Executive Summary

Equity in Service Delivery of Urban Water and Sanitation in Gujarat

Results from Household Survey

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performance assessment system

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FOREWORD

The urban system in India accounts for more than a third of the population of the country and plays a significant role in contributing to the GDP of the country. Maintaining the momentum of growth and boosting the productivity would require massive investments in infrastructure as well as increased efficiency in the service delivery system affecting the residents of the urban areas.

With the 74th constitutional amendment, the roles and responsibilities of the urban local bodies (ULBs) have increased considerably. These ULBs are the primary drivers of any service which affect the common citizens. Water supply and sanitation services are the key among the ULB services and their importance in the lives of citizens needs no emphasis.

The ULBs have the arduous task of providing services throughout the year to a complex and dynamic environment affected by the various socio economic and political factors as well as availability of resources. The task of the ULBs is not limited to fulfilling the various technical norms but in ensuring that the aspirations and expectations of the residents are met in terms of both quantity and quality of services.

In such a scenario, assessment of the service delivery is an important tool for both the policy makers as well as the ULBs to improve upon the existing status and strive towards excellence in service delivery.

The study is an attempt to look at the citizen's feedback on the various facets of the water supply and sanitation services provided by the ULBs. It provides a list of various indicators which can be tracked over time to measure the performance. It is hoped that this document would be useful to all stakeholders working in the field of water supply and sanitation.

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ACKNOWLEDGEMENT

Regular supply of water, proper sanitation facilities are few of the most important services determining the quality of life of the residents. These are services which affect the lives of residents irrespective of their economic status. The service delivery mechanism and its efficiency levels vary with the category of town which is largely a reflection of the investments, which have gone in the provision of services in different categories. Within the city category, the inequality in service delivery among the poor and non poor is a well known phenomenon.

This document has delved into the various water supply and sanitation indicators and I hope that it will be useful to not only the PAS team but also to the various stakeholders including the urban local bodies in improving the efficiency of services.

I wish to express my gratitude to the various officials at the municipal corporations and municipalities who provided their full cooperation in the carrying out of the study. I would specially like to thank Prof. Dinesh Mehta and Prof. Meera Mehta for their help, guidance and support extended along with their colleagues at CEPT University.

I hope this document will be useful to all users working in the water supply and sanitation services.

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LIST OF ABBREVIATIONS

AIILSG	All India Institute of Local Self Governments
CBO	Community Based Organisation
CEPT	Centre for Environmental Planning & Technology
CS	Can't Say
DK	Don't Know
DLHS	District Level Household & Facility Survey
EWS	Economically Weaker Sections
GLR	Ground Level Reservoir
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
Lpcd	Litres per capita per day
MPN	Most Probable Number
NFHS	National Family Health Survey
NGO	Non-governmental Organisation
NTU	Nephelometric Turbidity Unit
OD	Open Defecation
OHT	Overhead Tank
PAS	Performance Assessment System
PDA	Personal Digital Assistant
PPS	Probability Proportionate to Size
PSU	Primary Sampling Unit
SPSS	Statistical Package for the Social Sciences
TA	Total Alkalinity
TDS	Total Dissolved Solids
TH	Total Hardness
UGR	Underground Reservoir
ULB	Urban Local Body
UMC	Urban Management Centre
USU	Ultimate Sampling Units

EXECUTIVE SUMMARY

This report provides the analysis and results from household surveys conducted in the state of Gujarat under the CEPT University's action research project for developing and setting up a Performance Assessment System (PAS) for urban water supply and sanitation in Gujarat.

The user-side perspective needs to be captured to assess services levels measured through a set of identified indicators. The broad indicators for demand-side assessment were designed around the following themes:

- ***Access and coverage*** – including access to connections to municipal water supply and wastewater networks, toilets and solid waste collection in urban areas. Uses of such facilities had to be assessed.

- ***Service level and quality*** – including the nature of services received by the households such as: quantity, continuity (hours of supply), quality, and time spent on the availing these services, with particular focus on quantity of water used from different sources, methods used for wastewater and solid waste disposal.

