of seats	Type of Toilet		No. of Seats (%)	
				Community (No. of Toilet Blocks)	Public (No. of Toilet Blocks)	Male	Female
A	1,93,527	84	1,274	45	39	59%	41%
B	1,33,147	43	487	0	43	80%	20%
C	1,73,807	32	416	0	32	87%	13%
D	3,62,826	98	990	63	35	67%	33%
E	4,11,382	66	889	24	42	70%	30%
F/N	5,53,376	272	3,686	233	39	58%	42%
F/S	3,77,581	110	1,523	62	48	63%	37%
G/N	6,26,602	306	5,320	191	115	62%	38%
G/S	3,95,130	149	2,263	115	34	59%	41%
H/E	5,82,879	380	5,103	353	27	57%	43%
H/W	3,21,734	36	565	16	20	66%	34%
K/E	8,61,794	667	5,973	641	26	55%	45%
K/W	7,83,137	287	3,450	255	32	54%	46%
L	9,43,738	834	8,120	802	32	59%	41%
M/E	8,44,885	491	10,060	445	46	54%	46%
M/W	4,30,846	260	3,878	223	37	55%	45%
N	6,51,512	371	5,911	342	29	54%	46%
P/N	9,84,680	736	9,725	708	28	75%	25%
P/S	4,84,833	391	3,448	372	19	57%	43%
R/C	5,88,028	202	2,061	179	23	57%	43%
R/N	4,51,217	359	3,910	339	20	55%	45%
R/S	2,73,022	396	5,061	370	26	57%	43%
S	7,78,006	881	8,541	857	24	53%	47%
T	3,57,174	195	2,270	165	30	56%	44%
Total	**1,25,64,863**	**7,646**	**94,924**	**6,800**	**846**	**57%**	**43%**

Note: Data considered for Number of Seats = Public Toilet: WC and Urinal, Community Toilet: WC).

Inference:

- From the overall toilet blocks in Mumbai, 89% are allocated for community toilets and 11% for public toilets.
- The total number of toilet blocks in all wards is 7,646 with Ward M/E had the high count of seats (491 blocks and 10,060 seats) and Ward C had the lowest count (32 blocks and 416 seats).
- The allocation for male and female of the total toilet seats closely mirrors the gender population ratio in Mumbai, with 57% of seats designated for male and 43% for female.
- S ward had 47% of female seats, which is the highest number of Female seats as compared to all wards.

a. Public Toilet[8]

Table 4: Number of Public Toilet Blocks and Gender-wise Seats in Mumbai as of December 2023

Ward	Population 2023	No of Toilet Blocks	Total No. of seats*	No. of Seats			Ratio (Male : Female seats)
				Male	Female	Differently Abled (Handicapped)	
A	1,93,527	39	609	434	141	34	3 : 1
B	1,33,147	43	487	377	92	18	4 : 1
C	1,73,807	32	416	348	54	14	6 : 1
D	3,62,826	35	423	327	79	17	4 : 1
E	4,11,382	42	558	413	100	45	4 : 1
F/N	5,53,376	39	528	381	133	14	3 : 1
F/S	3,77,581	48	700	439	213	48	2 : 1
G/N	6,26,602	115	2,109	1,441	648	20	2 : 1
G/S	3,95,130	34	504	376	109	19	3 : 1
H/E	5,82,879	27	428	285	116	27	2 : 1
H/W	3,21,734	20	282	221	56	5	4 : 1
K/E	8,61,794	26	335	240	95	0	3 : 1
K/W	7,83,137	32	447	321	112	14	3 : 1
L	9,43,738	32	359	287	64	8	4 : 1
M/E	8,44,885	46	903	631	267	5	2 : 1
M/W	4,30,846	37	584	353	207	24	2 : 1
N	6,51,512	29	437	292	87	58	3 : 1
P/N	9,84,680	28	438	306	104	28	3 : 1
P/S	4,84,833	19	353	280	58	15	5 : 1
R/C	5,88,028	23	333	236	92	5	3 : 1
R/N	4,51,217	20	341	236	85	20	3 : 1
R/S	2,73,022	26	358	275	82	1	3 : 1
S	7,78,006	24	218	145	73	0	2 : 1
T	3,57,174	30	367	283	79	5	4 : 1
Total	**1,25,64,863**	**846**	**12,517**	**8,927**	**3,146**	**444**	**3 : 1**

Note: Data considered for Number of Seats: WC and Urinal).

Inference:

- In Mumbai, there are 3 toilet seats allocated for male and only 1 for female, resulting in a disproportionate distribution as of December 2023.
- C ward exhibits the highest imbalance in toilet seat allocation between genders, with a ratio of 6 seats for male and only 1 seat for female.
- Based on the census population figures, there is currently 1 public toilet seat per 752 males and 1,820 females, while the SBM prescribes 1 toilet for 100-400 males and 100-200 females respectively.
- Among the 24 wards in Mumbai, 6 wards (B, D, E, H/W, L & T) exhibit a significant gender disparity in toilet seat allocation, with 4 seats designated for male and while only 1 seat for female in C and P/S ward have the male female ratio are 6:1 and 5:1 respectively as of December 2023.

[8] Data collected through RTI from Solid Waste Management Operation Department

Table 5: Status of Facilities in Public Toilets in Mumbai as of December 2023 (in %)

Ward	No of Toilet Blocks	Population 2023	Electricity Connection		Water Connection	
			Yes	No	Yes	No
A	39	1,93,527	100%	0%	90%	10%
B	39	1,33,147	100%	0%	100%	0%
C	32	1,73,807	100%	0%	100%	0%
D	5	3,62,826	100%	0%	80%	20%
E	59	4,11,382	100%	0%	98%	2%
F/N	39	5,53,376	97%	3%	100%	0%
F/S	38	3,77,581	100%	0%	100%	0%
G/N	58	6,26,602	91%	9%	93%	7%
G/S	32	3,95,130	100%	0%	100%	0%
H/E	18	5,82,879	94%	6%	100%	0%
H/W	16	3,21,734	100%	0%	100%	0%
K/E	24	8,61,794	100%	0%	100%	0%
K/W	14	7,83,137	100%	0%	93%	7%
L	34	9,43,738	91%	9%	94%	6%
M/E	60	8,44,885	92%	8%	92%	8%
M/W	33	4,30,846	100%	0%	100%	0%
N	29	6,51,512	97%	3%	93%	7%
P/N	34	9,84,680	97%	3%	94%	6%
P/S	22	4,84,833	100%	0%	100%	0%
R/C	17	5,88,028	100%	0%	100%	0%
R/N	10	4,51,217	100%	0%	100%	0%
R/S	33	2,73,022	100%	0%	100%	0%
S	46	7,78,006	96%	4%	72%	28%
T	34	3,57,174	100%	0%	100%	0%
Total	**765**	**1,25,64,863**	**98%**	**2%**	**95%**	**5%**

Inference:

- In Mumbai, 98% of public toilets have electricity connections, while 95% have water connections as of December 2023.
- In D ward, 20% of toilet blocks lack water connections, while in S ward, this figure rises to 28%.
- The report provided by the Solid Waste Management Operation Department lacks records of sewerage connections, indicating a gap in data availability. Additionally, only data for 765 out of 846 toilet facilities was available as of December 2023.

b. Community Toilets[9]

Table 6: Number of Community Toilet Blocks and Gender-wise Seats in Mumbai as of December 2023

Ward	% Slum Population 2011	No of Toilet Blocks	Total No. of seats#	Slum Population (2023)[10]/Toilet seat	Gender wise* toilet seats data available %	No. of Seats		Different Abled (Handicapped)
						Male	Female	
A	34%	45	665	99	100%	298	367	-
B	11%	0	0	0	0	0	0	0
C	0%	0	0	0	0	0	0	0
D	10%	63	567	64	100%	318	232	17
E	20%	24	331	249	100%	170	145	16
F/N	58%	233	3,158	102	100%	1,740	1,418	0
F/S	26%	62	823	119	100%	484	326	13
G/N	32%	191	3,211	62	98%	1,841	1,370	0
G/S	21%	115	1,759	47	100%	948	811	0
H/E	42%	353	4,675	52	99%	2,622	2,051	0
H/W	39%	16	283	443	100%	141	127	15
K/E	49%	641	5,638	75	76%	2,206	1,907	0
K/W	15%	255	3,003	39	100%	1,541	1,454	8
L	54%	802	7,761	66	26%	1,545	1,211	0
M/E	30%	445	9,157	28	98%	4,619	4,161	377
M/W	53%	223	3,294	69	97%	1,770	1,524	-
N	62%	342	5,474	74	69%	2,089	1,935	0
P/N	54%	708	9,287	57	0%	-	-	-
P/S	57%	372	3,095	89	77%	1,665	1,430	0
R/C	19%	179	1,728	65	100%	695	598	25
R/N	51%	339	3,569	64	84%	1,572	1,397	0
R/S	58%	370	4,703	34	69%	1,799	1,452	0
S	72%	857	8,323	67	98%	4,417	3,900	6
T	33%	165	1,903	62	100%	885	854	4
Total	**42%**	**6,800**	**82,407**	**64**	**72%**	**33,365**	**28,670**	**481**

Note: As per SBM Norms 1 seat for 35 males and 1 seat for 25 females respectively but the census does not have ward wise gender bifurcated slum population.

(–) Data Not provided, (#) Data considered for Number of Seats: WC seats.

*In response to the RTI received for 2023, it only showed the total number of community toilet seats, but gender-wise bifurcation is missing in some toilet blocks (i.e. 28% data not maintained as of 2023).

Inference:

- F/N ward with 58% slum population, have 233 toilet blocks with 3,158 seats as of December 2023.
- As per the projected slum population for 2023, H/W (Khar) ward had 1 toilet seat for every 443 residents followed by Ward E (Byculla) had 249 and ward F/S (Parel) with 1 seat per 119 residents.
- Based on the census slum population of 2011 figures, there is currently 1 toilet seat per 86 males and 81 females, while the SBM prescribes 1 toilet for 35 males and 25 females respectively.
- Among the 21 wards providing gender-wise toilet seat data of community toilet, 1 wards allocate 2 seats for male and 3 for female, 5 ward allocate 3 seats for male and 2 for female while the remaining 15 wards maintain an equal distribution of toilet seats between genders as of December 2023.

[9] Data collect through RTI from all 24 wards.

[10] Projected Slum Population 2023 is derived by calculating "BMC Environment status report 2023" * % Slum population 2011.

