

Satisfaction Level of Utility Services in Dhaka City: Water, Sanitation, Electricity and Waste Management

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- A citywide survey was conducted among Dhaka dwellers in August 2011 which focused on different indicators of service delivery like availability, accessibility, quality, reliability and satisfaction from the end users' perspectives.
- The survey was designed following the model of 'Citizen Report Card' (CRC), pioneered by the Public Affairs Centre, Bangalore.
- There were 41 clusters from non-slum areas and 25 clusters from of slum areas.
- The sample size of the survey was 1635 (households) where 62.4% (1020) represented non-slum and 37.6% (615) represented slum areas.

Satisfaction Level of Utility Services in Dhaka City

- The samples have been collected from four different categories of geographical location and three different categories of socio-economic status (based on income and amenities). The four categories of households to be captured were:
 - People of Middle and Upper SEC (residing in Dhanmondi, Lalmatia, Gulshan, Banani and Uttara);*
 - People of Middle and Lower SEC (residing in Badda, Madartek, Goran, Hajaribagh, Moghbazar, Mohammadpur, and Mirpur);*
 - People of Rich and Poor SEC (residing in Old Dhaka);*
 - People residing in slums.*

Socio-economic profile of respondents and households

Characteristics	Non-slum	Slum	P value
Respondent Characteristics			
Mean age (sd)	33.8 (±9.77)	30.9 (±8.69)	0.001
Gender of respondent- Female (%)	59.3	59.5	0.937
Education of main earner			
Illiterate	0.3	32.0	0.001
Literate with no form	1.5	28.3	
Class 4	1.5	11.5	
Class 5 to 9	22.7	25.9	
S.S.C / H.S.C	39.4	2.3	
Have some college education	5.0	0.0	
General Graduate or above	25.3	0.0	
Occupation of main earner			
Unskilled workers	0.0	53.5	0.001
Skilled workers	5.6	25.5	
Petty traders	4.5	14.5	
Shop Owners	13.8	3.1	
Businessmen / Industrialist	40.1	0.0	
Self employed professional	3.8	0.0	
Clerks / Salesmen	4.8	2.6	
Supervisory Level	17.5	0.8	
Officers / Executives	9.9	0.0	
Respondent as Household Head	30.7	45.7	0.001
Household Characteristics			
Household size	5.3(±2.5)	4.4(±1.9)	0.001
Earning members in a family	1.6(±1.1)	1.7(±1.0)	0.006
Annual income			
Less than or equal to 50000 Tk	5.7	40.8	0.001
50001 to 1 lakh Tk	19.9	49.3	
100001 taka to 2 lakh Tk	27.1	9.6	
More than 2 lakh Tk	47.4	0.3	
Relationship with house (%) - Tenant	53.6	83.6	0.001
N	1020	615	

(p value indicates probability value for the chi-square or t test, sd represents standard deviation)

Access and usage pattern of water supply services

Characteristics	Non-slum	Slum	P value
Medium of use of water facilities (bathing, washing, cleaning)			
Piped water supply	98.9	34.0	0.001
Tube-well with water line	0.0	31.9	0.001
Supplier of water			
WASA	77.7	45.2	0.001
Landlord/Slum	20.0	35.0	0.001
Color of water			
Clear	63.82	62.28	0.763
Partly Muddy	31.27	32.2	
No particular taste of water	96.3	97.2	0.540
Foul smell of water	37.7	30.6	0.004
Adequate water pressure	17.7	54.0	0.001
Predictable of supplying water	33.6	15.1	0.001
Main source of water for drinking			
Piped water supply	96.6	33.7	0.001
Tube-well	0.1	53.2	
Purify water before drinking by source of water	96.8	16.1	0.001
How to purify water			
Boil	96.7	61.6	0.001
Use alum	1.5	14.1	0.001
Use water filter	18.6	21.2	0.533
N	1020	615	

