|CWIS|

Sanitation Data Ecosystem Profile

Wai City - 2021

Executive Summary

This report reviews the sanitation data ecosystem in the city of Wai in 2021, and consists of two sections: 1) an overview of service level data across the sanitation value chain, and an analysis of some key factors that influence the availability and sustainability of data, including reporting structures, the regulatory environment, and funding sources; and 2) availability of sanitation financial data, and what affects availability. This report provides a foundation for Wai stakeholders to develop a strategy with action points to bridge data gaps, improve data usage, and facilitate data-driven decision-making in sanitation. This report does not cover data reliability and data quality, although we note that these are important issues that must be tackled in any strategy to improve accountability structures for sanitation service delivery.

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Report Highlights

#1

Toilet access data is primarily collected through national programs and the census.

Like most cities in India, Wai relies on the Census of India (which happens every ten years) for citywide representative data on toilet access. Since 2014/15, the national Swachh Bharat Mission (SBM) has captured data on the construction of new individual household latrines (IHHLs) and Public and Community Toilets (PT/CTs) across the country. However, toilets constructed between 2011 to 2014 and outside of the scheme (due to ineligibility) are not known. Data on access to IHHLs and PT/CTs is hence incomplete until the next census takes place. As national programs are developed and implemented around evolving goals, continued data updates for IHHLs and PT/CTs also depends on the priorities and continuity of the SBM.

#2

Data on toilet access in educational institutions and healthcare facilities primarily relies on national mechanisms.

Toilet access in schools is captured through an MIS by the Ministry of Education, which only covers the schools registered in the system and with internet access for filling out the online data collection forms. Moreover, the data collected is aggregated and published at the state level, implying that city governments do not have access to the data for their service areas for planning and decision-making. The only other dataset collected on educational institutions is a one-off study conducted for the development of a City Sanitation Plan in 2015 that covered selected schools. This highlights the need for national authorities to make more disaggregated data on educational institutions available to local service authorities. While toilet access in all healthcare facilities is covered by the census, data is only updated once every ten years.

#3

City level data on containment and emptying is collected through scheduled desludging implemented by the service authority.

The Wai Municipal Council (WMC) has been implementing scheduled desludging since 2018, through a Public Private Partnership (PPP) model that engages a single private contractor to empty all houses once every three years. During each desludging, data is collected on the containment unit post-emptying and on the emptying service itself. This method of simultaneous data generation for emptying and for containment could serve as a good case study for other small towns in India when thinking about collecting data, especially as the national focus under SBM 2.0 is shifting from toilet access to safe management of sanitation along the service chain.

#4

Weak regulation means that the donor-funded treatment plant infrequently reports treatment quality data to the state environmental regulator.

Annual test result reports are shared with WMC on request, which may share the data with the state environmental regulator, the Maharashtra Pollution Control Board (MPCB). However, as in other states in India, grant-funded treatment plants are only required to report to MPCB once every five years to renew the certificate for operation, which leaves the frequency of data collection entirely to individual programs. In contrast, publicly owned treatment plants are obligated to collect data each month for reporting to MPCB. This highlights the need for national and state authorities across the country (CPCB and state PCBs) to tighten reporting requirements for non-publicly operated treatment plants, to ensure high and universal availability of treatment data for different types of plants.

#5

Commercial reuse of wastewater is not yet happening, and current data reporting is donor-driven.

Once the donor supported program ends, continued reporting of reuse data will depend on existing national and state level requirements. At the national level, Swachh Survekshan (SS) 2020 included an indicator on reuse/recycle of treated wastewater. This was expanded in SS 2021 to include the commercialization of reused wastewater. If maintained in the subsequent years of SS, this indicator could serve as an incentive for the city to speed up commercialization.

#6

The situation for sanitation financial data is relatively simple, as the city is currently entirely non-sewered with relatively few assets.

The applicable data areas have high levels of data availability as WMC keeps records of revenue and expenditure data for budgeting purposes, to fulfil its contractual obligations to the private emptier carrying out scheduled desludging services, and documentation from donor-funded programs.