Table 7: Comparative analysis on coverage of Community toilet seats over slum population as per Swachh Bharat Mission (SBM) norms as of 2023

Ward	% Slum Population 2011	Total Community toilet seats	Population covered as per SBM Norm (1 seat for 35 males and 1 seat for 25 females respectively)			Projected Slum Population 2023* as per BMC	Slum Population not covered as per the SBM Norms (#)
			Male	Female	Total		
A	34%	665	10,430	9,175	19,605	65,799	70%
B	11%	0	0	0	0	14,646	100%
C	0%	0	0	0	0	0	0%
D	10%	567	11,130	5,800	16,930	36,283	53%
E	20%	331	5,950	3,625	9,575	82,276	88%
F/N	58%	3,158	60,900	35,450	96,350	3,20,958	70%
F/S	26%	823	16,940	8,150	25,090	98,171	74%
G/N	32%	3,211	64,435	34,250	98685	2,00,513	51%
G/S	21%	1,759	33,180	20,275	53,455	82,977	36%
H/E	42%	4,675	91,770	51,275	143045	2,44,809	42%
H/W	39%	283	4,935	3,175	8,110	1,25,476	94%
K/E	49%	5,638	77,210	47,675	124885	4,22,279	70%
K/W	15%	3,003	53,935	36,350	90,285	1,17,471	23%
L	54%	7,761	54,075	30,275	84,350	5,09,619	83%
M/E	30%	9,157	1,61,665	1,04,025	265690	2,53,466	-5%
M/W	53%	3,294	61,950	38,100	100050	2,28,348	56%
N	62%	5,474	73,115	48,375	121490	4,03,937	70%
P/N	54%	9,287	-	-	-	5,31,727	-
P/S	57%	3,095	58,275	35,750	94,025	2,76,355	66%
R/C	19%	1728	24,325	14,950	39,275	1,11,725	65%
R/N	51%	3,569	55,020	34,925	89,945	2,30,121	61%
R/S	58%	4,703	62,965	36,300	99,265	1,58,353	37%
S	72%	8,323	1,54,595	97,500	252095	5,60,164	55%
T	33%	1,903	30,975	21,350	52,325	1,17,867	56%
Total	**42%**	**82,407**	**11,67,775**	**7,16,750**	**18,84,525**	**52,77,242**	**64%**

Note: As per SBM Norms 1 seat for 35 males and 1 seat for 25 females respectively but the census does not have ward wise gender bifurcated slum population.

(*) Projected Slum Population 2023 is derived by calculating "BMC Environment status report 2023" * % Slum population 2011.

(#) Slum Population not covered as per the SBM Norms: As per the SBM norm this column indicates percentage of slum population which lacks of toilet seats and it should be provided.

Inference:

- As per seat availability data of until 2023, toilet seats are available only for 36% slum population (18, 84,525 out of 52, 77,242).
- H/W ward had cover only 6% (8,110 out of 1, 25,476) population while E and L ward cover (9,575 out of 82,276 and 84,350 out of 5,09,619 respectively) has the available seat only for 12% and 17% population as per SBM norms.

Table 8: Status of Facilities in Community Toilets in Mumbai as of December 2023 (in %)

Ward	% Slum Population 2011	No of Toilet Blocks	Number of Block Where facility data provide	Electricity Connection		Water Connection		Sewer Connection (Yes)
				Yes	No	Yes	No	
A	34%	45	93%	71%	29%	71%	29%	-
B	11%	0	0	0%	0%	0%	0%	0
C	0%	0	0	0	0	0	0	0
D	10%	63	100%	95%	5%	70%	30%	100%
E	20%	24	100%	100%	0%	100%	0%	100%
F/N	58%	233	100%	28%	72%	27%	73%	100%
F/S	26%	62	100%	100%	0%	100%	0%	100%
G/N	32%	191	99%	56%	44%	33%	67%	-
G/S	21%	115	100%	74%	26%	80%	20%	100%
H/E	42%	353	99%	48%	52%	25%	75%	85%
H/W	39%	16	100%	100%	0%	100%	0%	100%
K/E	49%	641	100%	13%	87%	13%	87%	-
K/W	15%	255	92%	60%	40%	22%	78%	99%
L	54%	802	100%	39%	61%	32%	68%	-
M/E	30%	445	100%	65%	35%	65%	35%	-
M/W	53%	223	100%	24%	76%	23%	77%	-
N	62%	342	100%	34%	66%	35%	65%	-
P/N	54%	708	100%	32%	68%	21%	79%	-
P/S	57%	372	100%	35%	65%	16%	84%	-
R/C	19%	179	100%	25%	75%	31%	69%	100%
R/N	51%	339	89%	46%	54%	26%	74%	-
R/S	58%	370	100%	24%	76%	18%	82%	-
S	72%	857	100%	47%	53%	36%	64%	100%
T	33%	165	98%	40%	60%	38%	62%	99%
Total	**42%**	**6,800**	**99%**	**40%**	**60%**	**31%**	**69%**	**97%**

Note: (–) Data Not provided

Inference:

- 60% of the toilet blocks had no electricity- this is a safety concern rendering the community toilet unusable at night.
- In Mumbai, 69% of community toilets lack water connections, while only 31% are connected to piped water connections. The absence of water in connections in toilets signifies poor hygiene, cleanliness, and the inability to provide a basic sanitation service to the public. Water is particularly crucial in cases where toilet facilities also serve as a source of non-potable water.
- K/E ward stands out as the most problematic, with 87% of toilet blocks lacking both water and electricity connections. R/S ward faces challenges with 76% of toilet blocks lacking electricity and 82% lacking water connections.
- At some ward levels, facility data regarding sewerage connections is not maintained up to date. Maintaining accurate sewer connection data is important for effective urban planning, ensuring proper sanitation, and preventing public health issues.

Table 9: Ward Wise Sanitary napkin vending machine installed and operational data in Public and Community Toilets till December 2023[11]

Ward	% Slum Population 2011	Toilet Blocks Nos.			Vending Machine Installed	
		Total Block	Community	Public	Community	Public
A	34%	84	45	39	9	0
B	11%	43	0	43	0	0
C	0%	32	0	32	0	0
D	10%	98	63	35	3	0
E	20%	66	24	42	2	0
F/N	58%	272	233	39	30	0
F/S	26%	110	62	48	0	0
G/N	32%	306	191	115	0	0
G/S	21%	149	115	34	7	0
H/E	42%	380	353	27	21	0
H/W	39%	36	16	20	7	0
K/E	49%	667	641	26	39	0
K/W	15%	287	255	32	0	0
L	54%	834	802	32	38	0
M/E	30%	491	445	46	0	0
M/W	53%	260	223	37	19	0
N	62%	371	342	29	10	0
P/N	54%	736	708	28	0	0
P/S	57%	391	372	19	15	0
R/C	19%	202	179	23	0	0
R/N	51%	359	339	20	0	0
R/S	58%	396	370	26	0	0
S	72%	881	857	24	0	0
T	33%	195	165	30	0	0
Total	**42%**	**7,646**	**6,800**	**846**	**200**	**0**

Inferences:

- A good initiative of installing sanitary napkin vending machines at Public and community toilets has been implemented by BMC.
- Despite having maximum slum population P/N and M/E, G/N and R/N ward there are no vending machine of sanitary napkins available.
- Still there are no vending machines in any of the public toilets, which calls for immediate actions. Installing sanitary vending machines in public toilets is crucial due to their necessity and importance in providing essential hygiene products to users ensuring convenience.
- While there are still few community toilets which lack these vending machines such as B, C, FS, GN, KW, ME, PN, RC, RN, RS, S and T.

[11] As per RTI response

D. Sanitation related Budget, Citizens Complaints & Human Resources

Table 10: Budget Estimates and Actual Expenditure of Solid Waste management (SWM & Sanitation) in Crores

SWM, SSP and T*		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Budget Estimate	RE	2,456	2,709	2,746	2,896	3,147	3,522	3,771
	CE	510	562	925	1,154	1,835	1,677	1,605
	Total	**2,966**	**3,270**	**3,671**	**4,050**	**4,983**	**5,199**	**5,376**
Revised Estimate	RE	2,126	2,608	2,541	2,640	3,047	3,160	-
	CE	253	438	450	851	971	1,000	-
	Total	**2,379**	**3,046**	**2,991**	**3,490**	**4,018**	**4,160**	**-**
Difference (in %)	RE	-13%	-4%	-7%	-9%	-3%	-10%	-
	CE	-50%	-22%	-51%	-26%	-47%	-40%	-
	Total	**-20%**	**-7%**	**-19%**	**-14%**	**-19%**	**-20%**	**-**
Actuals	RE	2,265	2,363	2,720	2,604	3,081	-	-
	CE	117	207	318	643	551	-	-
	Total	**2,382**	**2,570**	**3,039**	**3,247**	**3,632**	**-**	**-**
Percentage Utilised	RE	107%	91%	107%	99%	101%	-	-
	CE	46%	47%	71%	76%	57%	-	-
	Total	**100%**	**84%**	**102%**	**93%**	**90%**	**-**	**-**

*Includes Slum Sanitation Program (SSP); RE: Revenue Expenditure, CE: Capital Expenditure

Inferences:

- The total budget estimates for Solid Waste Management (SWM) and Sanitation have increased by 81% from 2,966 crores in 2018-19 to 5,376 crores in 2024-25. Despite higher allocation, we find glaring gaps in terms of gender disparity and facilities in toilets.
- There has been a constant decrease in both revenue and capital expenditure from budget to revised estimates in the last six years.
- The total utilisation percentage has dropped from 100% in 2018-19 to 90% in 2022-23. Whereas, in 2022-23, 43% of the capital expenditure went unutilised.

Table 11: Toilet related complaints registered in CCRS for the year 2019 & 2023

Complaints Type	2019				2023				Difference from 2019 to 2023 (%)
	Complaints	Closed	Closed %	Avg. Days	Complaints	Closed	Closed %	Avg. Days	
Cleaning/ Repair of the P.S.C/ W.C Block/ Channels	122	115	94%	26	125	113	90%	25	2%
Non attendantance at the Public Toilet/ urinals	163	162	99%	22	159	155	97%	21	-2%
Providing/ repairing doors, windows of P.S. blocks	86	84	98%	52	62	49	79%	57	-28%
Unhygienic conditions of Toilets/ Public urinals	256	251	98%	28	198	186	94%	20	-23%
Grand Total	**627**	**612**	**98%**	**29**	**544**	**503**	**92%**	**25**	**-13%**

Inference:
256 and 198 complaints were registered for unhygienic conditions of toilets and public urinals, in 2019 and 2023 respectively. It is in contradiction to the average rating of toilets done under Swachh Survekshan 2023 that states none of the inspected toilets were unusable and dirty.

Table 12: Comparison of Citizens Complaints, Time take to resolve Complaints, Budget Utilisation and Human Resources

Department	Civic Complaints*			Average days to resolve a complaint			Budget Utilisation			Human Resources (Vacant Post)		
	2021	2022	2023	2021	2022	2023	2020-21	2021-22	2022-23	2021	2022	2023
SWM	11,056	12,351	24,690	40	28	24	102%	93%	90%	13%	14%	14%
Toilet	489	531	544	56	30	38						

Inferences:

- Complaints registered under CCRS have increased to 24,690 in 2023 from 11,056 in 2021. 544 complaints were for issues related to toilets in 2023.
- At the same time utilisation of budgeted funds has declined from 102% in 2020-21 to 90% in 2022-23.
- SWM and Toilets department still have a vacancy of 14% human resources in 2023.