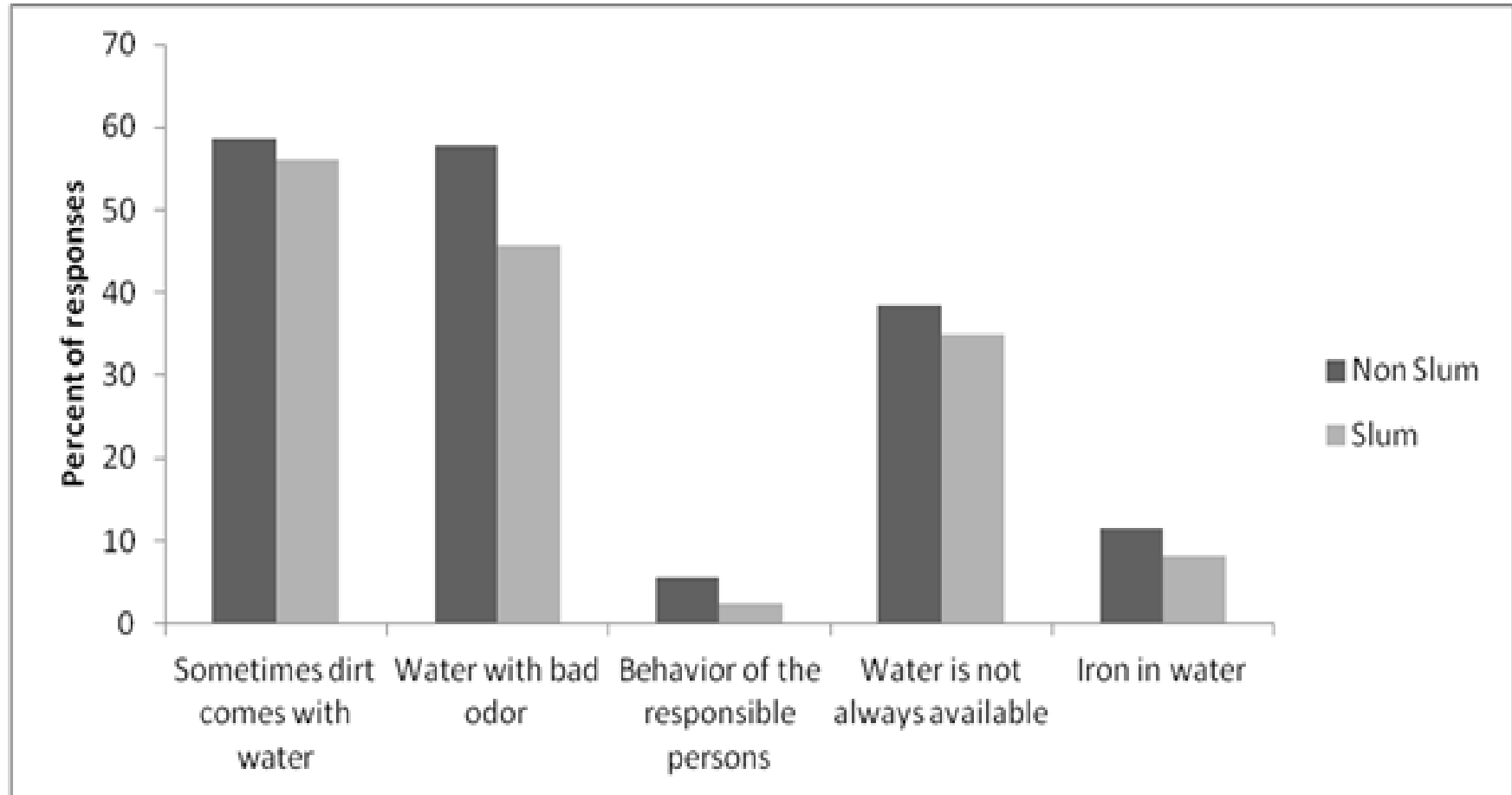
(p value indicates probability value for the chi-square or t test)

Satisfaction with several indicators of water supply service (%)