Summary Table: Availability and Sustainability of Key Datasets Across the Sanitation Service Chain

Sanitation service chain	Dataset area	Data collected?	Data is representative of the entire city (for access) / covers all service providers (for emptying & conveyance)?	Periodically updated?
Access & containment	Access—Individual Household Latrines (IHHL)	● Y*	Y	Updated every 10 years (last updated in 2011)
		● Y	N	Updated annually
		● Y	Y	Updated annually
		● Y	N	One-off in 2015
	Access—Public and Community Toilets (PT & CT)	● Y	N	Updated annually
		● Y	Y	Updated annually
		● Y	Y	One-off in 2015
	Access—Educational Institutions	● Y	N	Updated annually (starting 2013)
		● Y	N	One-off in 2015
	Access—Healthcare Facilities	● Y	Y	Updated every 10 years (last updated in 2011)
	Access/ Containment —Sewer Connection	N/A	N/A	N/A
	Containment—Non-Sewered Sanitation (NSS)	● Y	Y	Updated every 10 years (last updated in 2011)
		● Y	Y (in progress)	Collected daily, updated monthly
		● Y	N	One-off in 2015
Emptying & conveyance	Emptying (NSS)	● Y	Y	Collected daily, updated monthly
	Disposal at Treatment Plants (NSS)/ Decanting stations	● Y	Y	Collected daily, updated monthly
Treatment	Treatment Quality	● Y	N/A	Collected and updated monthly
		● Y	N/A	Collected daily (selected parameters), updated monthly
Reuse	Reuse—Treated Effluent	● Y	N/A	Collected and updated monthly
	Reuse—Treated Biosolids	● Y	N/A	Collected and updated monthly

Legend:
- ▮ Institutionalized reporting
- ▮ National/State programmatic reporting
- ▮ Own activity
- ▮ Donor/ IFI program reporting
- ● National/State transfer
- ● Own revenue
- ● IFI/donor funding; Corporate Social Responsibility (CSR)
- ● Private sector; self-sustainable CBO activities

*In this summary table, references and sources have been removed to aid readability; however, full references and sources are provided in tables in the main body of the report

Data Across the Sanitation Service Chain

Achieving the Sustainable Development Goal (SDG) of ensuring safely managed sanitation for all will require accurate and up-to-date sanitation data at the city level to facilitate appropriate planning, management and decision making. This should encompass not only the typology and extent of sanitation access throughout the city, but also the management of waste from containment to emptying, transport, and treatment. However, for many cities including Wai, obtaining and maintaining sanitation data can be a significant challenge, resulting in gaps in data availability.

This section outlines two key data dimensions: the generation of datasets across the sanitation service chain which are critical for Wai Municipal Council's (WMC) planning and decision-making; and the continued update of these datasets.

Overview of Data Availability and Gaps in Wai

Table 1 summarizes the availability of datasets in Wai mapped to the key data areas across the sanitation service chain, the coverage of each dataset, and the frequencies of update. In cases where more than one data source is available for the same indicator data point, each dataset is presented in a separate row.

Table 1: Overview of data availability and data sustainability across the sanitation service chain

Sanitation service chain	Dataset area	Data collected?	Data is representative of the entire city (for access) / covers all service providers (for emptying & conveyance)?	Periodically updated?
Access & containment	Access: Individual Household Latrines (IHHL)	Y[1]	Y	Updated every 10 years (last updated in 2011)
		Y[2]	N[3]	Updated annually[4]
		Y[5]	Y	Updated annually
		Y[6]	N[7]	One-off in 2015
	Access: Public and Community Toilets (PT & CT)	Y[2]	N	Updated annually
		Y[5]	Y	Updated annually
		Y[6]	Y[7]	One-off in 2015
	Access: Educational Institutions	Y[8]	N[9]	Updated annually (starting 2013)
		Y[6]	N[7]	One-off in 2015
	Access: Healthcare Facilities	Y[1]	Y	Updated every 10 years (last updated in 2011)
	Access/ Containment: Sewer Connection	N/A[10]	N/A	N/A
	Containment: Non-Sewered Sanitation (NSS)	Y[1]	Y	Updated every 10 years (last updated in 2011)
		Y[11]	Y (in progress)	Collected daily, updated monthly
		Y[6]	N[7]	One-off in 2015
Emptying & conveyance	Emptying (NSS)	Y[12]	Y	Collected daily, updated monthly
	Disposal at Treatment Plants (NSS)/ Decanting stations	Y[13]	Y	Collected daily, updated monthly
Treatment	Treatment Quality	Y[14]	N/A	Collected and updated monthly
		Y[15]	N/A	Collected daily (selected parameters), updated monthly
Reuse	Reuse: Treated Effluent	Y[14]	N/A	Collected and updated monthly
	Reuse: Treated Biosolids	Y[14]	N/A	Collected and updated monthly

Data is available for all segments of the sanitation service chain in Wai. Most notably, citywide representative data is available on onsite containment, emptying, and disposal at the Wai Fecal Sludge Treatment Plant (FSTP), with mechanisms for updating that data. The main data gaps are around the coverage of certain datasets and the frequency of update, especially for toilet access.