Part 2. Sewage and Water Treatment

A. Sewerage Treatment plant

Sewerage and sanitation systems are as important as the water supply systems in urban areas since they act as complements for enabling sustainable and healthy cities. All major national policies that focus on water, also deal with sewerage systems. This is because in the near future, a lot of water demand can be met by effective treatment of wastewater.

There are various national level policies related to sewerage. The Atal Mission for Rejuvenation and Urban Transformation **(AMRUT)** policy[12] of the central government declares providing a sewerage connection to every household as one of its mission statements. Similarly, the **National Water Mission**[13] aims at incentivising the recycling of water including wastewater and the development of an eco-friendly sanitation system. The **Jal Shakti Abhiyan**[14] of the ministry has increased the reuse of sewage water as one of its targets.

However, it is important to note that most STPs in Mumbai are only undertaking primary treatment.[15] This is evident from the table below where only a few STPs on average let out permissible treated wastewater.

Untreated sewerage poses the risk of contaminating water sources and is a major cause of river and marine pollution. Sewerage from units not connected to the piped sewer system, leakages in sewage pipes, and poor treatment of sewerage all pose a serious risk, not just for the environment alone, but also for human health. Water and vector-borne diseases are more likely to have a serious impact on human lives due to water contamination, mismanaged and untreated sewage.

According to norms of the Pollution Control Boards, the three major indicators used for measuring the quality of wastewater are as follows:

1. **Biochemical Oxygen Demand (BOD)**: Refers to the amount of dissolved oxygen in the water required to decompose the organic matter. The higher the organic matter (sewage and pollutants) in the water, the more is the BOD; the more the BOD, the lesser is the available oxygen for aquatic life. CPCB norms for BOD from STP outlet are 20mg/lt. MPCB has adopted a stricter norm of 10mg/lt. The CPCB norm followed for BOD of waterbodies is 3mg/lt.

2. **Total Suspended Solids (TSS)**: Refers to the dry weight of undissolved solid particles in water. The prescribed limit for STP outlet is 50mg/lt. by CPCB and 20mg/lt. by MPCB.

3. **Fecal Coliform (FC)**: Fecal Coliform is bacteria found in the faeces of warm-blooded animals and humans, commonly found in human excreta and a major cause of water-borne diseases. The CPCB's prescribed limit for fecal coliform in all waterbodies is 2500MPN[16]/100ml and for drinking water, detectable fecal coliform has to be nil.

[12] http://amrut.gov.in/content/innerpage/the-mission.php
[13] http://nwm.gov.in/
[14] http://geourbanmissions.gov.in/
[15] RTI reply shows that as of 2019, 4 of 8 STPs have preliminary treatment, 3 have primary and secondary treatment while one has primary, secondary and tertiary treatment.
[16] Most Probable Number (MPN) is a method to estimate concentration of microorganisms in liquid.

Key Findings:

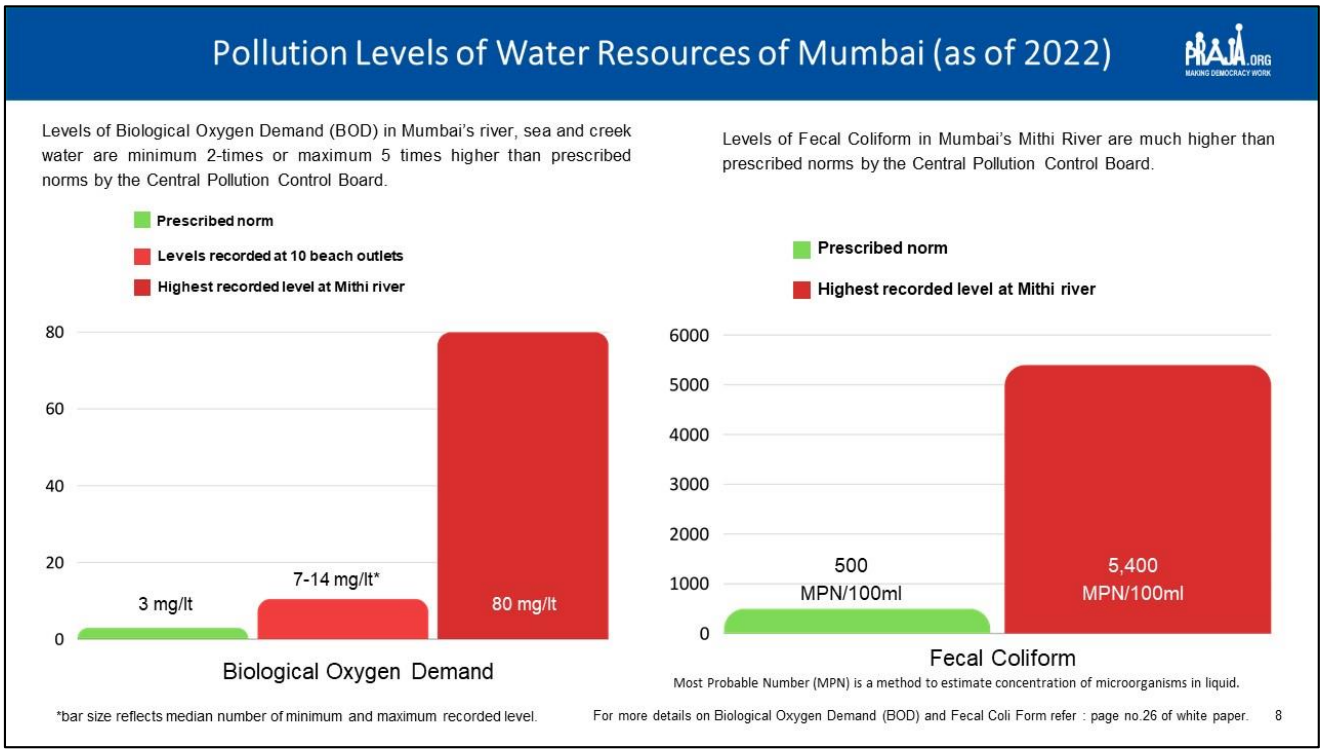


Table 13: Status of Mumbai's Sewage Treatment Plant's Waste Water Quality from Jan 2020 to Dec 2023[17]

Criteria			2020	2021	2022	2023
BOD (Prescribed limit is 20mg/lt. by CPCB and 10 mg/lt. by MPCB)	Colaba	Inlet	135	96.54	91.64	121.26
		Outlet	<5	3.43	3.45	1.27
	Worli	Inlet	89	109.51	120.31	123.56
		Outlet	2.14	2.18	1.76	1.91
	Bandra	Inlet	78	82	90.51	81.33
		Outlet	1.65	2.03	1.27	2.11
	Versova	Inlet	117	120.35	131.61	143.54
		Outlet	29.92	29.43	44.30	53.44
	Bhandup	Inlet	80	62.29	81.59	90.98
		Outlet	31.17	26.64	34.40	30.40
	Ghatkopar	Inlet	76	91.91	98.15	95.69
		Outlet	34.5	34.59	37.45	38.01
	Malad	Inlet	125	123.63	134.38	144.24
		Outlet	125.64	131.53	137.44	140.61
	Charkop	Inlet	149	175.13	158.88	181.10
		Outlet	<5	4.25	3.17	3.08
TSS (Prescribed limit is 50mg/lt. by CPCB and 20mg/lt. by MPCB)	Colaba	Inlet	174	144.02	124.57	151.37
		Outlet	<5	5.10	7.28	2.10
	Worli	Inlet	119	162.73	242.60	152.60
		Outlet	-*	2.59	3.43	4.38
	Bandra	Inlet	95	117.33	118.83	123.88
		Outlet	-*	3.04	3.17	4.26
	Versova	Inlet	153	170.83	176.85	153.32
		Outlet	17.7	20.12	47.83	65.58
	Bhandup	Inlet	90	94.01	89.33	111.86
		Outlet	23.88	43.26	31.06	33.80
	Ghatkopar	Inlet	115	125.63	129.30	114.58
		Outlet	33.5	40.03	39.51	43.02
	Malad	Inlet	164	162.23	173.35	171.85
		Outlet	155.71	179.42	185.52	181.53
	Charkop	Inlet	155	204.35	212.71	247.10
		Outlet	<5	3.04	3.83	3.90

*Discharge is through Marine Outfall, BO: Biochemical Oxygen Demand, TSS: Total Suspended Solids

STP's Index

Colour	Remark
	MPCB criteria met
	CPCB criteria met
	CPCB Criteria not met

Inferences:

- The Colaba, Bandra, Worli and Charkop STPs met the MPCB limit as these STPs were able to achieve the average BOD of lower than 10mg/lt, while Versova, Bhandup and Ghatkopar STPs did not meet the BOD outlet criteria as per the CPCB and MPCB norms.
- In 2023 Malad STP, the outlet quality was 140.61 mg/lt which was highest in all STP, compared to inlet quality of 144.24 mg/lt, while from 2020- 2022 the outlet quality was higher than inlet,but it still failed to meet the BOD outlet criteria as per the CPCB and MPCB norms , showing a failure in the treatment of sewage. If water is to be reused in the long run for the sustainability of the water-sewerage system, it is important to improve the treatment facilities.

[17] As per an RTI Response (Jan 2020 to December 2023).

Table 14: Quality of Water Bodies in Mumbai in accordance with CPCB norms (2022)[18]

Station name	Type of Water Body	B.O.D. (mg/l)		Fecal Coliform (MPN/100ml)	
		<3 mg/l		<500MPN/100ml	
		Min	Max	Min	Max
Source					
Bhatsa U/S Of Liberty Oil Mills, Satnel, Shahapur, Thane	Minor River	2.6	5	5	22
Bhatsa D/S Of Liberty Oil Mills, Satnel, Shahapur, Thane	Minor River	2.6	4	5	22
Bhatsa D/S Of Pise Dam Near Pise Village (Ulhas)	Minor River	1.6	4	2	26
Tansa Near Road Bridge, Village Dakewali, Wada, Thane	Minor River	2.6	4	2	17
Vaitarna Near Road Bridge, Gandhare Village, Wada, Thane	Minor River	2.6	4	2	21
Outlet					
Sea Water At Nariman Point, Colaba, Mumbai	Sea	8	14	220	920
Sea Water At Malabar Hill, Walkeshwar, Mumbai	Sea	9	14	94	920
Sea Water At Haji Ali, Worli, Mumbai	Sea	9	14	350	920
Sea Water At Shivaji Park, Dadar, Mumbai	Sea	8	13	240	920
Sea Water At Juhu Beach, Juhugaon, Santacruz, Mumbai	Sea	7	14	220	1,600
Sea Water at Gateway of india,Colaba,Mumbai	Sea	8	14	94	1,600
Sea Water at Charni Road Choupathy, Girgaon,Mumbai	Sea	8	14	220	1,600
Sea Water at Worli Sea Face, Worli, Mumbai	Sea	8	13	140	540
Sea Water at Varsova Beach,Andheri, Mumbai	Sea	9	14	63	540
Mithi, Near Road Bridge, Mahim, Mumbai	Minor River	7	80	170	5,400
Mahim Creek At Mahim Bay	Creek	10	14	79	540

Inference:

- The above table indicates that Mumbai's water sources even before treatment are highly polluted.
- Major sea outlets and beaches in Mumbai are however polluted from untreated sewerage or surface pollution including solid waste. The minimum BOD recorded in all the major beach outlets is much higher than the prescribed norm for beaches of less than 3mg/lt. The Fecal Coliform is high too, in most beaches it is within the maximum but at Juhu Bech, Juhugaon it exceeds the maximum by a huge margin of 1600MPN/100ml.
- Mithi river pollution from untreated sewerage and waste disposal is evident from the high BOD (maximum 3mg/lt.) as well as the high Fecal Coliform. (maximum 5400MPN/100ml).

