



SANITATION FOR ALL

An Assessment of Sanitation Services

AJMER, RAJASTHAN



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PREFACE

Urbanisation is rapidly increasing in India. According to Census figures, in 1991, 220 million people or about one-quarter of the population lived in Indian cities. By 2011, this number increased to 377 million or one-third of the country's population. The urban population is projected to grow to about 600 million (40 per cent) by 2031 and 850 million (50 per cent) by 2051. While it is very difficult to get authentic, consistent and valid data on the extent of urban poverty in India, it is estimated that in 2014-15 approximately 140 million (nearly 35 per cent) of the urban population were considered to be poor. In 2012, an estimated 33,510 slums existed in urban India with approximately 8.8 million households.

Rapid urbanisation has led to a strain on civic services, in particular sanitation services. The abysmal lack of sanitation services is omnipresent in Indian cities and poses an extraordinary threat to the health and hygiene of the urban population, particularly the poor who live in informal settlements within cities. Census 2011 shows that close to 8 million, or 12 per cent, urban households do not have access to toilets and defecate in the open. Another 8 per cent use public and shared toilet facilities which are unclean and unhygienic. At the all-India level, 31 per cent of slums had no access to any kind of latrine, 71 per cent had no access to underground sewerage system, 31 per cent slums had no drainage system, 27 per cent had no arrangement for garbage disposal and 46 per cent slums faced water-logging (due to rainfall) of either the slum, or the approach road to the slum. Open defecation in urban settings with higher population densities and untreated sewerage is one of the biggest sources of water resource pollution in India. Lack of safe spaces poses further challenges, as it affords little dignity and grave security risks for women.

In order to reverse this situation, the Ministry of Urban Development (MoUD), Government of India introduced the National Urban Sanitation Policy (NUSP) in 2008. It was the first policy specifically addressing urban sanitation and recommended preparation of city sanitation plans on the lines of the national policy. In 2014, the Government of India launched one of its most ambitious programmes, Swachh Bharat Mission (SBM). SBM (Urban) targets all 4,041 Statutory Towns (STs). It aims to eliminate Open Defecation (OD), eradicate manual scavenging, and ensure modern and scientific municipal solid waste management.

In 2016, the MoUD launched Swachh Survekshan in which 73 cities were ranked. In 2017 the Swachh Survekshan was expanded to 500 cities in which 434 participated. While this effort provided gradation across various metrics related to sanitation services, it provided very little usable data and analysis to city authorities which would help them to plan for service improvements.

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The study, "Sanitation for All: An Assessment of Sanitation Services in Ajmer, Rajasthan" was undertaken by Participatory Research in Asia (PRIA) under the project "Engaged Citizens, Responsive City". The project is supported by the European Union and is implemented in three Indian cities – Ajmer in Rajasthan, Jhansi in Uttar Pradesh, and Muzaffarpur in Bihar. The project aims to strengthen participation of the urban poor in city-wide planning and monitoring of urban sanitation services. One of the bottlenecks in city-wide planning of urban sanitation services is lack of authentic data. Municipalities often do not have the necessary capacities to generate updated data for realistic planning. This study is expected to fill this data gap in city-wide planning, with particular focus on the informal settlements of a city.

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MESSAGE

Participatory Research in Asia (PRIA) has been working in Ajmer through its European Union supported "Engaged Citizens, Responsive City project" over the last two years. The project has particularly helped the residents of informal settlements get organised and contribute towards the improvements in the city. PRIA has often provided critical input to the municipality and is a member of the Programme Implementation Unit (PIU) set up in order to improve city's sanitation services to the communities.

I am glad that PRIA has conducted an in-depth study on the sanitation facilities available in the city. The identified deficiencies will help the municipality provide a higher quality of service to the citizens. This citizen-generated data is important for city-wide planning, and PRIA's focus on the informal settlements (slums) in the city have helped us provide better sanitation services to them.

I convey my best wishes to PRIA for bringing out this report and congratulate them for this initiative.

(Himanshu Gupta)
Commissioner
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ACKNOWLEDGEMENTS

Rapid urbanisation has led to a severe strain on civic services and providers of these services, mainly municipalities or Urban Local Bodies (ULBs). It is estimated that by 2051, more than half of India's population will be living in cities, which will make the job of municipalities an even harder task.

The approach of 'development through people's participation' is not widely utilised by municipalities in India. The absence of any institutional obligation to involve citizens in planning, implementation and monitoring of development programmes leads to lack of ownership among people towards their cities and the areas they live in.