The data coverage gap for toilet access in educational institutions is the most significant, as no dataset is representative of the entire city. As well as the one-off data collection from selected schools during the development of the City Sanitation Plan in 2015, toilet access data is covered by the Unified District Information on School Education Plus (UDISE+), a ministerial initiative that captures school sanitation access annually. Indicators collected include the number of separate toilets for boys and girls, availability of water in the toilets, and presence of a handwashing facility with soap. UDISE+ aims to cover all schools offering formal education, but data is only available for the schools registered on the portal with internet access to fill out the reporting forms.

On the other hand, while the Census of India captures data from all public and private hospitals, clinics, and health centers, the data is updated only once every ten years. The central government implemented the National Health Mission from 2013 to 2020, which included data collection on toilet access in healthcare facilities across the country. However, since the scheme came to an end in 2020, no other mechanism to collect data on toilet access in healthcare facilities has replaced it.

Motivation for Data Collection/ Collation

Understanding the underlying factors driving data collection provides critical context and insights that helps evaluate data reliability, identify stakeholders, and reveal why some data areas are prioritized or neglected. Decision makers can therefore make more informed choices about data-driven policies and programming. This section delves into Wai's sanitation datasets and explores the motivations behind them.

Wai's Sanitation Related Administrative and Reporting Structure

Figure 1 below summarizes the mandate and key activities of various stakeholders involved in sanitation (both government and non-government) together with the reporting structure. A high-level overview of the city's governance structure with respect to sanitation mandate and accountability is also available in the Wai CWIS Snapshot (link).
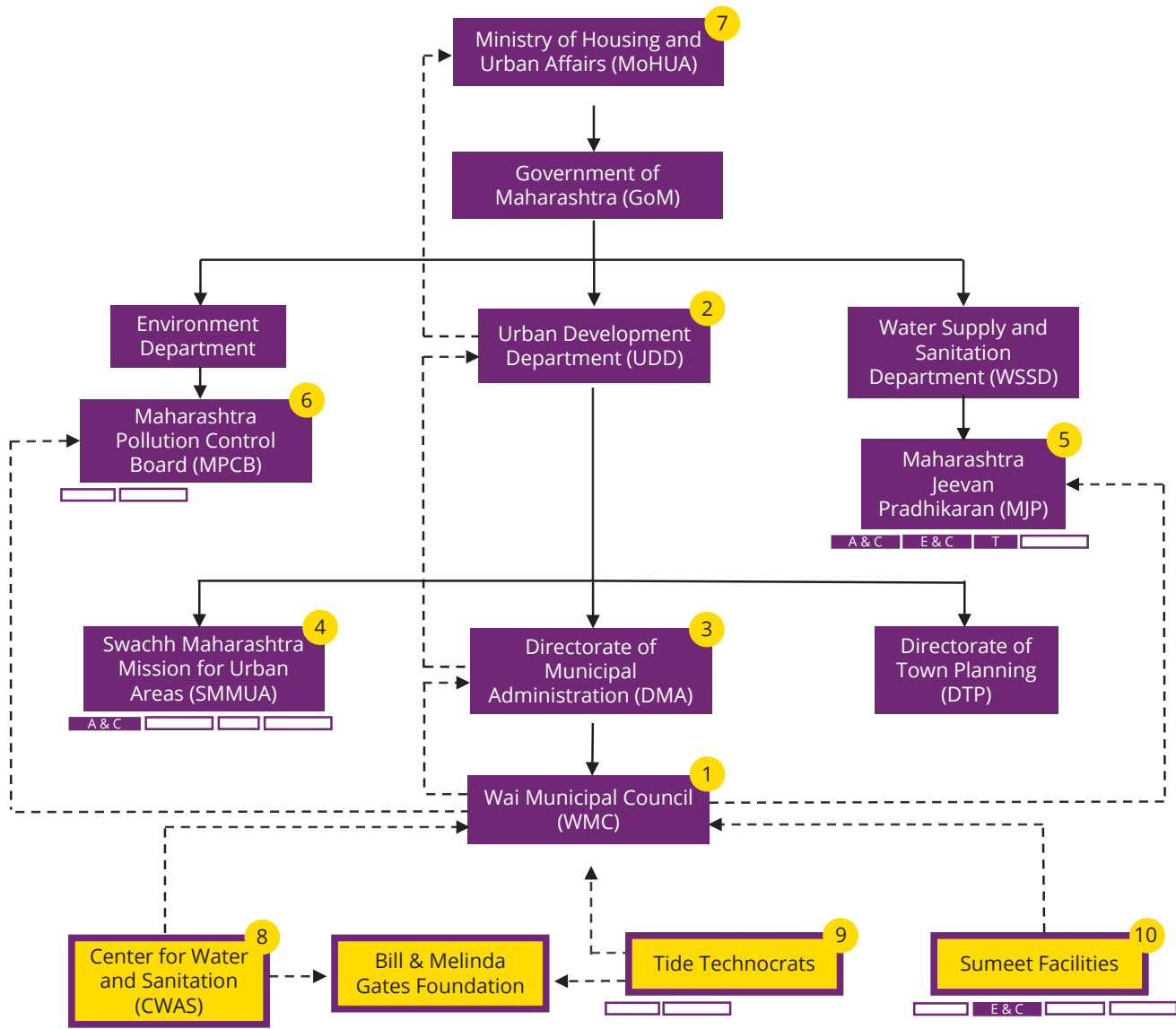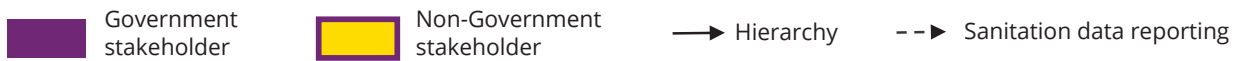
WMC is the local authority responsible for sanitation service provision in Wai, and its mandate is defined by the Maharashtra Municipal Council, Nagar Panchayats and Industrial Townships Act of 1965. Figure 1 shows that WMC is the focal point of all sanitation-related data generation and exchange in the city. WMC submits most of its sanitation performance data to the Directorate of Municipal Administration (DMA), except for treatment quality data which is reported to the Maharashtra Pollution Control Board (MPCB), in response to requests. DMA is a division of the state-level Urban Development Department (UDD) and is the line authority coordinating State and Urban Local Bodies (ULBs) on functions including taxation, fund release, service coverage, quality and supervision of delivery outcomes. At the state level, sanitation performance data across all ULBs is aggregated by DMA and reported to the Ministry of Housing and Urban Affairs (MoHUA). MoHUA designs sanitation related policies, guidelines and programs to be implemented across all states and cities in India.