[18] https://cpcb.nic.in/nwmp-data/

B. Water Supply and Sewerage related Budget, Citizens Complaints and Human Resources

Table 15: Budget Estimates and Actual Expenditure of 'G' Budget (Water & Sewerage) in Crores

Water & Sewerage		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Budget Estimates	RE	3,513	3,532	3,490	4,123	3,939	4,264	4,159
	CE	1,787	2,150	2,601	3,634	4,391	6,968	9,820
	Total	**5,300**	**5,682**	**6,091**	**7,757**	**8,331**	**11,232**	**13,979**
Revised Estimate	RE	3,956	3,997	4,452	4,456	4,319	6,198	-
	CE	1,231	1,539	1,580	2,014	4,147	5,058	-
	Total	**5,187**	**5,536**	**6,032**	**6,469**	**8,467**	**11,256**	**-**
Difference (in %)	RE	13%	13%	28%	8%	10%	45%	-
	CE	-31%	-28%	-39%	-45%	-6%	-27%	-
	Total	**-2%**	**-3%**	**-1%**	**-17%**	**2%**	**0.2%**	**-**
Actuals	RE	4,212	2,858	3,991	3,769	4,513	-	-
	CE	1,040	1,307	1,345	1,836	2,287	-	-
	Total	**5,251**	**4,165**	**5,336**	**5,605**	**6,800**	**-**	**-**
Percentage Utilised	RE	106%	72%	90%	85%	104%	-	-
	CE	84%	85%	85%	91%	55%	-	-
	Total	**101%**	**75%**	**88%**	**87%**	**80%**	**-**	**-**

RE: Revenue Expenditure, CE: Capital Expenditure

Inference:

- The budget estimate for Water and Sewerage department has increased by 164% from 5,300 in 2018-19 to 13,979 2023-24.
- The difference in budget and revised estimates of revenue expenditure shows an increasing trend however, capital expenditure has always decreased in the last Six years.
- The budget utilisation percentage has declined from 101% in 2018-19 to 80% in 2022-23.

Table 16: Comparison of Citizens Complaints, Time take to resolve Complaints, Budget Utilisation and Human Resources

Department	Citizen Complaints			Average days to resolve a complaint			Budget Utilization (%)			Human Resources Vacant Post[19] (%)		
	2021	2022	2023	2021	2022	2023	2020-21	2021-22	2022-23	2021	2022	2023
Water	10,981	13,097	14,752	36	26	41	88%	87%	80%	40%	39%	46%
Sewerage	513	490	550	69	63	67						

Inference:

- The number of citizen complaints related to water supply has increased by 34% from 2021 to 2023. However, there's a concerning trend where budget utilization dropped from 88% in 2020-21 to 80% in 2022-23, alongside an increase in vacant posts from 40% to 46% from 2021 to 2023.
- There is still a vacancy of 46% in Water and Sewerage department as of 2023.

[19] Including in Mumbai Sewerage Project, Sewerage Propulsion Department, Sewerage Project and Water Supply and Sewerage Department Human Resources.

C. Best Practices of Sanitation Management by other Indian Cities

1. Tiruchirappalli, Tamil Nadu - Community Ownership of Toilets[20]

In Tiruchirupalli (Trichy), India, where poor sanitation conditions and widespread open defecation were prevalent, Gramalaya, in collaboration with Water Aid and the Trichy Municipal Corporation (TMC), embarked on a transformative initiative to address these pressing challenges. With a diverse population of 1.1 million, including a significant portion residing in 286 slums, the need for improved sanitation infrastructure was paramount. Gramalaya conducted a comprehensive survey of Trichy's slums, identifying gaps in sanitation facilities and initiating the construction of new toilet facilities with the support of TMC, providing essential amenities such as land, water, and electricity.

To ensure sustainable management and utilization of these facilities, Gramalaya facilitated the formation of Self-Help Groups (SHGs) and Self-Help Enterprise (SHE) teams, predominantly comprising women, tasked with managing the newly built toilets and promoting hygiene awareness within the community. These teams underwent training to efficiently manage the facilities, including responsibilities such as collecting user fees, maintaining accounts, and hiring cleaning and security personnel. Additionally, innovative approaches such as child-friendly toilets and the formation of a children's group dedicated to spreading behaviour change messages were implemented. The success of Gramalaya's efforts was evident in the achievement of India's first 100% Open Defecation Free (ODF) slum in June 2002, showcasing the effectiveness of community-led sanitation initiatives and the transformative impact of collaborative governance and community engagement.

[20] https://www.gramalaya.org/about-gramalaya

D. Recommendations

- **Policy Changes:** Policies related to sanitation need to have a holistic approach and take into consideration the entire sanitation cycle including management of sewage systems and treatment of sewage. Bias (male to female public toilet norm) and lack of clarity (no proper norms mentioned for toilet facilities) in the SBM Guidelines, need to be rectified. Sanitation policies need to incentivise the use of sustainable toilet blocks and those that connect to the piped sewerage system. ***Consequently, there is a need to increase the proportion of toilets surveyed under SBM, to ensure adequate information is delivered about ground realities as portrayed by complaints received against hygiene conditions of toilets. To better this quality, active and user-friendly citizen feedback mechanisms must be placed within toilets.***

- **Coverage and Mechanisation:** To eliminate human faeces contact and prevent diseases caused due to poor sanitation, all toilet blocks must be connected to the sewerage system and the use of septic tanks/pit latrines should be reduced. Use of human labour in the cleaning of sewerage must be eliminated by complete mechanisation of the process of cleaning sewerage pipes/tanks, etc.

- **Equity:** Male-female disparity in toilet seats needs to be corrected for public toilets, and toilet facilities for transgenders and the specially abled need to be provided. Unisex toilets (such as eco-toilets) can also be promoted, which can be used by all genders.

- **Facilities:** Water and electricity in public and community toilets is essential for ensuring cleanliness, hygiene, safety, and prevention of diseases- it must be ensured that these facilities are available and functioning in all toilets.

- **Complaints and Monitoring:** The BMC must add corrective measures in the grievance redressal system to ensure the response is swiftly carried out, according to the Citizens' Charter.

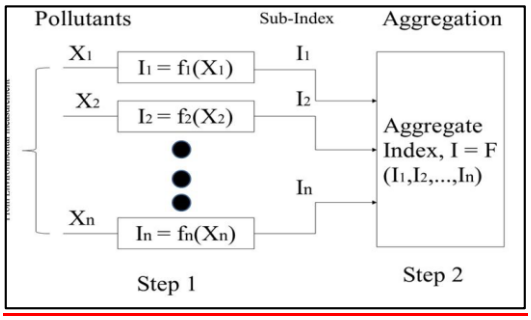
➢ **Budget**: Better utilisation of the budget can reduce the gender inequality persistent in the number of toilet seats, essential facilities for toilets and effective management of waste. By focusing more on segregation at source, scientific disposal, reuse and composting of waste to energy the waste can be efficiently utilised and managed. This will also control the pollution and unhygienic conditions faced by the citizens.

Constructing more toilet seats for women and connecting all toilet block with essential facilities such as electricity, water connection and piped sewerage system will not only provide access to clean toilets but also ensure safety from health and women harassment issues.

VI. Air Quality Index (AQI)

A. Measuring AQI

An Air Quality Index (AQI) is defined as an overall scheme that transforms weighted values of individual air pollution related parameters (SO2, CO, visibility, etc.) into a single number or set of numbers. The result is a set of rules (i.e., set of equations) that translate parameter values into a simple form employing numerical manipulation:

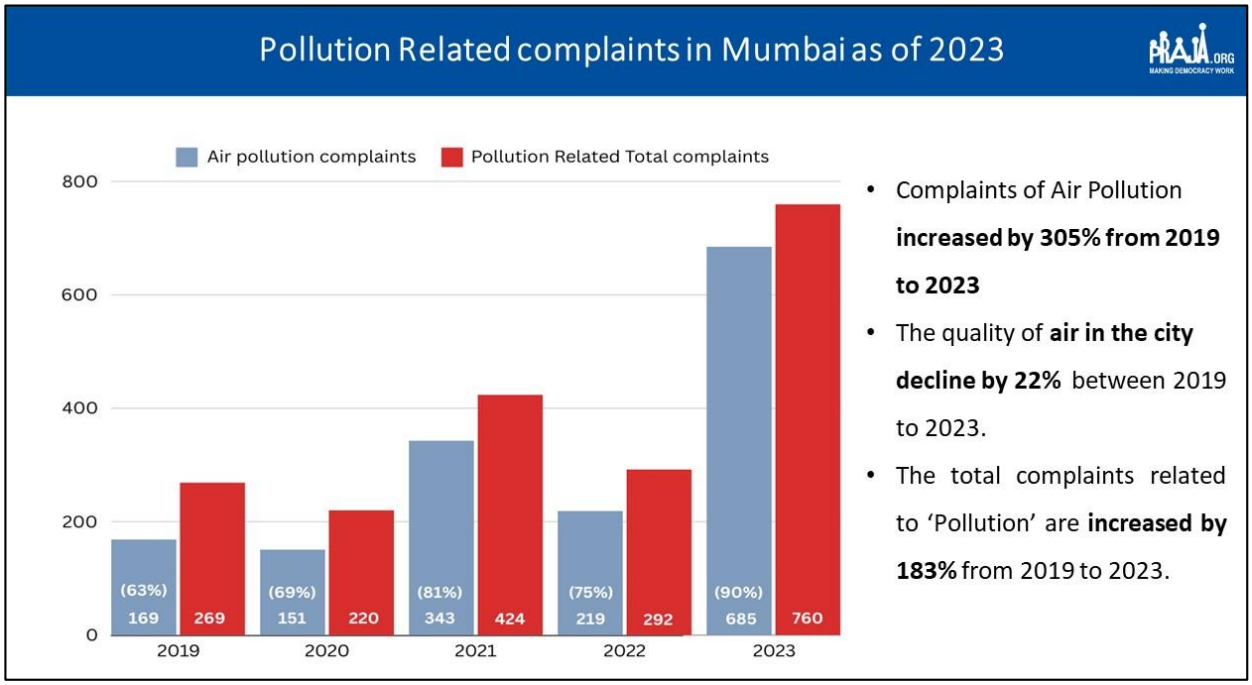


Note: This image has been taken from the 'National Air Quality Index' Report released by the Central Pollution Control Board (2014).