- ***Reliability*** – The reliability of the municipal services in the three sub-sectors and the reliability of services in different seasons.

- ***Costs and household expenditure*** – including the costs of water supply, sanitation and solid waste disposal, as well as including all expenditure on municipal and other services for water supply, sanitation and solid waste.

- ***Complaint redressal and customer service*** – nature and frequency of problems faced by customers and the efficiency in redressal of these complaints for water supply, sanitation and solid waste services.

The household survey for the PAS Project was also designed as consumer feedback from representative cities and representative populations. Representation was defined in terms of city typology (different classes of cities), and as population inhabiting slum and non-slum localities in different classes of cities.

The findings for Gujarat state have been summarised and organised based on the identified themes and indicators.

METHODOLOGY

The household surveys were done to provide state-level estimates for different city categories (population size and administration) and for variations in services for slum and non-slum households. A total of 7,200 households were surveyed across 35

cities of Gujarat. Four categories of cities were covered – Large Corporations, Small Corporations, Class A cities and Small Towns.

The housing typologies were classified into slum and non-slum neighbourhoods. The total households interviewed in the Large Corporations (with larger variation of housing differences) numbered 2,400; in Small Corporations 2,000 households were interviewed; in Class A and Small Towns 1,600 and 1,200 households were interviewed, respectively. Within each category, the sample across the selected towns was distributed in proportion to its population. To the extent possible, an equal number of slum and non-slum neighbourhoods were covered in each selected city. The estimations for the slum and non-slum categories, city categories and urban Gujarat were arrived at after applying appropriate weights on the sample data.

Apart from household interviews, water quality sample tests were carried out for 100 samples taken from different cities and across slum and non-slum neighbourhoods. The water samples were taken from the water source, the distribution network and from consumer premises, to understand the water quality issues in different stages of water transmission through the piped water network. The tests were conducted by recognised laboratories on various (physical, chemical and bacteriological) parameters and categorised into samples with potable and non-potable water quality.

Additionally, a small sub-sample of 100 households was covered for measurement of actual water consumption for domestic purposes by the households. This was undertaken to validate (on a sample basis) the water consumption data captured through the verbal recall methodology in the household survey. The measurement was tracked over three consecutive days to arrive at reliable estimates of water consumption by different members of households for independent usage, as well as the household's water consumption for common uses such as cooking, washing utensils, cleaning the house, etc, to arrive at a more objective consumption estimate.

WATER SUPPLY

Type of Connection and Service Level

All cities surveyed in Gujarat had the provision to supply water through a piped network. At the state level, most urban consumers (88.4 per cent) are provided with municipal water supply (either as their main water source or alternative water source). Interestingly, within this, a higher proportion of slum households (94.7 per cent) as compared with non-slum households (87.1 per cent) have access to municipal water supply. This is also probably due to the fact that non-slum households may rely on multiple sources of water supply (for example, private borewells, handpumps, etc).

Most of the households receive water supply through on-site municipal connections (84.5 per cent). Among city categories, only the Small Corporations have a lower

level for this. However, a much lower proportion of slum households (78.9 per cent) have on-site municipal connections as compared with non-slum households (85.7 per cent) – as a considerable proportion (10.4 per cent) of slum households depend on public standposts.

The access to on-site municipal connections is lower in slums. There are little over 20 per cent of the slum households which use either shared or community connections (12.2 shared connection users and 10.4 per cent community stand post users). While it is to be acknowledged that the municipality has provided water supply as well as household connections to slum households, it is perhaps factors of affordability or city policy to not provide on-site connections, which force some part of the population to go for the lower service level.

Despite providing the bulk of the consumers with on-site connections, municipal authorities have not undertaken metering of connections in a comprehensive way. Less than 5 per cent of the households report having metered connections.