Programs funded by International Financial Institutions (IFIs) or donors are either implemented by WMC directly or through its local support organizations . Sanitation data generation in Wai as of 2021 is therefore a result of national/ state requirements, municipal activity and needs, or IFI/ donor-driven program requirements.

Figure 1. Sanitation related administrative and reporting structure in Wai

Legend

■ Government stakeholder	■ Non-Government stakeholder	→ Hierarchy - -▸ Sanitation data reporting

Access & Containment   Emptying & Conveyance   Treatment   Disposal & Reuse

Parts of the sanitation value chain as per service mandate

1. WMC is the primary stakeholder with the responsibility to implement sanitation activities in the city. TCC shares data on municipal functioning, SLBs/Swachh Survekshan/SBM with DMA.

2. UDD is state authority which monitors ULB performance across the service chain. It also supervises utilization of Central Finance Commission (CFC) grants and state program grants (Plan funds).

3. DMA is the unit under UDD acting as the line authority to coordinate between the State and ULBs on functions including taxation, fund release, service coverage, quality and supervision of delivery outcomes.

4. SMMUA is the state-level unit launched in 2015 to work in tandem with the national-level SBM with the main objective to facilitate Maharashtra become ODF.

5. MJP is the state nodal agency for technical guidance setup under WSSD. It is mandated to formulate and execute water and sanitation related schemes in the state and holds approval authority over capital infrastructure related projects in ULBs.

6. MPCB is the state board responsible for the compliance of treatment plants to environmental laws, and monitors treatment quality and discharge of treated effluent. WMC shares data with MPCB, as and when requested.

7. MoHUA is the federal ministry under Government of India, with executive authority to issue policy guidelines relating to urban development. It reviews the sanitation performance of all ULBs, as submitted by the states.

8. CWAS, CRDF, CEPT University (CEPT) is the lead implementing partner and the CWIS grantee for Wai. It works closely with WMC and undertakes action-research, implementation support, capacity building and advocacy in the field of urban water and sanitation.

9. Tide Technocrats is the private player contracted by BMGF to operate and maintain the FSTP for 2 years, before it goes for open tendering. It shares data with WMC on a request basis.