Indicators	Non-Slum						Slum						P value
	CS	PS	NSND	PD	CD	N	CS	PS	NSND	PD	CD	N	chi-square test
Distance to the facility	36.7	35.7	11.0	7.6	9.0	968	36.4	39.4	9.8	6.7	7.7	612	0.554
Time taken to fetch water	31.5	39.5	9.1	9.3	10.5	987	30.7	39.7	10.7	11.3	7.7	610	0.224
Regularity of water supply	23.5	33.1	17.0	13.9	12.6	946	22.7	39.4	16.6	14.2	7.2	586	0.006
water supply timings	30.4	37.1	11.4	11.0	10.0	980	28.6	37.4	16.0	10.8	7.3	602	0.055
Adequacy of water	33.7	32.1	12.9	11.4	9.9	993	31.8	35.8	14.8	10.8	6.8	601	0.134
Water available	21.8	31.1	17.5	17.0	12.8	808	30.3	30.1	19.6	13.3	6.7	551	0.001
Water pressure	34.1	32.5	12.2	11.8	9.4	1,007	36.5	35.5	10.5	12.9	4.6	603	0.006
Quality of water	24.6	25.9	12.1	17.7	19.7	1,003	30.7	30.7	11.3	17.1	10.3	610	0.001
Behaviour of the staff who comes to maintain/repair	15.8	26.4	27.2	17.1	13.5	889	22.1	39.2	23.3	9.4	6.0	566	0.001
Quality of maintenance	15.2	26.8	26.4	18.4	13.3	883	22.0	40.6	22.5	10.7	4.2	569	0.001
Satisfaction with complaint redress system	16.0	26.9	23.1	17.1	16.9	912	21.2	46.2	17.3	11.0	4.3	584	0.001

*Completely satisfied=CS; Partially satisfied=PS; Neither Satisfied nor dissatisfied=NSND; Partially dissatisfied=PD; Completely dissatisfied=CD. (p value indicates probability value for the chi-square test)

Reasons for dissatisfaction with water supply service



Water service delivery: Is the glass half-full or half-empty?

- The access and usage pattern of water suggest that most of the non-slum households use tap water for bathing, washing, cleaning (with 99% coverage rate), whereas a significant portion of slum dwellers use tube well for the same purpose. However, one-third of slum dwellers do not have access to water either through piped water or tube-well;
- The predictability rates of water supply in non slum areas are higher than the slum dwellers;
- Most common reason of dissatisfaction involving water services both in slum and non-slum areas were dirt, water with bad odor and unavailability of water;
- Respondents of non-slum areas were less satisfied (either partially or completely) about the behavior of the staff and quality of maintenance and complaint redress system vis-à-vis slum area

Sanitation facilities

- Households in slum area mostly use common toilets (82.5%), very few respondents from non-slum areas (5%) use common toilet
- In non-slum areas pit-latrines (77.5%) dominates

Characteristics of sanitation of those who use common toilets

Characteristics	Non Slum	Slum	P value
Provision of water (%)			
Always	68.6	29.7	0.001
Most of the times	3.9	16.2	
Rarely	9.8	13.5	
Never	17.7	40.6	
Regularly cleaned (%)			
Always cleaned	51.0	22.9	0.001
Cleaned mostly	27.5	29.6	
Rarely cleaned	9.8	31.6	
Never cleaned	11.8	16.0	
Queue in using (%)			
Always	0.0	13.2	0.001
the times	13.7	40.4	
Rarely	56.9	39.1	
Never	29.4	7.4	
Pay to use	1.96	31.89	0.001
N	51	599	

(p value indicates probability value for the chi-square test)

Satisfaction with several indicators of sanitation facilities (%)

Variable	Non-Slum						Slum						P value chi-square test
	CS	PS	NSND	PD	CD	N	CS	PS	NSND	PD	CD	N	
Location of public toilet	12.4	15.3	14.3	16.9	41.1	621	18.6	19.6	14.3	20.5	27.1	469	0.001
Cleanliness of public toilets	8.7	6.8	11.9	12.5	60.1	622	11.1	12.6	18.1	21.2	37.0	476	0.001
Emptying of septic tanks in public toilets	13.2	9.4	15.2	22.8	39.4	521	15.3	12.3	24.4	22.0	26.0	431	0.004
Adequacy of public toilet	8.8	10.9	11.1	23.6	45.6	588	6.9	8.8	16.6	29.7	37.9	464	0.001
Emptying of septic tanks in private toilets	35.2	21.0	12.9	8.8	22.1	657	17.7	19.4	26.4	16.7	19.7	299	0.001
Satisfaction with problem solution	24.1	13.6	15.4	19.7	27.3	855	18.7	9.4	25.8	21.2	24.9	534	0.001

*Completely satisfied=CS; Partially satisfied=PS; Neither Satisfied nor dissatisfied= NSND; Partially dissatisfied=PD; Completely dissatisfied=CD. (*p* value indicates probability value for the chi-square test)

Sanitation services: More public toilets are needed

- It was found that maximum responses for the satisfaction indicator was partially dissatisfied, indicating a higher degree of dissatisfaction level among slum-dwellers regarding sanitation services.
- This indicates that there is an urgent need to improve the services of common toilets as well supplying more public toilet facilities.