Level of Dependence on Municipal Water Supply for Drinking Water Requirements

There seems to be a lot of faith on the quality of municipal water supply, as 87 per cent of the households has reported using municipal water supply as their main source of drinking water (94 per cent slum and 85 per cent non-slum). The source for this drinking water is largely through household connections (68 per cent), followed by shared tap connections (14 per cent) and through public standposts (2.4 per cent).

Most households use only municipal water supply and manage their requirement from the quantity received by them. Only 13 per cent of households using municipal water supply (5 per cent in slum and 15 per cent in non-slum households) has reported supplementing their additional water requirement (for different usages) from other sources.

Looking at the city category-wise variations, it is the Small Corporation cities that have the highest proportion of households which report supplementing the municipal water supply. There is thus a lower credibility on the quantity of water supply among the citizens in Small Corporations as compared with other city categories.

Per Capita Water Consumption

The water consumption information from households has been generated through a verbal recall of the quantity of water used for different domestic purposes. As per this, 67 litres per person per day (lpcd) was the average water consumption (55 litres in slum and 70 litres in non-slum). However, there is always a level of error during a verbal recall, so for a small sample of representative households, actual measurements, using standard buckets and a 1 litre bottle, have been used to measure the water consumption for different domestic activities. This was used to arrive at an estimate at the state level, after using correction factors on the estimates derived from the verbal recall. Based on this the estimated per capita water

consumption on an average was 56.9 lpcd. Consumption for slum households (59.9 lpcd) was considerably lower than non-slum households (73 lpcd).

Table 1: Water Supply: Type of Connections and Consumption – Slums Versus Non-slum Areas

Indicator	Slum	Non-slum	Urban
% of households with access to water supply as per JMP definition	94.8	98.3	97.6
% of households with access to municipal water supply (used for any purpose)	93.1	89.1	89.8
% of households with on-site water connections (used for any domestic purpose)	78.9	85.7	84.5
% of households dependent on shared municipal water connections (used for any domestic purpose)	11.6	14.5	14.0
% of slum households dependent on community standpost	10.4	-	10.4
Number of slum households per community standpost	71	-	71
% of households with on-site supply with metered connections in urban Gujarat	1.0	5.7	5.0
% of households with municipal sources but supplementing with additional sources	4.2	14.6	12.7
Daily consumption of municipal water (in lpcd) as per verbal recall)	55.3	70.1	67.3
Per capita water consumption (estimated by measurement)	59.9	73.0	65.9
% households reporting adequate municipal water supply	87.2	87.2	87.2

Table 2: Water Supply Coverage and Consumption – By City Categories

Indicator	Large Corporations	Small Corporations	Class A cities	Small Towns
% of households with access to water supply as per JMP definition	98.3	98.9	93.9	98.1
% of households with access to municipal water supply	90.5	82.9	90.5	89.9
% of households with on-site water connections	85.9	76.9	85.7	83.5
% of households dependent on shared municipal water connections	16.0	15.2	14.3	13.1
% of slum households dependent on community standpost	8.4	5.8	14.9	13.1
Number of slum households	77	64	65	67

Indicator	Large Corporations	Small Corporations	Class A cities	Small Towns
per community standpost				
% of metered connections	5.9	3.0	5.6	3.8
% of households with municipal sources but supplementing with additional sources	6.3	29.5	18.4	17.3
Daily consumption of municipal water (in lpcd) estimated (as per verbal recall)	72.3	62.0	60.2	62.0
% households reporting adequate municipal water supply	93.0	74.5	83.1	81.5

Status of Services

A majority of the households (74 per cent) have reported receiving daily water supply (73 per cent slum and 69 per cent non-slum). The service is intermittent with an average duration of two hours per day. The water pressure was reportedly moderate (65 per cent households), and only 29 per cent households have said the supply was with good pressure (30 per cent in slum and 29 per cent in non-slum areas).

The city category-wise variations point towards a much better situation among the Large Corporations (92 per cent households reported getting daily supplies) – this includes households which report getting water supply 24 hours a day – as compared with other city categories. The cities in the Small Corporations fare the worst (49.5 per cent households report daily water supply) if one looks at the frequency of water supply to households.