The Society for Participatory Research in Asia (PRIA) uses citizen centric approaches to address this situation through the 'Engaged Citizens, Responsive City' (ECRC) project supported by the European Union. PRIA's focus on people's participation is pivotal given the prevailing situation in India's cities.

Data is a critical requirement to effectively seek interventions from municipalities, but is usually inadequately available at the granular level. Data sources like the Census of India are difficult to utilise for planning because collection is decennial, and information at the level of the ward, colony, and slum is not always provided. Such limitations deter citizen participation as lack of access to data prevents understanding or monitoring real situations at local, state and national level. For cities to develop, a critical requirement is that of close coordination between the poor, the middle class, municipality and other State stakeholders. PRIA believes that one of the first steps towards participatory planning and decision-making is to empower communities with critical data.

To meet this goal, PRIA designed a mobile based survey and systematically sampled 100 households from each of the 60 wards in Ajmer. A mix of colonies and slums were selected to ensure proportionate representations.

The current study was undertaken by PRIA in Ajmer. We acknowledge the support of our field team in Ajmer consisting of Vinit Calla, Kirti Tak, and Asif Saify, as well as Bhupendra Kaushik and Kiran Sinha. We are grateful to our dedicated data collection team which includes Afjal, Anil, Antima, Avinash, Bhagyashree, Deepak, Deepika, Jyoti, Gayatri, Harish, Mayank, Mohammad, Mujammil, Nisha, Reena, Sajeeda, Sanjay, Seema, Naseer, Navin, Neha, Reshmi, Sachin, Shoaib, Sita, Sohrab, Sunil, Tanuja, and Vijay. This process was supervised by Sandeep, Rahul, Pinky, and Asha. Nikhil Desai, as the



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Lastly, this report would not have been possible without the direction provided by Dr Rajesh Tandon, President, PRIA. We sincerely acknowledge his contribution.

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LIST OF ACRONYMS

AMC	Ajmer Municipal Corporation
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
APL	Above Poverty Line
BPL	Below Poverty Line
CLTS	Community Led Total Sanitation
ECRC	Engaged Citizens, Responsive City
EU	European Union
EWS	Economically Weaker Sections
Gol	Government of India
HRIDAY	Heritage City Development and Augmentation Yojana
LIG	Low Income Groups
MoUD	Ministry of Urban Development
MSJKY	Mukhyamantri Sahari Jan Kalyan Yojana
OBC	Other Backward Classes
PHED	Public Health Engineering Department
PRIA	Society for Participatory Research in Asia
RAY	Rajiv Awas Yojana
RWA	Resident Welfare Association
SBM-U	Swachh Bharat Mission-Urban
SC	Scheduled Caste
SIC	Settlement Improvement Committee
SLB	Service Level Benchmarks
ST	Scheduled Tribe
SWM	Solid Waste Management
UIT	Urban Improvement Trust Board
ULB	Urban Local Body

KEY FINDINGS

CITY PROFILE¹

Population	542,321
Households	109,229
Slum households	21,066
Wards	60



SAMPLE²

Total HHs ³	6,220
Colony HHs	4,904 (79%)
Slum HHs	1,316 (21%)
Female respondents	49.7%
Religion	86% Hindu 12% Muslim 2% Others
Duration of survey	December 2016 to May 2017
City coverage	60 wards, with a minimum sample of 100 HHs from each ward



1. According to Census 2011.
 2. Representation is at the level of colony, slum, and city – which is a combination of colonies and slums.
 3. Households.



SOCIO-ECONOMIC BACKGROUND

HH ownership

Owned **89%**
Rented **11%**

Land titles in slum HHs **49%**

TOILET FACILITIES

Access to IHHL⁴

Colonies **91%**
Slums **80%**

City HHs with toilet outlets connected to *nallahs* outside house **10%**

Open defecation in slum HHs **13%**

Reasons for lack of IHHL

Insufficient funds **74%**
Lack of awareness about procedure **28%**
Insufficient space **14%**
Insufficient water **13%**

Acceptance of applications received from city HHs by municipality **60%**

HHs where septic tank has never been cleaned

Colony **48%**
Slum **64%**

City HHs where cleaning was carried out using manual methods **54%**



4. Individual Household Latrine.

SOLID WASTE MANAGEMENT

Municipality yet to initiate segregated waste collection in Ajmer

Type of waste generated in city HHs

Hazardous **48%**
Sanitary **46%**

City HHs making payments for waste collection **13%**

Door to door waste collection in HHs

Colony **75%**
Slum **55%**



DRAINAGE

Waste water from kitchen and bathroom flowing into open areas outside city HHs **9%**