Air Quality Index Standards, According to the Central Pollution Control Board (CPCB)

Colour	AQI	AQI Range	Remark
	Good	0-50	Minimal Impact
	Satisfactory	51-100	May cause minor breathing discomfort in sensitive people
	Moderate	101-200	May make breathing difficult for people with lung diseases and cause discomfort in children, older adults and heart patients
	Poor	201-300	May make breathing difficult after prolonged exposure, and cause discomfort to people with heart diseases
	Very Poor	301-400	May cause respiratory illnesses in people on prolonged exposure. The effect may be more pronounced in those with lung and heart diseases.
	Severe	>400	May cause respiratory problems even in healthy people, and seriously affect those with lung/heart diseases. Even increased breathing during light physical activity can affect health.

Key Findings:



B. AQI Status in Mumbai

Table 17: Average Month-wise AQI from January 2019 to December 2023[21]

Month	Average AQI				
	2019	2020	2021	2022	2023
January	195	151	187	173	186
February	161	160	154	160	179
March	121	107	161	160	139
April	79	64	103	115	99
May	66	55	78	128	70
June	59	34	59	51	66
July	46	30	54	58	67
August	51	33	51	63	51
September	38	60	50	46	55
October	77	94	95	91	144
November	119	145	135	162	130
December	148	160	158	191	141
Average Air Quality Index	***92***	***97***	***115***	***125***	***112***

Inference:

- The best Average Monthly AQI (Air Quality Index) was 51 in August and 55 in September 2023. This suggests that air quality during those months was relatively good.
- However, the highest Average Monthly AQI in 2023 was 186 in January and 179 in February.
- The air quality has been consistently maintained at satisfactory levels for six consecutive months, spanning from April to September.

[21]All AQI data has been obtained from: http://cpcb.nic.in/, after approval from the Central Pollution Control Board (CPCB) through an RTI application.

Table 18: Ward wise Average Number of Days with Air Quality Level for the Year 2023

Region	Ward	Good	Satisfactory	Moderate	Poor	Very Poor	Severe	NA[22]
Island City	A	89	108	143	18	0	0	7
	E	107	97	121	18	1	1	20
	F/N	76	105	114	61	4	0	5
	F/S	1	1	36	3	0	0	324
	G/S	136	100	105	1	0	16	7
Western Suburbs	H/E	57	99	150	57	1	1	0
	H/W	34	122	111	29	11	8	50
	K/E	95	72	107	18	4	3	66
	P/N	101	111	131	20	2	0	0
	R/C	82	124	153	3	0	0	3
	R/S	40	120	143	41	1	0	20
Eastern Suburbs	L	35	100	194	35	1	0	0
	M/E	62	87	82	79	9	0	46
	M/W	84	36	65	7	0	0	173
	N	1	5	38	1	0	0	320
	S	12	47	119	23	2	0	162
	T	65	134	132	19	2	0	13

- Data not available or insufficiency for more than 50% of day in a year.

Inference:

- F/S and N ward have only 11% and 12% of air quality data available, respectively, while H/E, P/N and L ward have monitored 100% of air quality data.
- G/S ward has recorded 236 days with good and satisfactory Air Quality Index (AQI) levels, indicating a better environment in that area.

[22]NA – Data not Available/Insufficient data for computing AQI.

Table 19: Station wise Number of Days with Air Quality Level for the Year 2023[23]

Station	Good	Satisfactory	Moderate	Poor	Very Poor	Severe	NA[24]	Total
Bandra Kurla Complex, Mumbai - IITM	35	62	174	37	4	1	52	365
Bandra Kurla Complex, Mumbai - MPCB	68	50	50	26	0	0	171	365
Bandra, Mumbai - MPCB	0	0	0	0	0	0	365	365
Borivali East, Mumbai - IITM	84	78	147	20	0	1	35	365
Borivali East, Mumbai - MPCB	73	186	101	1	0	0	4	365
Byculla, Mumbai - BMC	2	6	43	1	0	0	313	365
Chakala-Andheri East, Mumbai - IITM	95	72	107	18	4	3	66	365
Chembur, Mumbai - MPCB	84	36	65	7	0	0	173	365
Chhatrapati Shivaji Intl. Airport (T2), Mumbai - MPCB	44	118	128	67	4	0	4	365
Colaba, Mumbai - MPCB	91	115	128	14	1	0	16	365
Deonar, Mumbai - IITM	63	87	82	72	6	0	55	365
Ghatkopar, Mumbai - BMC	1	5	38	1	0	0	320	365
Kandivali East, Mumbai - MPCB	40	121	150	31	1	0	22	365
Kandivali West, Mumbai - BMC	0	1	20	25	1	0	318	365
Kherwadi_Bandra East, Mumbai - MPCB	69	47	73	4	0	0	172	365
Khindipada-Bhandup West, Mumbai - IITM	12	47	119	23	2	0	162	365
Kurla, Mumbai - MPCB	14	71	193	59	19	1	8	365
Malad West, Mumbai - IITM	84	109	133	25	2	0	12	365
Mazgaon, Mumbai - IITM	107	97	121	18	1	0	21	365
Mindspace-Malad West, Mumbai - MPCB	64	41	55	1	1	0	203	365
Mulund West, Mumbai - MPCB	65	134	132	19	2	0	13	365
Navy Nagar-Colaba, Mumbai - IITM	37	34	105	30	2	0	157	365
Powai, Mumbai - MPCB	104	107	141	2	0	0	11	365
Sewri, Mumbai - BMC	1	1	36	3	0	0	324	365
Shivaji Nagar, Mumbai - BMC	0	1	20	24	2	1	317	365
Siddharth Nagar-Worli, Mumbai - IITM	107	101	77	0	1	0	79	365
Sion, Mumbai - MPCB	76	105	114	61	4	0	5	365
Vile Parle West, Mumbai - MPCB	34	122	111	29	11	3	55	365
Worli, Mumbai - MPCB	125	110	117	2	0	0	11	365
Average	**55**	**71**	**96**	**21**	**2**	**0.3**	**119**	**365**

- Data not available or insufficiency for more than 50% of day in a year.

Inference:

- The air quality in 2023 was measured to be good on 15% of the days (55 days), while 19% (71 days) and 26% (96 days) of the days had satisfactory and moderate air quality respectively. However, 02 days were categorised as very poor.
- Unfortunately, air quality data for the entire year is unavailable on the website for the Bandra, Mumbai - MPCB station. Similarly, 88% of the data for Ghatkopar, Mumbai – BMC, and 89% for Sewri, Mumbai – BMC is not available for the year 2023.

[23]All AQI data has been obtained from: http://cpcb.nic.in/ , after approval from the Central Pollution Control Board (CPCB) through an RTI application.

[24] NA – Data not Available/Insufficient data for computing AQI.

Table 20: Yearly AQI Index and Sub-Issue wise Pollution Complaints from 2019 to 2023

Head	2019	2020	2021	2022	2023	% Change from 2019 to 2023
Air Pollution	169	151	343	219	685	305%
Noise Pollution	-	-	-	-	9	-
Pollution due to Chemical Effluents	92	58	67	57	55	-40%
Nuisance due to Masala Mills/ Flour Mills	7	11	14	16	11	57%
Total complaints	**269**	**220**	**424**	**292**	**760**	**183%**

Inference:

- The average Air Quality Index increased by 22% from 2019 to 2023.
- The number of complaints related to ' Air Pollution' Increased by 305% from 2019 to 2023
- Complaints related to 'Pollutions' are increased by 183% from 2019 to 2023.

C. Recommendations

- **Uniform Monitoring:** To improve the monitoring of AQI (Air Quality Index), CPCB and SAFAR (System of Air Quality, Weather Forecasting, and Research), which are separate agencies monitoring air quality in cities, should coordinate and calculate a single AQI using uniform stations to measure major pollutants.

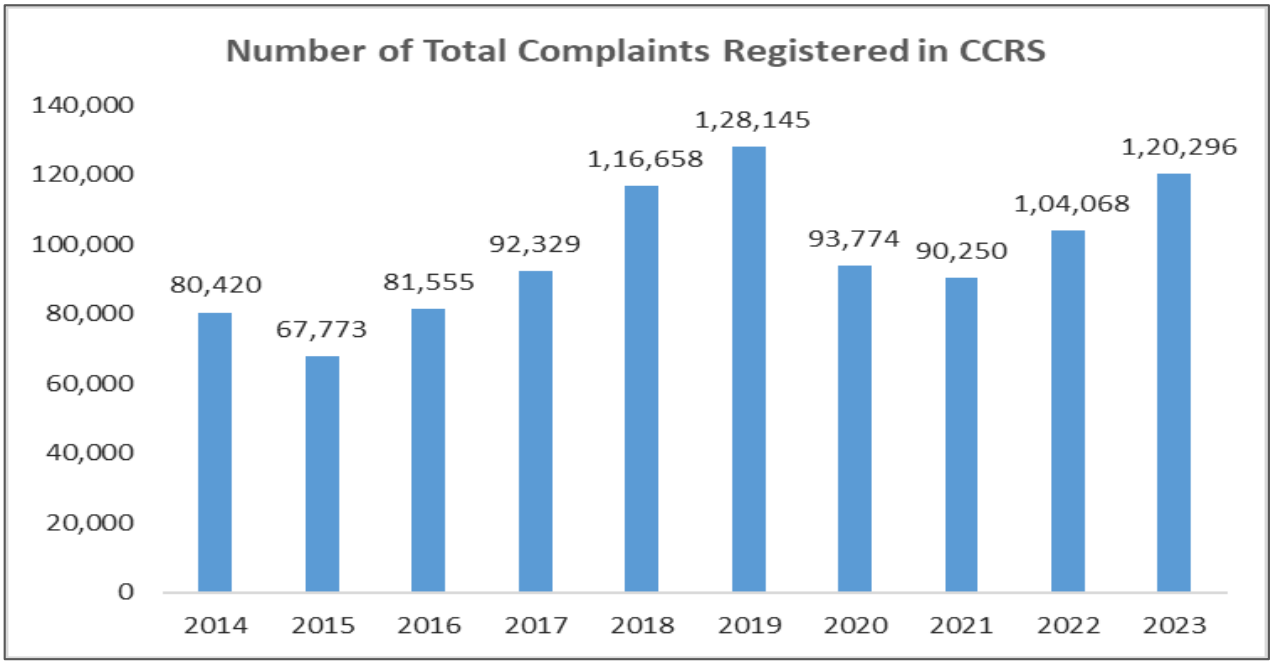
- **AQI Stations:** Further, air quality stations need to be established in every administrative ward to correctly measure air quality, pollution which is otherwise not reflected in the AQI, as seen from the complaints data. Moreover, all established air quality stations should work at full capacity to ensure the data on air quality is computed accurately.

VII. Centralised Complaint Registration System (CCRS)[25]

A. Overall Complaints

For city governments to function effectively, collaboration and contact with citizens is essential, the most basic of which is a uniform complaint redressal mechanism where people can register complaints with the municipal corporation regarding civic issues in their locality and the city government is accountable to solve the same in a timely and structured manner.