Amongst the households residing up to the second floor, almost two-thirds (65 per cent) have mentioned that the water supply reaches the overhead tank without the help of any additional pumping. However, 44 per cent households have booster pumps to augment the water pressure (9 per cent slum and 46 per cent non-slum households), and out of them close to 48 per cent households have attached the booster pump to the main water supply line. The usage of booster pumps is highest in the Small Corporation (59 per cent) cities followed by Small Towns (51 per cent).

A majority of the households have reported that the municipal water supply was reliable in terms of timing of supply (80 per cent), frequency of supply (77 per cent), and quantity of water supply (76 per cent). The reliability is slightly less for parameters of water quality – especially across different seasons (68 per cent) and water pressure (53.3 per cent). On these parameters, the situation was only slightly better in non-slum areas as compared with slum areas. However, the Large Corporations do considerably better, whereas the Small Corporations fare the worst.

The ideal situation for a consumer is that when a tap is opened at any time of the day there is good quality water at good pressure. This requires that the water supply is continuous and the pressure adequate. Since these factors are not guaranteed, consumers tend to have large water storages as a coping mechanism. Thus, 42 per cent households (9 per cent slum and 47 per cent non-slum) have large water storage arrangements. This enables households, particularly non-slum households, to have continuous (24x7) water supply at adequate pressure in their homes.

Perceptions on Water Quality

A majority of the households (76 per cent overall; 80 per cent in slum and 75 per cent in non-slum households) reported that the municipal water supply was of good quality and was acceptable on the parameters of taste, colour, odour and health impact. 14 per cent households reported purifying municipal water before drinking. This figure is 4 per cent in slum households and 16 per cent in non-slum households.

The city category-wise variations highlight a higher level of reliability on the above-mentioned parameters in Large Corporation cities. However, the Small Corporation cities fare the worst among all the parameters when compared even with Class A and Small Towns.

Table 3: Status and Reliability of Water Supply Services – Slums Versus Non-slum Areas

Indicator	Slum	Non-slum	Urban
% of households with daily water supply	72.9	74.4	74.1
Hours of water supply (mode value)	2.0	2.0	2.0
% of households that find water pressure adequate for filling underground storage tank	60.2	78.5	77.9
% of households using booster pumps to augment water pressure	8.8	45.6	44.1
% of households that find service reliable for:			
a. Timing of water	80.8	79.4	79.7
b. Frequency of supply per week	78.0	76.2	75.6
c. Quantity of water supply	76.4	75.5	75.7
d. Quality of water (across seasons)	68.9	67.4	67.7
e. Water pressure	56.8	52.5	53.3
% of households with large water storage arrangements	9.4	47.4	40.7
% of households with favourable perception of water quality (daily water supply)	87.4	84.4	84.9
% of households with favourable perception of water quality (with less than daily water supply)	74.1	67.5	68.8
% of households that think that municipal water does not need any treatment	89.7	84.3	85.3

Indicator	Slum	Non-slum	Urban
% of households reporting seasonal variations in water supply	33.5	27.3	28.5

Table 4: Status and Reliability of Water Supply Services – By City Categories

Indicator	Large Corporations	Small Corporations	Class A cities	Small Towns
% of households with daily water supply	91.8	49.5	62.9	53.5
Average hours of water supply	2.0	1.0	1.0	1.0
% of households that find water pressure adequate for filling underground storage tank	86.0	58.2	59.7	79.6
% of households using booster pumps to augment water pressure	41.6	59.1	35.8	51.0
% of households that find service reliable for:				
a. Timing of water	87.2	69.0	71.0	72.9
b. Frequency of supply per week	86.1	60.3	64.3	68.9
c. Quantity of water supply	84.7	57.8	65.0	68.5
d. Quality of water (across seasons)	75.5	49.9	55.2	63.5
e. Water pressure	62.2	23.8	40.8	49.6
% of households with large water storage arrangements	42.0	28.7	46.5	38.6
% of households with favourable perception of water quality (daily water supply)	88.6	70.0	77.1	80.4
% of households with favourable perception of water quality (less than daily water supply)	71.3	61.6	67.0	70.3
% of households that think that municipal water does not need any treatment	88.4	72.2	79.9	85.1
% of households reporting seasonal variations in water supply	24.1	45.0	28.1	32.5