Maintenance of drainage connections in city HHs by municipality **75%**



WATER SUPPLY

City households accessing government household piped connections **95%**

Availability of supply to city HHs **3-4 days / week**

30-60 minutes / day

Satisfaction with availability

Colony **89%**
Slum **84%**

Top three uses of water in city HHs

Washing clothes **86%**
Drinking purposes **68%**
Toilet usage **55%**



BATHING FACILITIES

Availability in HHs

Colony **98%**
Slum **95%**



COMPLAINT REDRESSAL Solid Waste Management

HHs complained about lack of service provisioning

Colony	6%
Slum	11%

Complaints received from HHs

447

Complaints not resolved

393 (88%)

Complaints resolved

54

Resolved within 3 days

32 (60%)

Nature of complaints:

No street sweeping

Colony	89%
Slum	90%

Irregular waste collection

Colony	77%
Slum	84%



97% of complaints are made through the local councillor.

COMPLAINT REDRESSAL Water Outlets and Drainage⁵

HHs complained about lack of service provisioning

Colony	6%
Slum	10%

Complaints received from HHs

296

Complaints not resolved

227 (77%)

Complaints resolved

69

Resolved within 3 days

38 (55%)

Nature of complaints:

Water logging

Colony	59%
Slum	57%

Poor quality of drainage construction/ water flow

Colony	80%
Slum	85%



96% of complaints are made through the local councillor.

5. While the full sample of 6,220 was asked questions pertaining to SWM complaint redressal, only 4,205 HH were asked questions about complaints regarding drainage and water outlets. 4,205 is the number of HH whose maintenance is managed by State agencies including the municipality.

Section 1 INTRODUCTION



City Profile

The city of Ajmer is often called the heart of Rajasthan, and has, in recent years, been selected for schemes like the Smart City Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Heritage City Development and Augmentation Yojana (HRIDAY).

According to Census 2011, the average decadal growth rate of Ajmer between 1991 and 2001 was 20.5 per cent, which dropped to 13.4 per cent between 2001 and 2011. It is important to note that the exceptional growth rate during 1991-2001 was because the municipal boundaries of Ajmer Municipal Corporation were extended. The extended boundaries included some of the adjoining villages on Jaipur Road in Ward No.46, villages on Beawar Road in Wards 25 and 23 and new areas developed by the Ajmer Development Authority (ADA) on Makadwali village road. The 2011 Census reports that the total area of Ajmer is 219.36 sq. km, with a population of 542,321 (Ajmer city), which is expected to rise to 620,155 in 2021.

The average density of the city is 5,750 persons (City Development Plan, Ajmer) per square

kilometre. There are some high-density areas in the inner-city that include Dargah Bazar, Kesarganj, and Railway Station Road. Increasing population has led to development in the outer areas of the city. The newer areas of the city include Chandravadai, D.D. Puram, Foysagar, the area towards Makadwali village, Lohagal road, Pushkar road and areas near MDS University on Jaipur road.

The most densely populated wards are in the inner city. In areas of high concentration, like Ward No. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 22, 29, 30, 32, the population density (City Development Plan, Ajmer) is higher, and this is one of the contributing factors for sanitation problems and poor quality of life in these areas.

The literacy levels in Ajmer are better in comparison to overall levels in the state. The average literacy rate of Ajmer is 73.4 against the state literacy rate of 63.6. The male literacy rate is 93.26 per cent and the female literacy rate is 81.53 per cent (Census, 2011).

Slum Profile of the City

Rajasthan's State slum policy, 2012, defines a slum as "a compact settlement of at least 20 households with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions".

Ajmer city has more than 100 slums⁶, which are mostly located within the city centre and some

of which are more than thirty years old. Newer migrants form the slums in the outer areas. The migrants come mostly from Madhya Pradesh, Bihar, Uttar Pradesh and West Bengal. The settlers are engaged in construction and other daily wage work.

The Sanitation Survey

The current survey on prevailing sanitation facilities in Ajmer city was undertaken by the Society for Participatory Research in Asia (PRIA), New Delhi under the European Union (EU)-supported project "Engaged Citizens, Responsive City" (ECRC). This activity was carried out between December 2016 and May 2017.

The objective of the ECRC project is to enhance capacities of the urban poor to enable and increase their participation in planning and monitoring of sanitation services in three Indian cities – Ajmer in Rajasthan, Jhansi in Uttar Pradesh, and Muzaffarpur in Bihar. The capacities of the urban poor to engage with municipalities for enforcing accountability and ensuring their participation in city planning are significantly affected by two major constraints: (i) lack of information and (ii) access to organisation. The fragmentation of civil societies of the urban poor across caste, gender, age, and political affiliations severely affect their ability to demand quality services from the institutions of governance.