Figure 2: Overall Complaints Registered in CCRS from 2014 to 2023



Inferences:

- Total no. of Complaints registered in Mumbai have steadily increased from 80,420 in 2014 to 1,20,296 in 2023, which is an increase of 50%.

[25] As per an RTI response.

Table 21: Issue Wise Overall Complaints from 2014 to 2023*

Complaints	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	% Changes from 2014 to 2023
Buildings	17,339	14,999	16,257	19,267	21,014	20,317	14,712	17,063	16,883	14,572	-16%
Colony Officer	1,023	881	1,954	1,245	1,437	1,196	1,045	1,305	981	1,056	3%
Drainage	9,394	9,904	12,269	15,940	20,641	24,267	15,508	14,006	17,121	18,751	100%
Estate	216	112	560	407	588	623	645	538	661	553	156%
Garden	1,595	1,307	1,658	1,844	2,936	3,367	4,522	3,323	3,529	3,644	128%
License	6,123	7,145	8,368	10,372	14,203	14,465	9,694	10,814	13,439	13,673	123%
BMC Related	504	451	862	889	877	1,103	760	647	735	759	51%
Medical Officer Health (MOH)	425	549	1,111	1,595	1,743	1,480	1,343	1,087	1,384	1,652	289%
Nuisance due to vagrants/animals	-	-	1,856	2,849	2,653	2,057	952	1,383	1,599	2,533	-
Pest control	5,048	4,364	6,078	5,529	6,703	7,501	10,971	7,785	8,037	8,328	65%
Pollution	135	135	220	215	286	269	220	424	292	760	463%
Roads	21,777	13,539	13,475	11,606	13,458	15,239	6,908	7,475	11,161	10,549	-52%
School	25	56	74	42	58	78	31	43	70	72	188%
Shop and Establishment	423	401	561	1,478	878	778	986	763	647	695	64%
Solid Waste Management (SWM)	7,331	5,213	7,330	10,144	14,494	17,116	11,595	11,056	12,351	24,690	237%
Storm Water Drainage	1,160	830	1,386	1,532	1,548	2,155	1,409	1,068	1,550	2,713	134%
Toilet	257	159	290	416	494	627	618	489	531	544	112%
Water Supply	7,645	7,728	7,246	6,959	12,647	15,507	11,855	10,981	13,097	14,752	93%
Total	**80,420**	**67,773**	**81,555**	**92,329**	**1,16,658**	**1,28,145**	**93,774**	**90,250**	**1,04,068**	**1,20,296**	**50%**

Note (*): These complaints are generated in CCRS system by the above mentioned categories.

Inferences:

- Over the past decade, the highest number of complaints registered in CCRS, such as drainage (1,57,801), solid waste management (1,21,320), water supply (1,08,417) and licensing (1,08,296) have consistently remained high in proportion, with the number of registered complaints more than doubling compared to other types of complaints.
- In 2023, the highest number of complaints registered were related to solid waste management (24,690) drainage (18,751), followed by water supply complaints (14,752).
- Over the past decade Pollution complaints were highest increased by 463% (135 in 2014 to 760 in 2023), followed by solid waste management, which shows a 237% (7,331 in 2014 to 24,690 in 2023) increase in the same period.

B. Issue Wise Details of Complaints Registered and Closed in the CCRS[26]

The Complaint Management System of BMC provides for a complaint number (1916), MyBMC 24X7 mobile app, an online portal on the BMC website, or a written complaint to the complaint officer in the ward, where complaints can be registered. The complaint is referred to the respective department for taking necessary action and if not solved within the stipulated time, it is escalated to the next level of administration. This is based on the 'Escalation Matrix' which has been adopted by the BMC to address the problem of complaints remaining stuck at the lower level of the civic administration, with no way to enforce accountability. Through this system, the higher administration is mandated to take note of and address complaints if they are not solved within a stipulated time. Once the complaint is solved, the complainant is notified of the same.

As per the norms of BMC Citizen Charter of Mumbai, a civic complaint should be closed within the average of 6 days. However, it is still behind the indicated norms, as per below table:

Table 22: Issue-wise Comparison of Total Complaints and Complaints Closed in 2019 and 2023

Complaint Type	Total complaints received		Closed Complaints				Average days to resolve a complaint	
			2019		2023			
	2019	2023	In no.	In (%)	In no.	In (%)	2019	2023
Buildings	20,317	14,572	18,105	89%	9,181	63%	55	58
Colony Officer	1,196	1,056	1,072	90%	697	66%	52	46
Drainage	24,267	18,752	23,818	98%	16,509	88%	22	28
Estate	623	553	564	91%	280	50%	57	67
Garden	3,367	3,644	3,346	99%	3,582	98%	23	23
License	14,473	13,672	13,961	96%	12,410	91%	28	42
BMC Related	1103	759	1,014	92%	549	72%	45	52
Medical Officer Health (MOH)	1,472	1,652	1,418	96%	1,324	80%	39	56
Nuisance due to vagrants on municipal roads, footpaths, gardens/stray dogs, monkeys etc.	2,057	2,533	1,843	90%	1,112	44%	52	58
Pest control	7,501	8,328	7,451	99%	8,230	99%	17	16
Pollution	269	760	235	87%	377	50%	54	124
Roads	15,239	10,549	14,433	95%	8,011	76%	31	54
School	78	72	63	81%	19	26%	68	84
Shop and Establishment	778	695	746	96%	685	99%	26	23
Solid Waste Management (SWM)	17,116	24,690	16,876	99%	23,540	95%	19	15
Storm Water Drainage	2,155	2,713	2,091	97%	1,905	70%	34	33
Toilet	627	544	612	98%	503	92%	28	25
Water Supply	15,507	14,752	15,277	99%	13,999	95%	24	29
Grant Total	**1,28,145**	**1,20,296**	**1,22,925**	**96%**	**1,02,912**	**86%**	**30**	**32**

Inference:

- Average number of days to resolve a complaint Increased from 30 days in 2019 to 32 days in 2023.
- Despite an increase of 17,116 SWM complaints from 2019 to 24,690 in 2023, the average time taken to resolve a complaint decreased from 19 days in 2019 to 15 days in 2023.

[26]The complaints registered data is obtained through RTI from the Central Complaint Registration System (CCRS) of the BMC.

C. Status of Action Taken Report (ATR) and Time Taken to Resolve Complaints in CCRS

Action Taken Report: The process of generating an Action Taken Report in CCRS was initiated in 2017. After a complaint is filed in CCRS, they generate an Action Taken Report (ATR). The ATR is a complaint redressal form that is generated by the CCRS telephone operator with primary details of the complaint including the nature of complaint, location, etc. After this, the complaint along with the ATR is forwarded to the concerned department to resolve the issue. The ATR is to be filled by the official who attends to the complaint and visits the complaint site. The ATR is required to be filled in detail with information of the type of action taken to resolve the complaint before they can close the complaint in the system.

Escalation Matrix: The CCRS mechanism includes an escalation process for unresolved complaints. These complaints are escalated to different levels under the 'escalation matrix' which has been adopted by the BMC. The escalation matrix is a computerised mechanism by which complaints which are not resolved within a stipulated time (7 days) are automatically shown as being placed before a higher authority within the BMC. The escalation matrix was developed to address the problem of complaints remaining stuck at the lower level of the civic administration, with no way to enforce accountability.

Level I	**Level II**	**Level III**
AMC/Chief Engineer	DMC	Additional Municipal Commissioner

Through this system, the higher administration is mandated to take note of and address complaints if they are not solved within a stipulated time. If a complaint is solved at the level at which it is filed, it is treated as being solved at Level 0.

Table 23: Overall Civic Complaints Escalated from Level I to Level III from 2019 to 2023

Year	Total Complaints Received	Level I (AMC/Chief Engineer)		Level III (Add. MC)				Total Unresolved Escalated Complaints after Level IV	Total Complaint closed after escalated (%)
		Number of Complaints Escalated	In (%) of Overall Complaints	Number of Complaints Escalated	In (%) of Overall Complaints	Closed Complaints	Average Days to Resolve		
2019*	1,28,145	4,738	4%	4,654	4%	256	49	4,482	5%
2020*	93,774	16,813	18%	16,105	17%	493	93	16,320	3%
2021*	90,250	11,848	13%	10,417	12%	299	37	11,549	3%
2022*	1,04,068	13,552	13%	13,138	13%	0	-	13,552	0%
2023	1,20,296	17,883	15%	17,882	15%	2,04	178	15,838	0%

(* Till 2022 complaints escalated from Level I to Level IV hence above numbers of Level 4. However, starting from 2023, escalation is only up to Level III as Level IV has been removed)

Inferences:

- In 2023, 17,883 complaints were escalated and 100% complaints escalated to the Add. Municipal Commissioner (Level III) and were not able to be resolved within the escalation matrix of CCRS.
- All 17,882 complaints escalated to the Add. Commissioner remain unresolved due to which there is a need for urgent improvements in the BMC complaint Redressal system.
- Over the last five years, only 4% or fewer complaints have been resolved, while 96% or more have remained unresolved after escalation. Additionally, in 2023, only 1 complaint was resolved after escalation.

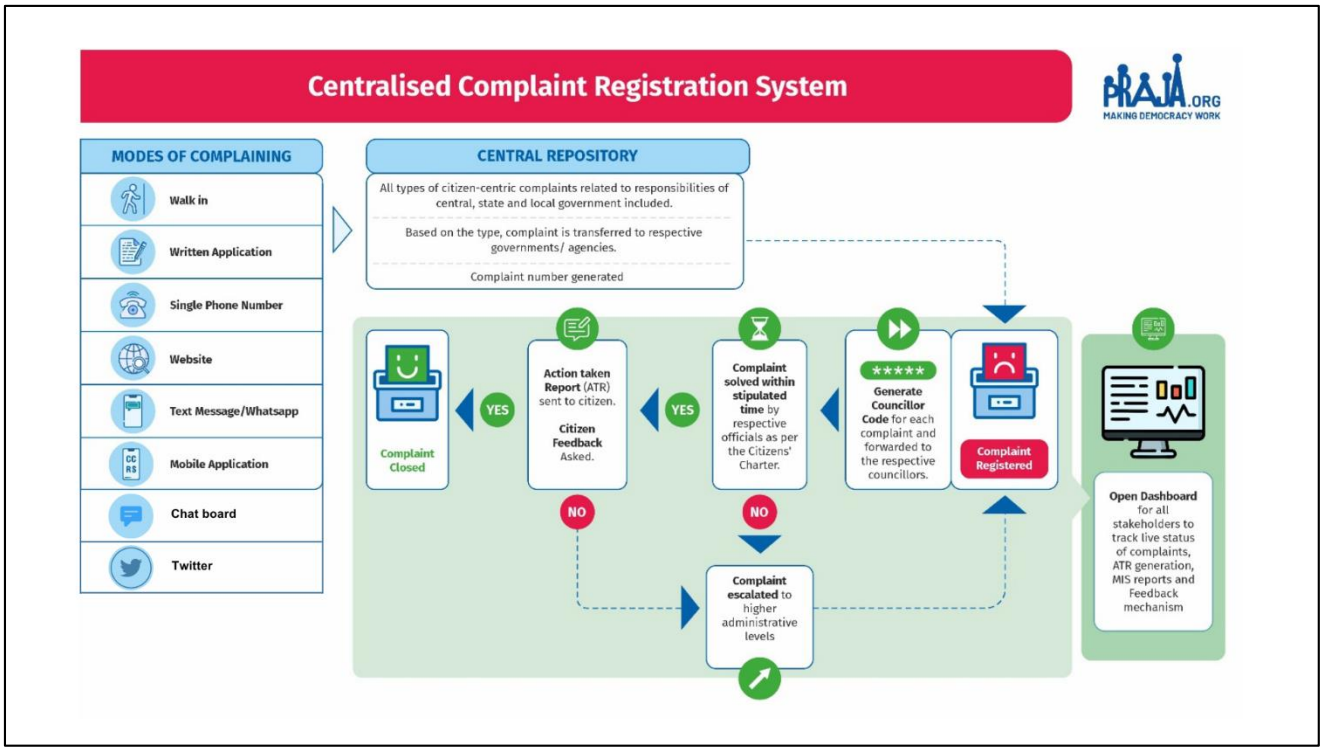
Table 24: Analysis of Complaints Attended (Closed) in Comparison with Days Mentioned in BMC's Citizen Charter