Waste Management

Disposal place of household wastes

Disposal place (%)	Non Slum	Slum	P value
Thrown into the drains	4.8	35.1	0.001
Thrown on the road side	4.1	14.6	0.001
Thrown on the vacant space	3.4	17.7	0.001
Door to door collection by municipality	50.8	14.2	0.001
Door to door collection by a private agency	35.4	19.7	0.001
Household compost pit	0.1	1.1	0.004
Dustbin	4.2	3.7	0.636
Others	0.1	3.3	0.122
N	1020	615	

(p value indicates probability value for t test)

Reasons for not using door to door collection facility

Reasons	Non Slum	Slum	p value
City corporation staffs don't collect garbage from the house	53.5	38.7	0.001
Garbage van couldn't come to the house because there's no road	7.0	9.1	0.431
House maid dispose the garbage to the drain	6.4	5.6	0.74
Not regular to collect garbage	8.9	15.4	0.043
City corporation dustbin beside the slum	3.8	3.7	0.935
Expensive	0.6	3.2	0.081
There is no people available	0.6	0.0	0.107
Doesn't need the service	17.2	23.5	0.102

(p value indicates probability value for the chi-square or t test)

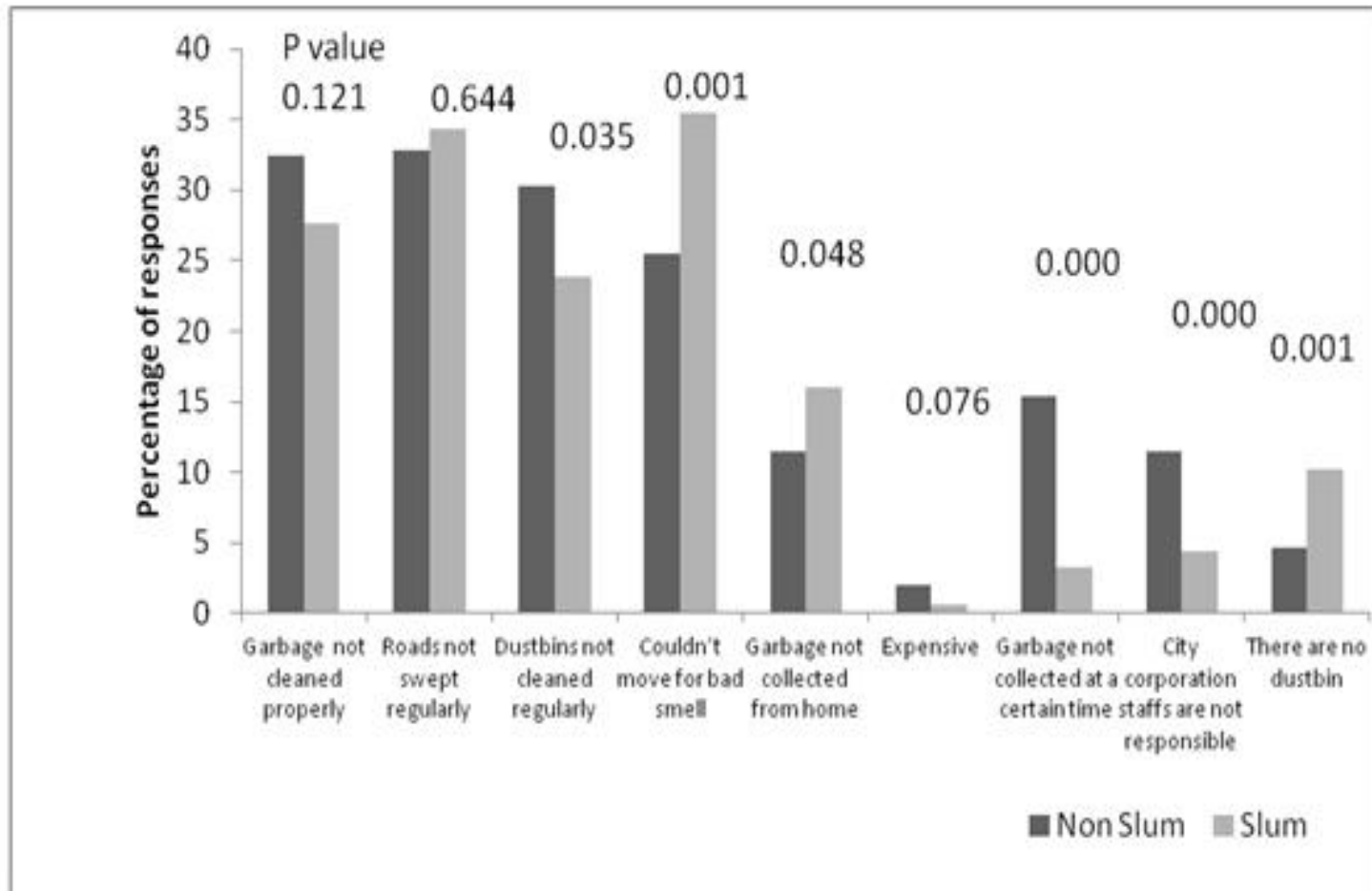
Satisfaction with several indicators of waste management service (%)