Users of Community Standposts

For the 10 per cent households in slums that need to share a community standpost, the situation is not good. On an average, 71 households depend on one standpost, where the norm is for 20 households[1] in urban areas. The average distance that a householder has to travel to reach the community standpost is 138 metres for slum households against the norm of 100 metres.[2] There is also a waiting or a queue time to compound the time spent on walking to the community standpost, and the average time spent in water collection each day is 57 minutes.

The dependency of households per community standpost is highest in the Large Corporations (77 households) followed by the Small Towns (67 households) while there is a relatively lower number of households dependent on community standpost in the Small Corporation cities (64 households).

Water Quality Test Results

Water quality testing was undertaken at the source, the distribution network and at the consumer's end in nine representative towns. Nine sources were checked at the inlet and outlet points. Three of the nine water sources had tested positive for bacteriological contamination, but all water samples from the outlet points (after treatment) were clear from contamination.

Twenty-seven samples were tested from the distribution end – three from each town: one from a point near the treatment plant, the second in the middle of the network and the third from the tail end. None of the samples in Large Corporations and Small Corporations reported water quality problems at the distribution end. For Class A cities, the samples near the treatment plant and the middle of the network had two samples each, of which one was found to be contaminated and the other with no quality problem. At the tail end, both the samples taken were found to be contaminated, which shows that there are issues at the distribution end, and especially the tail end of the network. It is to be remembered that in this category of towns, citizens report lower frequency of water supplies and inadequate water pressure. All the samples of the distribution network from Small Towns have clearly demonstrated water quality problems – and these are also towns which have low and irregular water supplies and low water pressure.

Eighty-eight households have been tested for drinking water quality – 44 in slum households and 44 in non-slum households – across the nine towns. The water quality at the household level shows a much higher proportion of contamination with 43 samples out of 88 not found potable. In both slum and non-slum cases, about 14 samples were detected with contamination.

[1] *Basic Minimum Services under Minimum Needs Programme, Government of India (1997–2002).*
[2] *Basic Minimum Services under Minimum Needs Programme, Government of India (1997–2002).*

SANITATION

Most urban Gujarat households have reported having an individual toilet facility (86.4 per cent) – but this is primarily for non-slum households (93.2 per cent) as compared with slum households (54.2 per cent). There is no major difference in the households with on-site toilet arrangements across city categories.

As per the UNICEF/WHO Joint Monitoring Programme (JMP) definition, most (86.2 per cent) urban households have access to improved sanitation. Again, however, non-slum households (92.9 per cent) or more are likely to have access to improved facilities as compared with slum households (54.3 per cent).

In Gujarat, only 51 per cent of the households (100 per cent of Large Corporations and Small Corporations, 25 per cent in Class A towns and 45 per cent of the Small Towns surveyed) reported the presence of a (either partial or full network) sewerage network. As a result, unlike for the coverage of water supply, access to municipal sewerage is only available to 50.4 per cent of the households. In terms of access to slums (30.4 per cent) and non-slum (54.7 per cent) households, there is also clearly a difference. Other households, which do not have access to the sewerage network, are dependent on septic tanks and soak pits.

There is a large difference in access to the municipal sewerage network across city categories. Households with sewerage connections are mostly in Large Corporations (80.5 per cent) and Small Corporation cities (81 per cent). A very low proportion (14.3 per cent) of the households of Small Towns report this, and it is almost non-existent (5 per cent) in Class A cities.

A very small proportion of households (2 per cent) use shared toilets,[3] with only two or three households depending on the shared toilet. Among slum households, close to 12 per cent of the households also report depending on the community toilet facilities. The average distance of a community toilet[4] from the home of the user is 113 metres.