Rapid and unplanned urbanisation has led to a severe strain on civic services. Municipalities are often unable to cope with the increasing

population, which is expected to further increase in the future.

In the absence of appropriate capacities, resources, and any institutional obligation, municipalities often do not engage citizens in planning, implementation and monitoring of development programmes. This often leads to lack of ownership by the citizens towards their cities and the areas they live in. Further, citizens, particularly the urban poor, lack basic knowledge which would allow them to better understand entitlements at the individual, household, and community levels. This is witnessed most starkly in the state of sanitation services in Indian cities. City-wide improvement of sanitation services requires preparing a solid plan based on authentic data. Lack of reliable data is a perpetual problem for preparing appropriate plans by municipalities in India.

The ECRC project makes conscious efforts to strengthen citizen participation in development planning and monitoring of cities. The project uses sanitation services as an entry point to build organisational capacities of the urban poor in informal settlements. The residents in informal

settlements are encouraged to form Settlement Improvement Committees (SICs) with leadership from youth and women. The project engages multiple stakeholders including the Resident Welfare Associations (RWAs) in colonies, market committees, professional associations, media and academia to collectively explore solutions to problems of urban sanitation services. It aims at creating a common forum for engagement among various stakeholders, especially between urban local bodies (ULBs) and the residents.

As mentioned earlier, reliable data is a critical requirement in effectively seeking interventions from municipalities. However, such data is usually scarce, especially for informal settlements.

In addition to a comprehensive household listing and participatory enumeration of informal settlements, the ECRC project undertook a sample survey covering all the wards in Ajmer. This has allowed for a holistic understanding of the city. Through this survey, deficiencies in sanitation services have been highlighted, solutions to which can stem from a coordinated effort between municipalities and residents. The dissemination

of findings of the survey could help establish a platform for residents of the ward to congregate and pursue a common interest that furthers that of the city as well.

The survey initiative is also in line with the objectives of the Swachh Bharat Mission-Urban (SBM-U) and acts as an assessment of the ground realities in Ajmer city. It can provide critical feedback and play an essential role in monitoring and evaluation of government schemes as well as implementation of plans. That apart, the survey has identified relevant aspects through Service Level Benchmarks (SLBs), which are defined as a minimum set of standard performance indicators that are commonly understood and used by all stakeholders across the country. SLBs encourage municipalities and utilities to collect data to report performances; however, the feedback process does not involve citizens. To a certain extent, the survey addresses this gap. PRIA has previously been involved with the Water and Sanitation Program of the World Bank, which was commissioned for this purpose. Lessons from that project have found their way into the current survey as well.



⁶ Based on slum data collected by PRIA in 2016-2017.



Section 2

METHODOLOGY



Objectives

The objective of the survey was to assess the status of sanitation services in Ajmer city, with specific focus on toilets (individual, shared and community), sewerage and waste water management, bathing facilities, and solid waste management. This information is available at the level of the city, ward, and settlement, including colonies and slums. Since water supply is an integral part of the overall sanitation situation in

a city, the survey included the key sources of water supply for drinking and other purposes. Provisions for street sweeping and complaint redressal were covered as well. The findings of the survey generated reliable data and provided critical analysis to the Ajmer Municipal Corporation (AMC). It is envisaged that such data and analysis would provide a sound basis for ongoing and future sanitation planning in Ajmer city.



Designing the Questionnaire

The survey used a structured questionnaire divided into the sections presented in Figure 1. While the thrust of the questionnaire was to gauge

the level of sanitation facilities in the city, it has also captured basic information about households, which is often important for correlation analysis.



Selecting and Orienting the Survey Team

Twenty-four participants were shortlisted from various informal settlements and other forums in which PRIA engages. Many of these participants were well versed with PRIA's work in the city. They were divided into two categories –

enumerators and supervisors – depending on their skill sets, which were assessed over the course of the workshop that was organised to orient them on survey objectives and methods. Separately, one survey administrator, supported

Figure 1: Various Sections in the Survey Questionnaire

Registration form	<ul style="list-style-type: none"> • Ward selection • Classification of settlement • Basic details including name of respondent, head of household, address
Basic household information	<ul style="list-style-type: none"> • Type of house • Ownership and registration of land • Family income • Religion and caste • Distance from basic facilities including primary health centre, anganwadi centre, ration-shop, and primary and secondary schools
Drainage	<ul style="list-style-type: none"> • Availability of drainage facility and its type • Maintenance of drainage facility and associated costs • Grievance redressal mechanism
Solid waste management	<ul style="list-style-type: none"> • Types of solid waste generated and segregation • Mechanisms for waste collection, disposal, and associated costs • Street sweeping facilities • Grievance addressal mechanism
Water related facilities	<ul style="list-style-type: none"> • Availability of water and sources • Utilisation of water in various activities
Bathing and washing	<ul style="list-style-type: none"> • Type of bathing facility available and its utilisation • Maintenance of bathing facility and associated costs • Grievance addressal mechanism
Toilet and sewerage	<ul style="list-style-type: none"> • Type of toilet facility available and its utilisation • Maintenance of toilet facility and associated costs • Grievance addressal mechanism
Conclusion	<ul style="list-style-type: none"> • Suggestions on improvement of municipal services • Photo capture • Enumerator comments • GPS coordinates