10. Sumeet Facilities is the private desludging operator in Wai, contracted by WMC in implementing scheduled desludging in the city.

Reporting Requirements and Data Generation

To understand the influence of these various types of reporting requirements and needs, they have been classified into four categories: **1) institutionalized reporting,** which are inbuilt mechanisms of the overall government system and could include things such as the national census and routine regulatory reporting; **2) national/ state programmatic reporting,** which are initiatives of the national/ state government with a fixed timespan; **3) own activity** which are collected entirely for the city's own operational purposes and needs and not reflected in other national/state/donor reporting processes; **4) IFI/ donor program reporting,** which are collected and reported for IFI/ donor driven programs.

It is worth noting that even though type 2) programs may also receive financial support from IFIs/ donors, the agenda is mostly driven by the national/ state governments. On the other hand, some of the datasets collected under IFI/donor supported programs may receive support from the service authority and be used by the service authority for other purposes once they become available, but only the data collection initiated by the service authority itself would count towards type 3).

Using this classification, Table 2 below shows the reporting requirement of each dataset presented in Table 1.

Table 2. Data generation as linked to data reporting requirements

Sanitation service chain	Dataset area	Data collected?	Data is representative of the entire city (for access) / covers all service providers (for emptying & conveyance)?	Periodically updated?
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		Y[5]	Y	Updated annually
		Y[6]	Y[7]	One-off in 2015
	Access—Educational Institutions	Y[8]	N[9]	Updated annually (starting 2013)
		Y[6]	N[7]	One-off in 2015
	Access—Healthcare Facilities	Y[1]	Y	Updated every 10 years (last updated in 2011)
	Access/ Containment — Sewer Connection	N/A[10]	N/A	N/A
	Containment—Non-Sewered Sanitation (NSS)	Y[1]	Y	Updated every 10 years (last updated in 2011)
		Y[11]	Y	Collected daily, updated monthly
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Reuse	Reuse—Treated Effluent	Y[14]	N/A	Collected and updated monthly
	Reuse—Treated Biosolids	Y[14]	N/A	Collected and updated monthly

- ▇ Institutionalized reporting
- ▇ National/State programmatic reporting
- ▇ Own activity
- ▇ Donor/ IFI program reporting

As in many other Indian cities, ongoing data generation on toilet access in Wai is largely driven by the Census of India and two national sanitation programs: the Swachh Bharat Mission (SBM) and the Swachh Survekshan (SS). Beginning in 2014 with the goal to make India Open Defecation Free (ODF), SBM subsidizes the construction of new Individual Household Latrines (IHHLs) and Public and Community Toilets (PT/CTs), with an MIS tracking progress across states and cities towards their toilet targets. Launched in 2016 as

part of the SBM, SS is an annual survey of cleanliness across cities in India. **Of these three data sources, only the national census collects citywide representative data on toilet access across most residential and institutional categories** (households, public/ community toilets-PT/ CTs, and healthcare facilities) **and on different types of containment units.**

It is worth noting here that the census does not capture

any data on educational institutions. As the dataset on educational institutions (UDISE+) is collected directly by the Ministry of Education, sharing this data with city governments has been a challenge. While details about each school are available and accessible to the public through the ministry's website, the reports are aggregated at the state level and city governments do not have direct access to compiled data for their cities. **If data collected from schools could be collated at the city level and made available to the local governments, this could facilitate city-level planning and coordination,** reduce duplication of data collection initiatives, and maximize the use of the data collected.

While both SBM and SS require toilets to be connected to sewers, septic tanks (with or without soak pits) or twin pits to be considered "sanitary", data on toilets connected to each type of containment unit is either only partially captured or not collected at all. The SBM MIS into which all cities report does not include data fields on the containment type of the constructed toilet. SS has included an indicator on containment since the 2019 survey, but it focuses on a binary classification of containment units into "closed" (sewers, septic tanks, twin pits) vs. "open" (all other) systems. Moreover, the SS data portal for city self-reporting only asks for the number of households/ commercial establishments/ CT&PTs connected to sewers and the number connected to septic tanks to arrive at an aggregate number used to calculate the indicator 'score'. The datasets required for national reporting alone are hence not adequate for understanding the situation of containment units in the cities.