For households that did not have individual or shared arrangements, lack of space was cited by almost 55 per cent as the major reason for not having their own toilet arrangements.

Open defecation is still prevalent with 9 per cent households reporting this. Open defecation is however, a serious issue with slum households (31 per cent slum and 4 per cent non-slum). This probably reflects the lack of individual and community toilets for almost 34 per cent of slum households. The Class A towns (12.5 per cent)

[3] Shared toilets: An informal arrangement between neighbours where two or more households share the toilet facility and are also responsible for its cleanliness and upkeep.
[4] Community toilets: A facility created by either the municipality or some non-governmental organisation (NGO) which is used by the residents of the area usually on payment of some usage charges. The upkeep and maintenance is usually of the municipality or the NGO which has constructed the facility.

and Small Towns (11.1 per cent) have a higher proportion of a household's reportedly practicing open defecation.

Table 5: Sanitation Services – By Slum Versus Non-slum Areas

Indicator	Slum	Non-slum	Urban
% of households with access to safe sanitation (as per JMP definition)	54.3	92.9	86.2
% of households with on-site toilet facility	54.2	93.2	86.4
% of households with on-site toilet connected to sewerage network	59.2	58.3	58.4
% of households with on-site toilet connected to septic tanks	25.8	29.9	29.4
% of households using shared toilet facility	3.4	2.0	2.3
% of slum households using community toilet facility	11.8	-	11.8
% of households connected to sewerage network	30.4	54.7	50.4
% of households practising open defecation	31.7	4.5	9.2
% of households without access to underground/covered/open drains	29.5	20.6	30.4
% of households reporting wastewater stagnation in rainy season	20.5	5.7	8.3
% of households reporting wastewater stagnation in the year	45.6	25.9	29.4

Table 6: Sanitation Services – By City Categories

Indicator	Large Corporations	Small Corporations	Class A cities	Small Towns
% of households with access to safe sanitation (as per JMP definition)	86.4	86.5	84.9	87.2
% of households with on-site toilet facility	86.4	86.7	85.0	86.9
% of households with on-site toilet connected to sewerage network	93.1	83.4	5.8	16.5
% of households with on-site toilet connected to septic tanks	4.0	12.0	78.3	55.2
% of households using shared toilet facility	3.3	1.1	1.1	1.3
% of slum households using community toilet facility	18.9	8.2	5.9	0.7
% of households connected to sewerage network	80.5	72.4	5.0	14.3

Indicator	Large Corporations	Small Corporations	Class A cities	Small Towns
% of households practising open defecation	6.6	8.3	12.5	11.5
% of households without access to underground/covered/open drains	15.5	20.4	30.3	30.4
% of households reporting wastewater stagnation in rainy season	7.0	9.0	8.2	10.5
% of households reporting wastewater stagnation in the year	20.7	34.2	36.9	39.7

SOLID WASTE MANAGEMENT

Overall, only 59.8 per cent households have reported door-to-door garbage collection. There are huge differences between the service being instituted in the non-slum (66.4 per cent) and slum (29.1 per cent) neighbourhoods. In non-slum neighbourhoods, the responsibility for collection is shared with housing societies; 77 per cent non-slum households are being provided services by the municipality while 20.7 per cent are serviced by housing societies – the rest have other minor arrangements. For slum households, the service provider is predominantly the municipality (for 96 per cent households).

Door-to-door garbage disposal is better instituted in Large Corporation cities, where 72.3 per cent households have reported availing the service – especially for non-slum areas (79.3 per cent non-slum as compared with 42.6 per cent slum household). The coverage is the lowest in cities with Small Corporations (38.1 per cent), with the proportion gradually rising to 47.4 per cent in Small Towns and 51.2 per cent in Class A cities. The disparity in service provision to slum and non-slum neighbourhoods is very great in all the three categories of towns, with garbage collection being mostly organised for non-slum neighbourhoods.