by an animator, assigned from PRIA oversaw the process.

The training workshop was an intensive four-day long event. It focussed on two major areas: (i) building a strong conceptual understanding of sanitation, drinking water sources, wastewater outlets, street sweeping and solid waste management; (ii) developing conceptual understanding and skills on survey methodology and the corresponding approach to be applied on the field. This was followed by a discussion on how to approach respondents and introduce the organisation, as well as the objectives of the survey. The workshop employed a mix of

pedagogies including presentations, interactions, open discussions, simulations and fieldwork, during which enumerators could utilise the application on smartphones. Surveys were conducted using a mobile-based technology called CommCare, designed by Dimagi. CommCare is an open source mobile data collection platform that allows users to code a questionnaire into the application, which is accessed and filled using android mobile phones. The application can be used offline (in areas where internet is not easily available) and is compatible with various languages, including Hindi. There are many benefits of using a tech-enabled solution which are detailed in Annex 1.

Sampling Process

The implementation of a large-scale survey requires rigorous monitoring and quality assurance. One of the first steps spelt out in detail to all the team members was the sampling process. A stratified sampling technique was used. A sample of 100 households was selected from each ward, with a buffer of 10 per cent. The buffer allowed discarding of records that contained errors which could not be addressed easily. Sample households would be spread across neighbourhoods such as authorised colonies (including resettlement colonies) and slums (both notified and non-notified). A good sample ensures that the survey is representative and captures data that the survey aims to study. A critical point here was to ensure that the sample ratio of colonies to slums be maintained across the wards. To do this, a list of colonies and slums in each ward was prepared with approximate number of households.

The next crucial step was to calculate the skip interval. This is dependent on the number of

households in a ward, divided by the sample (fixed at 100). For example, if the total number of households in a ward is 1,105, and the required sample is 100, then the skip interval is calculated as $1,105/100$, which is equal to 11. A sampling plan is provided in Annex 2. Household selection utilises the right-hand technique, in which the first house is selected randomly. Beginning from a particular corner of the sampling unit, the skip interval is followed by moving right, with every eleventh house in the direction being selected. For example, if one lane was being surveyed, then households on the right would be sampled first. Once the entire right-hand side has been completed, enumerators would start covering households from the end of the left side of the lane, which now lies on their right-hand side. In case a particular house cannot be surveyed, the next house is selected. This process is simple to follow, and allows for a systematic sampling method, irrespective of the topology and spatial spread found in a city.

Survey Monitoring

The survey team comprised of enumerators, field supervisors, survey administrators and a survey manager. The monitoring process was divided into various stages. Each supervisor was allotted a team of enumerators. The supervisor accompanied the team and ensured that the surveys were being done in an orderly manner and that the sample plan was being adhered to. Supervisors were also well versed with the questionnaire and were available to solve any doubts raised by enumerators or respondents.

As stated above, two individuals from PRIA (a survey administrator and one person for support) took responsibility for validating the data on the basis of a monitoring protocol designed based

on common errors and discrepancies. Data was validated for each ward and records, which were inconsistent or incomplete, were flagged for removal or remedy.