Nevertheless, **WMC has initiated scheduled desludging** to provide safe and inclusive sanitation services in the city, **leading to the generation of key datasets on containment and emptying.** Once the first round of scheduled desludging is completed, data will be available on all containment units across the city, serving as a vital basis for citywide planning and targeted containment upgrading. However, as data collected through SaniTab during scheduled desludging is focused on capturing information about the containment unit, no questions are asked about the toilet superstructure. If the SaniTab questionnaire could include additional questions on the superstructure, it would further complement and triangulate the data collected from existing national initiatives.

Meanwhile, current data generation on treatment and reuse are almost entirely driven by reporting for donor-supported programs. While the datasets are frequently reported for program monitoring by the donors, the frequency of regulatory reporting is a concern. As per the environmental regulations in India, treatment plants funded through grants or by the private sector are only obligated to conduct testing to obtain and renew the No Objection Certificate (NOC) once every five years. This is more lenient compared with reporting requirements for publicly owned treatment plants, which are monthly. While the responsibility of maintaining the FSTP will likely shift to WMC and then contracted out to a private player once the donor-led program ends, the current regulations imply that the frequency of data collection and reporting will depend entirely on requirements of the specific donor program until handover. To improve the availability of treatment data about grant-funded treatment plants, **it is important that the national and state environmental regulatory authorities apply the same reporting requirement to all treatment plants.**

Similarly, an indicator on the reuse/ recycle of treated wastewater has been included in the SS 2020 and 2021 rounds to encourage reporting from all cities, yet the current reporting on reuse in Wai remains driven by donor-supported programs.

Influence of Funding Sources on Data Sustainability

Sustaining sanitation datasets requires regular and frequent updating of sources, potentially causing significant strain to already stretched resources for city governments and utilities. Understanding the viability of sanitation data ecosystems requires consideration of funding sustainability and the impact that inevitable political, administrative, and fiscal changes might have on ongoing data collection and maintenance efforts. The following section seeks to overview the resourcing landscape for sanitation in Wai, and consider its impact on data sustainability and future viability.

Wai's Funding Sources for Sanitation

Wai has multiple sources of finance for sanitation: own revenue (sanitation tax, water charges, property tax, vacant land tax, other user charges etc.); state-approved annual budget, grants (planned transfers from state and central governments, under various projects, programs and schemes); and donor funding. Table 3 provides a quick glimpse of the characteristics associated with each of Wai's funding sources for sanitation.

Table 3. Sources of sanitation finance in Wai

	MoHUA (National level)	DMA and SMM under UDD (State level)	WMC (City level, own revenue)	BMGF (Donor, through CEPT as a TSU)
CAPEX or OPEX	CAPEX	CAPEX	OPEX	Both
Grants or Loans	Grants	Grants	-	Grants
Infrastructure or Soft interventions	Both	Infrastructure	Both	Both
Recurring or program-linked	Recurring	Recurring	Recurring	Program-linked
Sewered sanitation (SS) or non-sewered sanitation (NSS)	NSS	NSS	NSS	NSS
Part of the sanitation value chain addressed	Access	Access	All parts of the value chain	Treatment and Disposal/Reuse

Influence of Funding Sources on Sanitation Data

The sanitation funding sources presented above can be broadly classified four categories: **1) national/ state transfers,** all of which are classified as grants; **2) city's own revenue; 3) IFI/ donor funding,** which can be grants or loans but are external sources and always linked to specific programs; **4) private sector or self-sustainable Community Based Organization (CBO) activities,** which operate on a business model. Data collection in a city may be funded through several of these sources but not necessarily all of them. To understand how these funding sources affect sanitation data in Wai in different ways and their implications for the continued update of datasets, Table 4 below further overlays Table 2 with funding sources.

Table 4: Overview of datasets as linked to funding sources

Sanitation service chain	Dataset area	Data collected?	Data is representative of the entire city (for access) / covers all service providers (for emptying & conveyance)?	Periodically updated?
Access & containment	Access: Individual Household Latrines (IHHL)	● Y[1]	Y	Updated every 10 years (last updated in 2011)
		● Y[2]	N[3]	Updated annually[4]
		● Y[5]	Y	Updated annually
		● Y[6]	N[7]	One-off in 2015
	Access: Public and Community Toilets (PT & CT)	● Y[2]	N	Updated annually
		● Y[5]	Y	Updated annually
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	Access: Healthcare Facilities	● Y[1]	Y	Updated every 10 years (last updated in 2011)
	Access/ Containment: Sewer Connection	N/A[10]	N/A	N/A
	Containment: Non-Sewered Sanitation (NSS)	● Y[1]	Y	Updated every 10 years (last updated in 2011)
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		● Y[6]	N[7]	One-off in 2015
Emptying & conveyance	Emptying (NSS)	● Y[12]	Y	Collected daily, updated monthly
	Disposal at Treatment Plants (NSS)/ Decanting stations	● Y[13]	Y	Collected daily, updated monthly
Treatment	Treatment Quality	● Y[14]	N/A	Collected and updated monthly
		● Y[15]	N/A	Collected daily (selected parameters), updated monthly
Reuse	Reuse: Treated Effluent	● Y[14]	N/A	Collected and updated monthly
	Reuse: Treated Biosolids	● Y[14]	N/A	Collected and updated monthly