Variable	Non-Slum						Slum						P value
	CS	PS	NSND	PD	CD	N	CS	PS	NSND	PD	CD	N	
Indicators													chi-square test
Door to door collection	40.8	35.4	6.6	8.0	9.2	972	36.1	30.4	12.4	9.8	11.2	427	0.001
Clearance of dump bins	15.5	31.9	14.0	16.8	21.9	937	10.9	27.1	21.3	26.4	14.3	488	0.001
Sweeping of roads	19.2	26.9	15.2	17.7	21.1	990	14.3	26.5	16.8	26.5	15.9	559	0.001
Clearance of garbage from open space	15.0	28.7	13.0	18.4	24.9	1,000	7.3	25.6	16.0	27.9	23.2	574	0.003
Problem solution	11.9	27.3	21.0	21.6	18.3	987	6.8	28.2	25.0	24.9	15.1	571	0.001

*Completely satisfied =CS; Partially satisfied=PS; Neither Satisfied nor dissatisfied= NSND; Partially dissatisfied=PD; Completely dissatisfied=CD.

(p value indicates probability value for the chi-square test)

Reasons for dissatisfaction over waste management



(p value indicates probability value for the chi-square or t test)

Waste Management: a wasted opportunity?

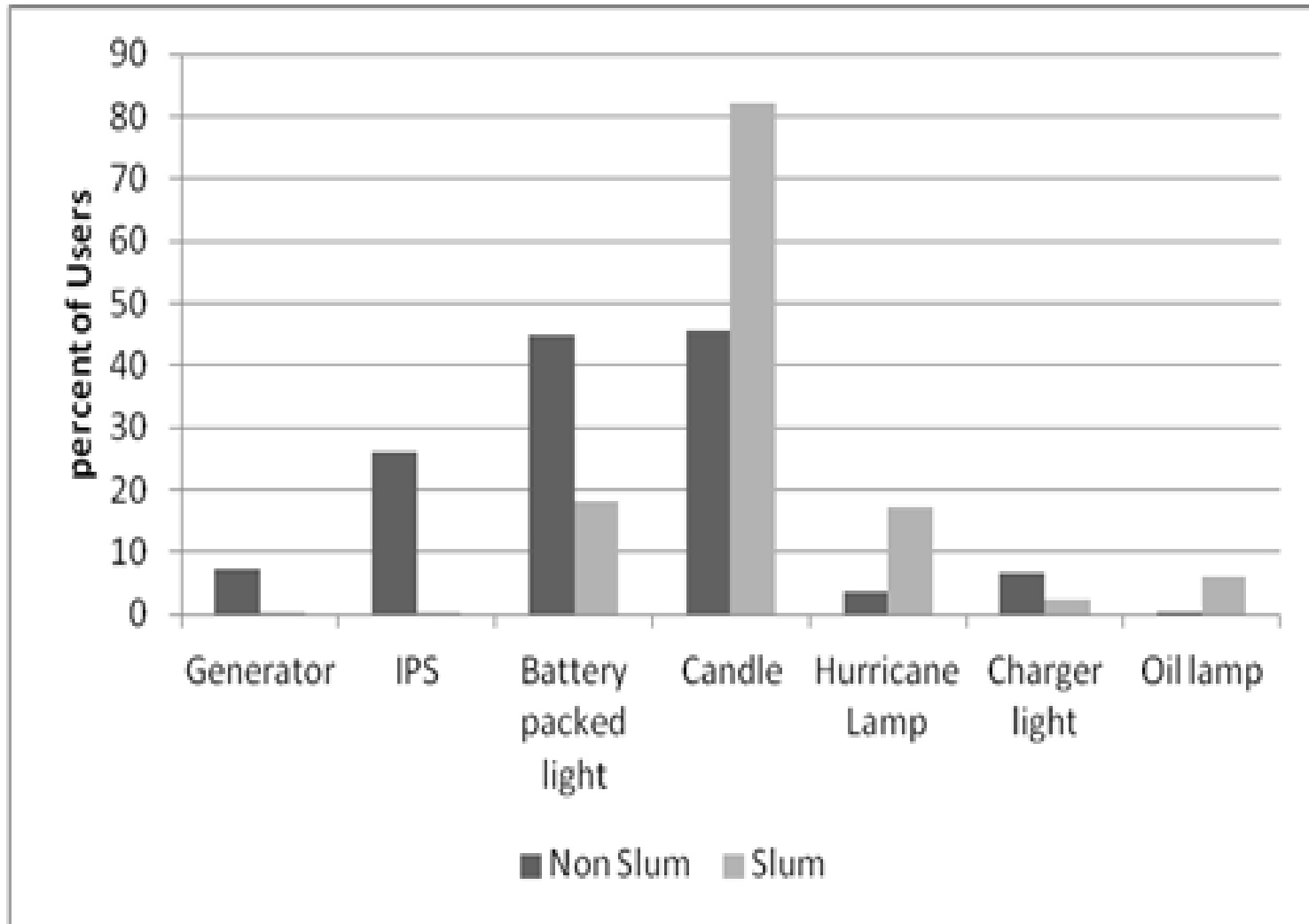
- It was found that in non-slum areas, most garbage was regularly collected by the city corporation or private agencies. Most respondents were satisfied (either partially or completely) about the door to door garbage collection;
- However, lower level of satisfaction was found for other indicators: clearance of the dump bins, sweeping of roads, clearance of garbage from open space and addressing complains;
- Most commonly reported reasons for dissatisfaction of garbage service were: garbage not being cleaned properly, irregular road sweeping, overflow of garbage in dustbins;
- People in both slum and non-slum areas found the waste management service charge as reasonable.

Characteristics of electricity supply service

	Non Slum	Slum	P value
Source of electric connection			
Government/DESCO	79.9	10.08	
Landlord/ slum owner/	20.1	89.92	0.001
Have electricity meter installed	76.47	7.64	0.001
Meter reading at every month	74.12	6.99	0.001
Know the present tariff structure	48.92	7.48	0.001
N	1020	615	

(p value indicates probability value for the chi-square or t test)