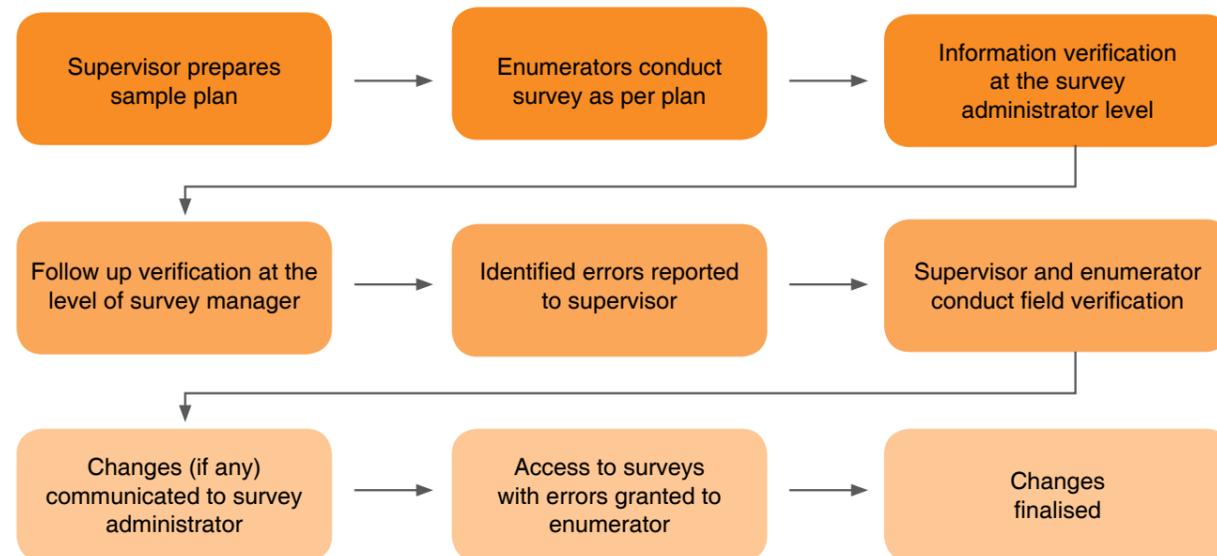
Data for each ward was then accessed by a survey manager, where logical consistency of answers would be checked. All inconsistencies were reported back to the field and an immediate verification carried out either by revisiting the respondent's home or by calling them. This task was carried out by supervisors and enumerators. Any suggested changes were made by the enumerator on the mobile. To do this, survey administrators would grant access to the particular record so that it could be edited.

A diagrammatic representation of this process is available in Figure 2.

The next step after implementation and monitoring was interpretation of survey findings. The ECRC analytical framework has been designed in Microsoft Excel and has been used to analyse the survey findings and the inferences outlined in this report.

After multiple rounds of verification, 6,220 household surveys, spread across 60 wards were included in the analysis, out of which 79 per cent (4,904) households belonged to colonies, while 21 per cent (1,316) belonged to slums⁷. Of the latter, 62 per cent (810) of households lived in notified slums while 38 per cent (506) lived in non-notified slums.

Figure 2: Survey Implementation and Monitoring



Section 3 SURVEY FINDINGS

Demographic and Socio-Economic Background

In this section, analysis is presented with disaggregated data from the slums (which encapsulates all types of informal settlements) and the colonies. In some places, the analysis is presented on a city-wide level, which is a combination of data from slums as well as colonies. The sample of 6,220 refers to the city as a whole. Certain tables indicate problems and practices disaggregated by ward. In these tables, listings are in decreasing order of occurrence.

Respondents

Head of households answered 52 per cent (3,242) of surveys, while the wife/husband, or son/daughter answered 33 per cent (2,080). Household members – which included parents, sons-in-law, grandchildren and other relatives – answered the remaining surveys.

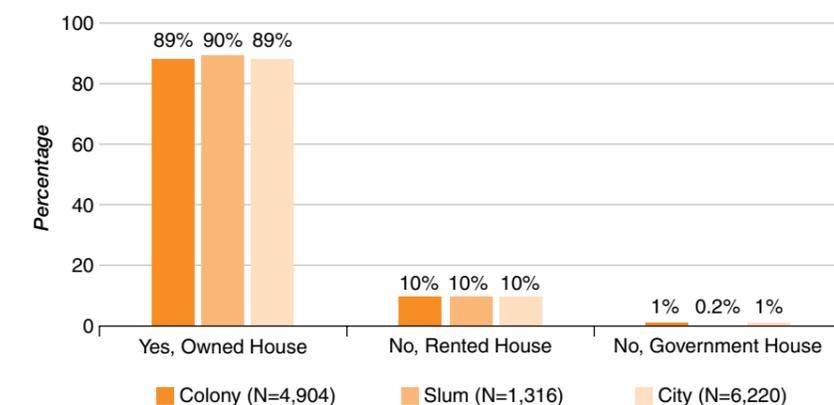
they lived in, while an approximate 10 per cent (616) lived on rent. A few respondents lived in government quarters.