Legend:
- ▢ Institutionalized reporting
- ▢ National/State programmatic reporting
- ▢ Own activity
- ▢ Donor/ IFI program reporting
- ● National/State transfer
- ● Own revenue
- ● IFI/donor funding; Corporate Social Responsibility (CSR)
- ● Private sector; self-sustainable CBO activities

This layering reveals further nuances associated with sanitation data availability and sustainability. The SS dataset covers the entire city and is seemingly more comprehensive than SBM MIS data, which only captures new toilets constructed under the scheme since 2014. In reality, however, the lack of central funding for city self-reported data under SS means that new data collection is limited. As cities must rely on their own revenue to generate and report the data each year, data collection rarely happens every year. Most cities across the country resort to using a combination of existing data sources—for toilet access data, for example, this means that cities usually use the Census 2011 data as a basis and add the increment captured under SBM to obtain overall access. The data points tend to leave out toilets constructed between 2011-2014 and those constructed outside of SBM. On the other hand, SBM is funded by program-linked transfers from national and state governments, with a contribution from the city as well. While the state and city shares of the subsidy contribution are entirely reserved for the CAPEX of new toilets, funds allocated by the national government additionally covers city-level administrative costs (disbursed to the state, which then disburses the amount to the city), including those associated with data collection.

Regarding datasets generated from donor-funded programs (i.e., containment data and all of treatment and reuse data), sustainability will be a significant challenge when program funding ends and Wai would either need to find alternative sources of finance or discontinue data collection. Still, reuse data can continue to be collected for SS, If the indicator is maintained for the subsequent years and offers sufficient motivation for data collection.

Considering both reporting requirements and funding sources for datasets across the sanitation service chain, **the datasets that will most likely continue to be generated and updated in Wai are the census data** (access and containment), **UDISE+ data** (toilet presence in registered schools), **emptying and conveyance data linked to scheduled desludging** (NSS emptying and disposal at treatment plants, collected daily and updated monthly during scheduled desludging), and **treatment data** (treatment quality testing, collected monthly and reported annually). SBM data is likely to continue to be updated for another five years, and has the potential to generate more sanitation data in current data gap areas for Wai, especially around toilet access in households and PT/CTs.

Data on Sanitation Finance

The generation and continued update of data across the sanitation service chain assists the service authority and accountability authorities to track progress, and plan programs and interventions for service improvement. Data on city-level finance for sanitation helps shed light on the cost-effectiveness and financial sustainability of current sanitation service provision. However, sanitation finance data is often patchy or unavailable. Table 5 below summarizes the data available in Wai in key financial data areas.

Table 5. Financial data availability for Wai

Financial Data	Dataset Area	Data Collected? (Yes, No, Not Applicable, Unknown*)
Revenue	Total annual sewerage/ sanitation fees (collected on water bills) for the city	N/A
	Disaggregation of sewerage/ sanitation fees (on water bills) for sewered vs. non-sewered households, if the city has sewers	N/A
	Sanitation surcharge (on water bills) for sanitation improvement interventions	N/A
	Sanitation tax as part of property tax/ water bills/ independently for service provision	Y[16]
	Total annual revenue generated from PT & CTs owned and operated by the service authority, if user fees are charged	N/A[17]
	Total desludging revenue to service authority from HHs and/or institutions (for services directly provided by vehicles owned and operated by the service authority)	N/A
	Total annual tipping fees from desludging operators	N/A
	Fees from private players contracted to operate PT & CTs / treatment plants, including license fees	N/A[18]
	Fines and penalties (for illegal sewer connections and drains, FS leakage/ spillage, etc.)	U*[19]
	Sales of treated effluent and biosolids	N/A
Expenditure	CAPEX for each treatment plant	Y
	Annual O&M cost for each treatment plant	Y
	CAPEX for the sewer network	N/A
	Annual O&M cost for the sewer network	N/A
	CAPEX for PT/CTs owned by the service authority	Y
	Annual O&M cost for PT/CTs owned by the service authority	Y
	CAPEX for desludging vehicles owned by the service authority	Y
	Annual O&M cost for desludging vehicles owned by the service authority	Y
	CAPEX for transfer/ decanting stations (incl. mobile transfer stations)	N/A
	Annual O&M cost for transfer/ decanting stations (incl. mobile transfer stations)	N/A
	CAPEX for any other assets owned by the service authority	N/A
	Annual O&M cost for any other assets owned by the service authority	N/A
Direct Subsidies	Direct HH subsidies provided by the service authority for toilet & containment	Y
	Direct HH subsidies provided by the service authority for emptying	Y