Issues/Sub-issues	Escalation to Level 1 (Working Days)	Actual time taken to resolve (Average Day)			
		2021	2022	2023	% Change from 2022 to 2023
Pest control					
Fogging	7	21	17	15	-12%
Mosquito Nuisance	7	22	17	16	-6%
Rat Nuisance	7	22	16	18	13%
Unauthorised/ uncovered water storage tanks	7	27	19	16	-16%
Roads/Footpath					
Bad Patches/ Potholes on the Roads	7	62	64	52	-19%
Digging of roads	7	84	81	54	-33%
Fallen Tree on road	5	23	23	28	22%
Relaying and repairs of roads	7	88	69	57	-17%
Repair and reconstruction of footpath	7	99	63	62	-2%
Water Supply					
Contaminated Water Supply	2	36	31	36	16%
Leakage near meter	7	48	26	31	19%
Leaks in Water Lines	4	38	32	30	-6%
Providing water by tankers	7	49	29	21	-28%
Shortage of water supply	4	37	30	28	-7%
Solid Waste Management (SWM)					
Collection point not attended properly	2	44	29	20	-31%
Garbage not lifted from House/ Gully/municipal market/road/ authorised collection point	2	74	29	14	-52%
Providing/ removing/ replacing dustbins	5	38	24	21	-13%
Removal of dead animals	1	44	27	14	-48%
Removal of Debris	5	46	30	10	-67%
Sweeping of roads	1	44	28	13	-54%

Inference:

- The citizen's charter prescribes for almost all major complaints to be escalated to Level 1 in 7 days and escalate to Add. Municipal Commissioner's Level in 28 Days. However, on an average, BMC took 19 days to solve complaints of drainage, Pest Control, Road/footpath and water supply in 2023.
- In 2023 BMC took 52 days to resolve potholes related complaints and 62 days to repair footpaths, which is a delay in resolving issues within the prescribed timeline. These delays can cause accidents and inconvenience, especially for the elderly and disabled.
- In 2023 BMC took 36 days to resolve the issue of contaminated water and 28 days to address the shortage of water states that people may resort to using water from unauthorised sources, which can cause water-borne diseases and negatively affect the health of citizens.

D. Recommendations



a. **Open Dashboard:** For government to take a step towards Open Government Data Portal which enables transparency, there should be, an open dashboard regarding complaints set up by the city government. This will increase citizen awareness, enable feedback, and allow elected representatives and administration officials to better monitor and evaluate the corporation's performance on a real-time basis.

b. **Councillor code:** Proper implementation of mandatory entry of councillor code for every complaint must be done for better accountability in the system. Recently, entering the name of the administrative ward in the online form has been made compulsory.

c. **Citizen Feedback:** The complaint management system must incorporate a feedback and suggestion mechanism whereby complainants can express their satisfaction. This will also enable more accountability within the system so that the concerned officers can better perform their functions. Also, the Action Taken Report (a report generated by CCRS with details about the action taken to address a complaint) mechanism must be detailed for effective tracking and monitoring by citizens and then administrative officials.

d. **Citizen Participation Forum:** A platform that allows citizens to express their needs and wants. The platform can be regularly monitored by all stakeholders to ensure citizen-centric approach when planning for service delivery and infrastructure provisions in cities. Adding this aspect will bring the citizen journey to completion.

VIII. Analysis of Municipal Budget Related to Civic Issues[27]

A. Overall Budget Analysis

Table 25: Overall BMC Budget from 2019-20 to 2024-25 (in crores)

Overall BMC Budget			
Financial Year	**Budget Estimates**	**Revised Estimate**	**Difference (in %)**
2019-20	30,685.99	30,025.39	-2%
2020-21	33,434.50	31,168.16	-7%
2021-22	39,027.32	39,611.35	1.5%
2022-23	45,940.78	43,491.20	-5%
2023-24	52,553.74	49,949.15	-5%
2024-25	59,896.53	-	-

Inference:
The revised estimates have been lower than budget estimates from FY 2019-20 to FY 2023-24 except for one FY "2021-22" when the R.E. was higher than the B.E. by 1.5% showing larger expenditure.

Table 26: Budget Estimates in Revenue Expenditure from 2019-20 to 2024-25 (in crores)

Revenue Expenditure			
Financial Year	**Budget Estimates**	**Revised Estimates**	**Difference (in %)**
2019-20	19,205.57	19,240.31	0%
2020-21	18,796.74	20,264.58	8%
2021-22	20,276.33	22,744.87	12%
2022-23	23,294.05	22,632.33	-3%
2023-24	25,305.94	24,633.34	-3%
2024-25	28,121.94	-	-

Inference:
The revised revenue expenditure estimates exceeded the budget estimates from FY 2019-20 to FY 2021-22 except for FY 2022-23 and FY 2022-23 when revised revenue expenditure was lower that budget estimates.

Table 27: Budget Estimates Under Capital Expenditure from 2019-20 to 2024-25 (in crores)

Capital Expenditure			
Financial Year	**Budget Estimates**	**Revised Estimates**	**Difference (in %)**
2019-20	11,480.42	10,785.08	-6%
2020-21	14,637.76	10,903.58	-26%
2021-22	18,750.99	16,866.48	-10%
2022-23	22,646.73	20,858.87	-8%
2023-24	27,247.80	25315.81	-7%
2024-25	31,774.59		

Inference:
The revised estimates of capital expenditures from 2019-20 to 2023-24 are lower than the budget estimates.

[27]All figures are in crores unless specified otherwise. All figures have been taken from the Municipal Commissioner's speeches from 2019-20 to 2024-25, available on BMC website: www.mcgm.gov.in.
Note: 'RE' stands for Revenue Expenditure and 'CE' stands for Capital Expenditure.

B. Budget Analysis of Key Civic Departments

Table 28: Budgetary Allocation of Departments Related to Civic Issues from 2020-21 to 2024-25 (in crores)

Department	Budget 20-21			Budget 21-22			Budget 22-23			Budget 23-24			Budget 2024-25		Change in (2020-21 to 2024-25) %
	B.E.	R.E	RE %	B.E	R.E	RE %	B.E	R.E	RE %	B.E	R.E	RE %	BE	BE %	
Disaster Management Cell	50	20	0.06%	39	32	0.08%	27	25	0.06%	52	53	0.11%	51.21	0.09%	2%
Fire Brigade Department	374	374	1%	541	576	1%	746	628	1%	666	260	0.52%	689.99	1%	85%
Solid Waste Management Department	3,291	2,791	9%	3,659	3,315	8%	4,531	3660	8%	4,710	4,355	9%	4878.37	8%	48%
Storm Water Drains Department	1,339	1,194	4%	1,699	1,941	5%	2,133	2783	6%	3,266	2,740	5%	2674	4%	100%
Roads & Traffic Department	2,280	2,080	7%	2,232	2,532	6%	2,869	3873	9%	3,631	3,368	7%	4350.96	7%	91%
Water Operation Department	1,713	2,197	7%	1,677	2,690	7%	2,044	3366	8%	2,336	4,628	9%	2785.41	5%	63%
Water Supply Project Department	1,185	456	1%	702	674	2%	1,094	943	2%	1,414	882	2%	2448.43	4%	107%
Sewerage Operation Department	611	768	2%	655	1,066	3%	735	1168	3%	1,048	1,786	4%	1273.89	2%	108%
Sewerage Project Department	347	210	1%	303	221	1%	270	387	1%	333	644	1%	460.73	0.77%	33%
Mumbai sewerage Disposal Project	424	380	1%	1,974	490	1%	2,093	2052	5%	3,592	2,589	5%	5072.03	8%	1097%
Total	**11,613**	**10,470**	**34%**	**13,481**	**13,537**	**34%**	**16,543**	**18,884**	**43%**	**21,048**	**21,305**	**43%**	**24,685**	**41%**	**113%**
Others	21,822	20,698	66%	25,546	26,075	66%	29,398	24,607	57%	31,506	28,644	57%	35,212	59%	61%
Overall	**33,435**	**31,168**	**100%**	**39,027**	**39,613**	**100%**	**45,941**	**43,491**	**100%**	**52,554**	**49,949**	**100%**	**59,897**	**100%**	**79%**

Note: R.E. is Revised Estimate and B.E. is Budget Estimate, RE %: Revenue Estimate share to total (R.E. Total).

Inference:

- ***Solid Waste Management Department:*** The budgetary share for 2024-25 is 8% of the total budget allocate to Civic services also the revised estimate has been increased by 8% to 9% from 2022-23 to 2023-24.
- ***Roads and Traffic Department:*** The budget share has reduced by 7% of the total budget 2023-24 in the budget estimates. Despite decreased in road related complaints, the average days for closed the complaints has increased from 52 days in 2022 to 54 days in 2024.
- Of all the departments Disaster Management Cell, Fire Brigade Department, water, sewerage and drainage, and solid waste management are the services where key civic issues are raised by citizens.