Contingent arrangement for power failure



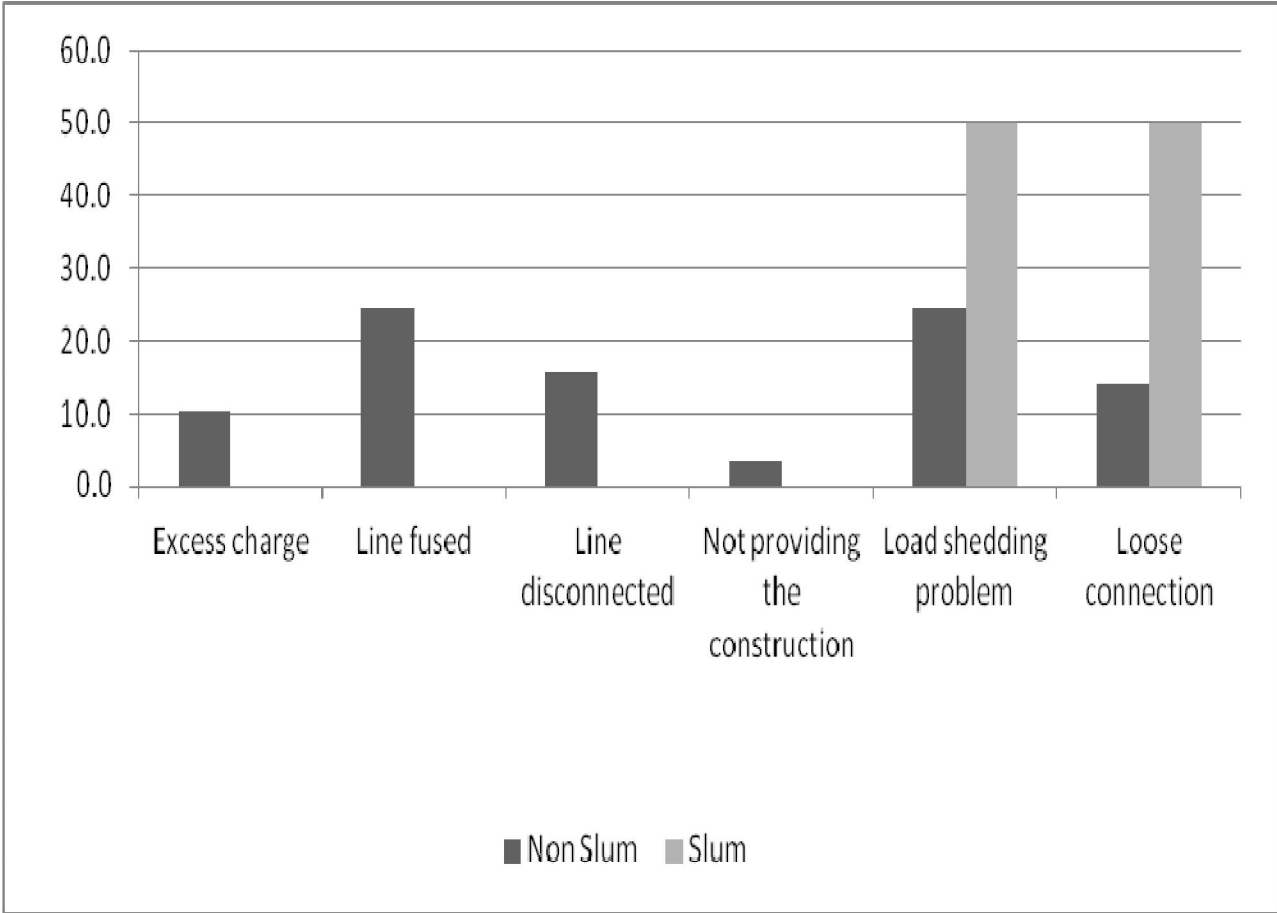
Satisfaction with several indicators of electricity supply service (%)

Satisfaction Indicators	Non-Slum						Slum						P value chi-square test
	CS	PS	NSND	PD	CD	N	CS	PS	NSND	PD	CD	N	
Quality of power	5.4	18.7	7.8	25.7	42.5	1,020	11.7	19.1	10.2	21.6	37.4	607	0.001
Reliability of power	3.9	15.9	8.6	23.5	48.1	1,007	8.2	23.0	9.7	18.6	40.6	601	0.001
Billing	10.3	31.9	16.8	21.2	19.8	893	21.7	30.9	21.3	13.2	13.0	470	0.001
Mode of payment	20.6	38.1	13.8	16.5	11.0	877	26.2	34.0	20.1	10.6	9.1	462	0.001
Grievance redressal	7.5	25.0	17.4	25.8	24.4	881	15.2	27.8	19.8	23.9	13.3	540	0.001
Overall behaviour of staff	6.5	23.8	19.7	27.5	22.5	841	9.2	27.4	27.0	20.9	15.5	489	0.001

*Completely satisfied =CS; Partially satisfied=PS; Neither Satisfied nor dissatisfied= NSND; Partially dissatisfied=PD; Completely dissatisfied=CD.

(p value indicates probability value for the chi-square)

Complaints about electricity services



Power problem: No easy way out?

- The satisfaction pattern varies in almost all indicators of electricity services between slum and non-slum areas;
- Majority respondents of non-slum and slum areas were dissatisfied (either partially or completely) regarding the quality and reliability of power;
- Excess charge, fused line, disconnected line, load shedding were the most reported complains in non-slum areas and in the slum areas load shedding and loose connections were the most cited causes for dissatisfaction;
- But people in both areas complained about higher incidence of load shedding and loose connection of electricity.