Only 32.9 per cent of the households in urban Gujarat report that garbage is collected on a daily basis (9 per cent slum and 35 per cent non-slum households). Although the proportion reporting daily collection is low in all cities, it is comparatively higher for Large Corporations (39.7 per cent) and Class A cities (34.7 per cent). It is especially low in Small Corporations (14.6 per cent) and Small Towns (21.9 per cent).

Only 6 per cent households segregate their garbage into organic and inorganic waste at the time of disposal. Overall, 3 per cent households reported collection of waste from secondary bin on a daily basis.

For those households which are not covered with garbage collection services, some (11 per cent) practise relatively safe methods of garbage disposal, which include

disposing in common disposal pits near the house, in secondary bins or in waste dumps. Again, the proportion of households practising this is higher in the Large Corporation cities as compared with other city categories.

Table 7: Solid Waste Management Services – By Slum Versus Non-slum Areas

Indicator	Slum	Non-slum	Urban
% of households covered by door-to-door solid waste management services	29.1	66.4	59.8
% households not covered by door-to-door solid waste disposal service, but reporting other safe method of solid waste disposal	26.1	36.9	33.5
% of households in urban Gujarat reporting daily garbage collection *(Base: All households)*	9.4	35.1	32.2
% of households segregating waste into organic and inorganic waste	0.8	3.7	3.0
% households reporting daily removal of waste from the secondary bin *(Base: Those which were aware)*	0.86	3.9	3.2

Table 8: Solid Waste Management Services – By City Categories

Indicator	Large Corporations	Small Corporations	Class A cities	Small Towns
% of households covered by door-to-door solid waste management services	72.3	38.1	51.2	47.4
% households not covered by door-to-door solid waste disposal service, but reporting other safe method of solid waste disposal	40.4	19.3	38.8	29
% of households reporting daily garbage collection *(Base: All households)*	39.7	14.6	34.7	21.9
% of households segregating waste into organic and inorganic waste	4.3	1.0	4.4	1.5
% households reporting daily removal of waste from the secondary bin *(Base: Those which were aware)*	5.1	2.9	1.5	0.7

ACCESS TO HIGHER LEVEL OF MUNICIPAL SERVICES – ALL SUB-SECTORS

If one looks at the municipal services as a whole and categorises households with higher level services for water supply, sanitation and solid waste management services, the overall situation points towards half of the population enjoying a higher level of services. The inequity is evident with less than 20 per cent of the households in slums and 55 per cent of households in non-slums reporting higher level services.

Households with higher level of service are to be found more in cities with Large Corporations (56.9 per cent), but also in Class A cities (44.6 per cent) and Small Towns (40.6 per cent). However, the service experience of such households in Large Corporations is expected to be much better than those in the Class A cities and Small Towns, as the service quality and reliability on multiple aspects is better.

This inequity is starker in the lower order towns. Interestingly, the citizens in Small Corporations have the lowest proportion of households (26 per cent) that have a higher level of services across all sub-sectors.

Table 9: High Level of Services Across All Sub-Sectors

Indicator		Gujarat slums	Gujarat Non-slum	Gujarat urban
% of households having higher level services (on-site water supply, on-site toilet facility and daily door-to-door garbage collection)		16.7	55.1	48.4
Indicator	**Large Corporations**	**Small Corporations**	**Class A cities**	**Small Towns**
% of households having higher level services (on-site water supply, on-site toilet facility and daily door-to-door garbage collection)	56.9	26.2	44.6	40.6

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The Performance Assessment System (PAS) Project

The 'Performance Assessment System – PAS' is a five-year action research project, initiated by the CEPT University, Ahmedabad with funding from the Bill and Melinda Gates Foundation. It supports development of appropriate tools and methods to measure, monitor and improve delivery of urban water and sanitation services in the states of Gujarat and Maharashtra. The PAS Project comprises three components of performance measurement, monitoring and improvement. It covers all the 400+ urban local governments in Gujarat and Maharashtra.

It is being implemented by CEPT University with support of Urban Management Centre (UMC) in Gujarat and All India Institute of Local Self-Government (AIILSG) in Maharashtra.

PAS Project

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