House ownership

Of the 6,220 households surveyed, 89 per cent (5,552) of city respondents owned the houses

Approximately 98 per cent of the households surveyed have 'pucca'⁸ houses (made with high quality materials throughout, including the floor, and exterior walls) while 1 per cent lived in 'kutcha' houses (made from mud, thatch, or other low-quality materials). The majority of the 'kutcha' houses were found in slums, while a few (27) were located in colonies. There are many reasons for this, apart from the fact that all of

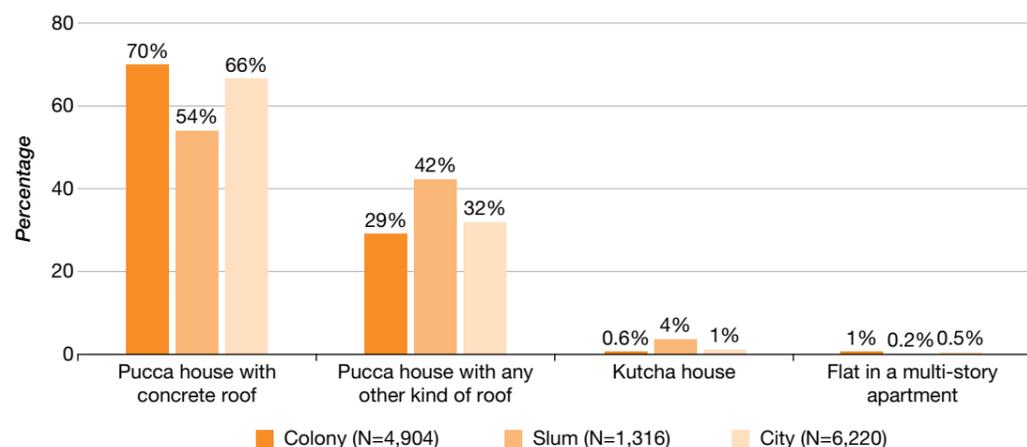
Chart 1: Ownership of Houses (N=6,220)



⁷ As per Census 2011, slum population in Ajmer is 20.41 per cent. The current survey ensured proportionate representation.

⁸ Households using concrete and/or other materials of solid nature have been combined, but are separately depicted in the chart.

Chart 2: Type of Houses (N=6,220)



these are low-income households. Some belong to the Anderkote area in Ward 9, which is often inhabited by the migrant population. While others belong to areas like Makadwari in Ward 58 and 59, which were villages earlier and have been included within municipal boundaries in the last few years. In a few cases, like areas near Jammu Hotel in Ward 45, land entitlements are contested because of which construction of permanent structures are disallowed. Some households also belong to areas that lie in the outskirts of the city (such as Ward 42) and typically witness slower development.

Years of stay

Across slums and colonies, 21 per cent (1,289) of households had inhabited their place of residence for less than ten years. 60 per cent households (3,711) reported that they had occupied their dwellings for periods between 10 and 49 years. The remaining 20 per cent (1,220) had been staying in their localities for over fifty years.

Land ownership

As elaborated earlier, amongst the slum households (1,316), 90 per cent (1,186) respondents owned the houses they lived in. However, when they were asked about land ownership, a small percentage of respondents (65) did not have clarity about the ownership of land,

and this brought the number of respondents who owned their houses down to 1,121.

Within this sample, 36 per cent (404) have registered lands, while 10 per cent (114) have *pattas* (land tenure), 4 per cent (51) have *sahamati/adhikar patra* (acknowledgement letters). A significantly large percentage – 49 per cent (548) – of slum households did not have any documents that helped secure tenure rights. Assigning property rights is a critical step in empowering people and helping them live better lives. Without these rights, residents are hesitant to invest in better standards of living since they fear the risk of displacement. Allotting property rights to the urban poor, however, is difficult to implement since slums often come up on disputed

Chart 3: Availability of Land Patta (N=1,121)

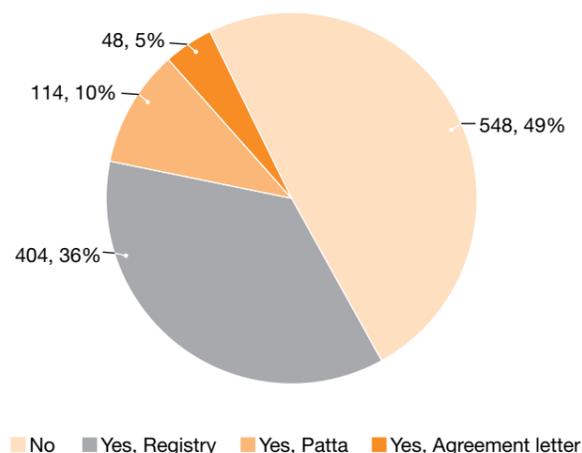
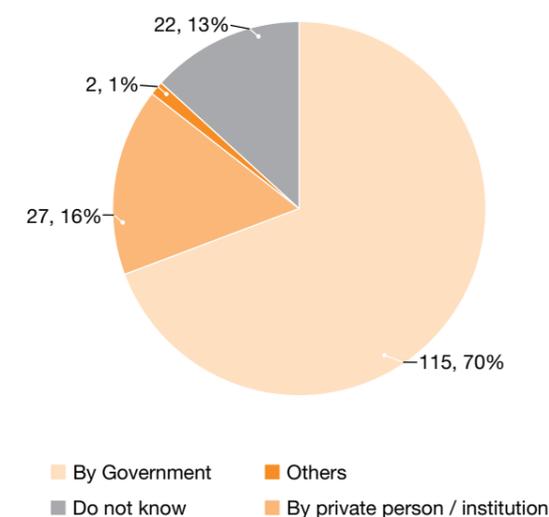