* Cannot be deduced from publicly accessible sources.

The situation of financial data for Wai is relatively simple, as the city is currently entirely non-sewered and has relatively few assets: one FSTP, one desludging vehicle, CTs that are free to use, and PTs which are contracted out to a private operator without direct financial transaction. The only area where WMC generates revenue is the sanitation tax, for the providing scheduled desludging services. This is collected with the annual property tax. WMC does not collect any tipping fee from the private desludging operator.

In terms of expenditure, CAPEX data for the various infrastructure categories is also available from state budget expenditure records, municipal budget records, or publicly accessible records of IFI/donor funding. Data on toilet subsidies is also available due to SBM documenting practices, as is data collected via WMC's contracting model for scheduled desludging, which generates clear records of payment to the private operator.

The applicable data areas for Wai have good amounts of financial data available due to these municipal budgeting requirements and practices, and detailed records from donor-funded programs.

Notes

[1] Collected under the Census of India. The data collection and update are funded by the national government.
[2] Collected by cities and reported through the Swachh Bharat Mission (SBM) MIS. This data is collected for the national SBM programmatic reporting. Data collection and update are funded through the mission itself.
[3] SBM started in 2014/15 and only tracks new toilets that have been constructed under the scheme.
[4] SBM specifies all cities to follow a monthly online update; however, this is not consistently followed by all cities. A strict annual update is done at the end of each year, before submitting to the higher (state-level) authorities.
[5] Collected under the Swachh Survekshan (an annual national cleanliness survey). The SS data contains a component of ULB self-reported data, which is funded by the ULB's own revenue; and components of independent third-party validation and citizen feedback, which are funded by the national government. The ULB self-reported component is the main source of data, whereas the other components only serve validation purposes.
[6] Collected during formulation of the City Sanitation Plan (CSP) for Wai in 2015. The CSP was prepared under the Performance Assessment System (PAS) program by CEPT University, which is funded by the Bill & Melinda Gates Foundation (BMGF).
[7] The primary data collected for the CSP involved a survey of 100 individual household toilets, all PT/CTs and selected public and private schools in the city.
[8] Collected under the Unified District Information on School Education Plus (UDISE+). All registered schools input information into a portal designed for data reporting. The data collection and update are funded by the national government.
[9] Though UDISE+ has the mandate to collect data from all formal schools, data is available only for those that are registered and have internet access.
[10] Wai has no sewer connection
[11] Collected by WMC through SaniTab while conducting scheduled desludging. SaniTab application development was done as part of the Performance Assessment System (PAS) program by CEPT University, which is donor funded (BMGF). However, scheduled desludging is funded by WMC itself (through sanitation tax and surplus property tax revenue).
[12] Collected through the scheduled desludging activity that WMC contracts out to a private operator. The monitoring is done through manifest forms signed by the household served, the operator, staff at the FSTP, and WMC.
[13] Recorded in logbooks at the FSTP.
[14] Collected by Tide Technocrats (private FSTP operator) and reported to WMC. The operation and maintenance of the FSTP in Wai is currently funded by BMGF. After the program period ends, the contract for operations will go for tendering process (likely to occur at the end of 2021).
[15] Collected using SanQ (an app developed and maintained by CEPT) which measures effluent quality at every pre-defined time interval. SanQ application development was done as part of the Performance Assessment System (PAS) program by CEPT University, which is funded by BMGF.
[16] A fixed sanitation tax is collected from all households together with the property tax, at 60 INR (<1 USD) per household per year, for the provision of scheduled desludging services.
[17] CTs are free to use, and user fees for PTs are charged directly by the private operator contracted to maintain the PTs.
[18] WMC does not receive any license fees from the private PT operator.
[19] Spillage from the desludging vehicle can be fined. However, monitoring and enforcement of compliance is unclear.

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