IX. Human Resources in BMC[28]

A. Vacancies in BMC Human Resources

Table 29: Department-Wise BMC Human Resources as of December 2023

Department	Schedule Posts			Non Schedule Posts		
	Sanctioned	Available	Vacant (%)	Sanctioned	Available	Vacant (%)
Assessor and Collector Department	2,238	1,176	47%	0	0	-
Accounts Department	1,792	1,428	20%	11	11	0%
Bridges Department	163	111	32%	5	2	60%
Building Maintenance Department	266	188	29%	0	0	-
Bai Yamunabai Nair Hospital and Topiwala National Medical College	3,919	2,123	46%	181	60	67%
Central Procurement Dept.	130	85	35%	0	0	-
City Engineer's Department	4,192	2,169	48%	37	16	57%
Civic Training Institute and Research Centre	72	52	28%	0	0	-
Coastal Road Project	5	3	40%	36	21	42%
Deonar Abattoir	622	270	57%	0	0	-
Development Planning Department	455	293	36%	31	20	35%
Disaster Management Department	93	64	31%	181	10	94%
Dr. R.N. Kapoor Medical College and H.B. Thackeray Medical College	450	250	44%	140	4	97%
Education Department	21,900	9,836	55%	3	3	0%
Removal of Encroachments	91	64	30%	0	0	-
Enquiry Department	118	75	36%	3	3	0%
Estate Department	1,444	1,125	22%	77	37	52%
Garden Department	1,625	687	58%	2	2	0%
Public Health Department	11,541	6,833	41%	727	289	60%
Information Technology Department	42	31	26%	17	1	94%
KEM Hospital and Seth G.S. Medical College	5,642	3,194	43%	60	6	90%
Labour Department	218	37	83%	0	0	-
Legal Department	299	213	29%	56	16	71%
License Department	970	674	31%	0	0	-
L. T. General Hospital and Medical college	4,434	2,547	43%	195	9	95%
Markets Department	1,110	552	50%	0	0	-
Mechanical & Electrical Department	964	432	55%	0	0	-
Mumbai Fire Brigade	3,054	1,827	40%	123	85	31%
Mumbai Sewerage Disposal Project	62	41	34%	25	11	56%
Municipal Auditor's Department	976	375	62%	4	4	0%
Municipal Commissioner office	996	595	40%	57	15	74%

[28] As per RTI Response.

Department	Schedule Posts			Non Schedule Posts		
	Sanctioned	Available	Vacant (%)	Sanctioned	Available	Vacant (%)
Municipal Printing Press	463	184	60%	0	0	-
Municipal Secretary Department	455	247	46%	0	0	-
Nair Hospital Dental College	321	190	41%	0	0	-
Planning Department	71	28	61%	0	0	-
Public Relations Department	51	40	22%	1	1	0%
Roads & Traffic Department	6,315	3,115	51%	31	27	13%
Security Department	4,238	2,169	49%	16	14	13%
Sewage Operation Department	7,680	4,087	47%	0	0	-
Sewerage Project	454	164	64%	0	0	-
Shops & Establishment Department	231	153	34%	0	0	-
Solid Waste Management Department	33,421	28,703	14%	1,605	1,403	13%
Storm Water Drains Department	3,376	1,602	53%	1	1	0%
Suburban Hospitals	8,246	4,846	41%	1,224	104	92%
Water Operation Department	10,515	6,374	39%	298	55	82%
Water Supply and Sewerage Department	462	347	25%	3	3	0%
Water Supply project Department	554	199	64%	0	0	-
Zoo	196	81	59%	3	3	0%
Total	**1,46,932**	**89,879**	**39%**	**5,153**	**2,236**	**57%**

Inference:

- For the effective functioning of the government, it is essential to have adequate human resources. Overall 39% of schedule post and 57% of non-schedule post in BMC were vacant in 2023.
- In 2023, labour department had the highest vacancy (83%) of schedule post followed by sewerage project & water supply project department (64%).
- In key departments of civic services, the vacancy is as follows; Garden & Recreation 58%. Education 55%, Storm Water Drains 53%, Roads & Traffic 51%.

Annexure 1: Number of Days for Escalation time frame According to Citizen's Charter by BMC

Complaint Type	1st level
Buildings	**13**
Change of user Res to Commercial	5
Grant Authority u/ s 449 MMC Act - Repair	5
Heavy Leakage From Ceiling	5
Other (Buildings)	7
Permission for Temporary Monsoon Shed	7
Private Land/ Building/ Society/ Factories	5
Regularisation of Balcony Enclosures	7
Repair Perm-Tolerated/ Unauthorised Structure	30
Unauthorised Alteration of Bldg., Flat etc.	30
Unauthorised Construction/ Development	30
Colony Officer	**5**
Delay in transfer case	5
Municipal Colony/ Slum	5
Others (COL)	5
Unauthorised Commercial Activity	5
Unauthorised Construction in Slum	5
Unauthorised Extension/ Construction	5
Unauthorised Repairs/ Renovations in Slum	5
Drainage	**6**
Cleaning of Septic Tank	3
Drainage Chokes and Blockages	3
Odour (Foul Smell) from Drains	7
Others (DRN)	7
Overflowing drains of manholes	3
Raising of manhole (except in monsoon)	15
Repairs to pipe sewers/ main sewers	7
Replacement of Missing/ Damaged Manhole	3
Drainage (AEM 2)	**5**
Cleaning of Septic Tank	5
Drainage Chokes and Blockages	5
Odour (Foul Smell) from Drains	5
Others (Drainage)	5
Overflowing drains of manholes	5
Raising of manhole (except in monsoon)	5
Repairs to pipe sewers/ main sewers	5
Replacement of Missing/ Damaged Manhole	5
Encroachment	**5**
Others (ENCR)	5
Estate	**5**
Extension in the premises without permission	5
Non-maintenance of Premises	5
Others (Estate)	5
Pending Transfer cases	5
Pertaining to rent	5
Slab Fallen down	5
Transfer of tenancy	5
Unauthorised addition/ alteration in the premises/ Building/ Open Space/ Market	5

Complaint Type	1st level
Roads	**6**
Bad Patches/Potholes on the Roads	7
Fallen Tree on road	5
Municipal Land - Road/Footpath/SWD	5
Others (RNT)	7
Permission for tree cutting	5
Providing Name Plates to the Road	7
Reinstatement of Trenches	7
Removal of Rank Vegetation on Roads	7
Repairs/re-surfacing of roads/footpaths	7
Signals	7
Speed Breakers	7
Street Lighting	7
Trimming of Branches	5
Unauthorised Digging of roads	7
Unauthorised Stalls on roads	5
Roads (AEM 2)	**5**
Bad Patches/ Potholes on the Roads	5
Fallen Tree on road	5
Others (RNT)	5
Permission for tree cutting	5
Providing Name Plates to the Road	5
Reinstatement of Trenches	5
Removal of Rank Vegetation on Roads	5
Repairs/Resurfacing of Road/footpaths	5
Signals	5
Speed Breakers	5
Street Lighting	5
Trimming of Branches	5
Unauthorised Digging of roads	5
Unauthorised Stalls on Road	7
School	**5**
Bad Quality of material given to student	5
Choke in main drain	5
Door/Window/staircase etc. found broken	5
Drinking Water not available	5
Found encroachment in the school premise	5
Furniture found broken in the classes	5
Lamp, Tube light etc. to be replaced	5
No electricity supply	5
No Teacher	5
No warning/ alarm system	5
Others (School)	5
Overflow of waste material	5
Pan/ Gutka hawker near school premises	5
Short supply of water	5
Toilet not cleaned	5

Estate	5
Unauthorised Construction on the Plot/ Reserve plot	5
Unauthorised Materials/ Furniture Found/ kept on Footpath and Road	5
Unauthorised shed on building in premise	5
Unauthorised use of Room	5
License	**5**
Hawkers	5
Others (LIC)	7
Storage and sale of plastic bags	5
Trade without License	5
Unauthorised Banners/ Advt. on Road	7
Unauthorised Stalls on roads/ Footpaths	5
Unauthorised Storage of Explosives	2
Unauthorised workshop or Garage	5
BMC Related	**6**
Maintaince of Electric Pumps in Municipal Colonies	7
Maintaince of municipal property, school, dispensaries, maternity home, gardens	7
Major Repairs to Municipal Property	5
Minor Repairs to Municipal Property	5
Municipal Plot	5
Others (RMP)	7
Proper Electric Supply to Municipal Property	7
Protection of Municipal Play grounds/ Gardens	7
Providing tar before monsoon to municipal property to avoid leakage	7
Providing/repairing doors, windows of P.S. blocks	7
BMC Related (AEM 2)	**5**
Maintaince of Electric Pumps in Municipal Colonies	5
Maintaince of municipal property, school, dispensaries, maternity home, gardens	5
Major Repairs to Municipal Property	5
Minor Repairs to Municipal Property	5
Others (RMP)	7
Proper Electric Supply to Municipal Property	5
Protection of Municipal Play grounds/ Gardens	5
Providing tar before monsoon to municipal property to avoid leakage	5
Providing/repairing doors, windows of P.S. blocks	5
Medical Officer Health (MOH)	**5**
Issue of Birth/Death Certificate	3
Others (MOH)	5
Unauthorised Food Selling/Preparation (MOH)	5
Unauthorised Flour Mill	5
Miscellaneous complaints	**5**
Miscellaneous complaints	5
Pest control	**7**
Fogging	7
Mosquito Nuisance	7
Nuisance due to cockroaches	7

Sewerage Operation Control (City) E.S.) (W.S.)	5
Drainage Chokes and Blockages	3
Odour (Foul Smell) from Drains	7
Others	7
Overflowing drains of manholes	3
Repairs to pipe sewers/ main sewers	7
Replacement of Missing/ Damaged Manhole	3
Shop and Establishment	**5**
Employing children (below 14) in the org	5
found staff working more than on muster	5
Non observance of Holidays	5
Not providing minimum wages	5
Open beyond permissible hours	5
Others Shop and Establishment (S & E)	5
Running without license	5
Shop open on weekly holiday	5
Solid Waste Management (SWM)	**3**
Cleaning of P.S.C. block/channels	2
Collection point not attended properly	2
Garbage lorry not reported for service/Lorry not covered	2
Garbage not lifted from House/Gully	2
Garbage not lifted from municipal market	2
Garbage not lifted from road/ authorised collection point	2
Lifting of Tree Cutting	5
No attendance at public toilets	2
Non-attendance of nuisance Detector	2
Others (SWM)	7
Providing/ removing/ replacing dustbins	5
Removal of dead animals	1
Removal of Debris	5
Silt to be lifted from road	7
Sweeping of roads	1
Storm Water Drainage	**7**
Cleaning of open SWD	7
Cleaning of Water Entrance	3
Cleaning/ Removal of silt from nullah/ cross culverts etc.	7
Flooding during Monsoon	1
Others (SWD)	7
Pre-monsoon works halted, terminated	7
Providing damage/missing gratings, manhole cover over SWD	7
Repair to damaged open SWD	15
Unauthorised Stalls and huts on nallas	5
Water Supply	**5**
Burst water main lines	4
Contaminated Water Supply	2
Leaks in Water Lines	4

Pest control	7
Nuisance due to white ants	7
Others (PCO)	7
Rat Nuisance	7
Unauthorised/ uncovered water storage tanks	7
Pollution	**7**
Air Pollution	7
Nuisance due to Masala Mills/ Flour Mills	7
Others (FAC)	7
Pollution due to Chemical Effluents	7
Unauthorised Factory, Workshop or Garage	7

Water Supply	5
Others (WAS)	7
Providing water by tankers	7
Removal of water meters	7
Shortage of water supply	4
Unauthorised tapping of water connections	4
Unauthorised use of water-Change of User	7
Use of Booster Pump	7