Chart 4: Land Patta/Agreement Letter/Authority Letter Given by Authorities (N=166)



land. An interim solution could be granting 'use rights' that could enhance a feeling of security of tenure. ULBs could guarantee a hold on eviction even as they extend basic services to the area, which would make people interested in investing in their houses.

Of those who had got land *pattas/sahamati* or *adhikar patras* (166), about two-third or 69 per cent (115) of respondents said that they received these from the government. In most cases, these were given by the municipality, while a few claimed to have received documents from the Urban Improvement Trust Board. The remaining

16 per cent (27) said they received these from an individual or private agency, while 13 per cent (22) did not know the origin of these documents.

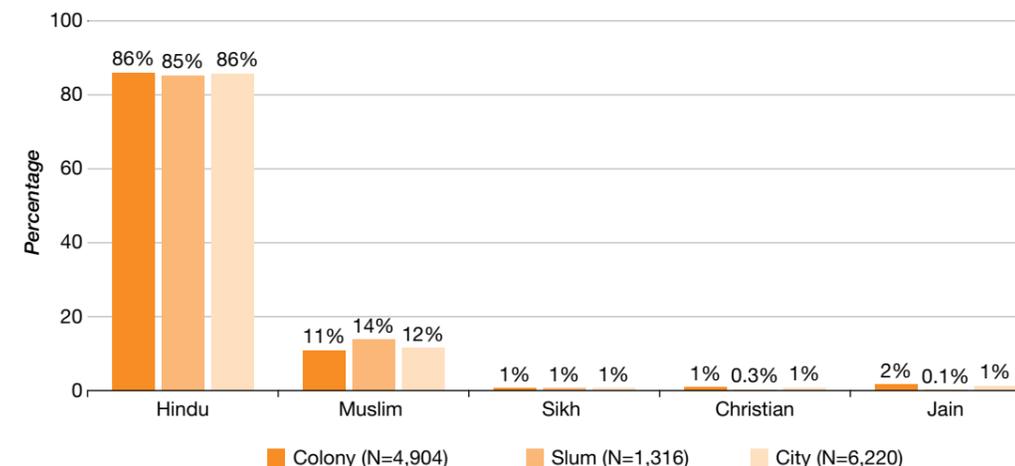
Religion and caste

Similar to the findings of the 2011 Census (83.53 per cent Hindu and 11.58 per cent Muslim), the survey respondents in the colonies were predominantly Hindus (86 per cent or 5,337 households). In the slums, 14 per cent (181) of respondents were Muslims, which is slightly higher than the 11 per cent recorded in colonies. Other religions include Sikh, Christian, and Jain.

While 41 per cent (2,526) of the surveyed city population belonged to the general category, households surveyed in colonies significantly influenced this figure. This is evident from the fact that colonies have 47 per cent (2,282) general category respondents while the number is significantly lower for slum respondents – 19 per cent (244).

As per Census 2011, Scheduled Caste (SC) constitutes 24.8 per cent of the city's population, which is close to the number the survey analysis has generated as well. While 28 per cent (1,744) of the surveyed population fall in the SC category, this number is highly influenced by the higher number of SC slum households which stands at 48 per cent (631). In comparison, only 23 per cent

Chart 5: Religion of the Households (N=6,220)



(1,113) of population in the colonies belong to the SC category. An approximate 27 per cent (1,695) of the survey sample population belongs to Other Backward Classes (OBC), and are spread almost equally among our surveyed colonies and slums. Findings for the Scheduled Tribe (ST) category are also in line with the Census 2011 report, which places the ST population at 1.8 per cent for the city. As per our findings, in colonies, 3 per cent (143) population belongs to the ST category. This number is higher in slums with 7 per cent (92) belonging to this category.

Ration card and income

96 per cent (5,968) of the households surveyed had ration cards. In colonies, 87 per cent (4,267) households had Above Poverty Line (APL)

cards, while an approximate 8 per cent (412) had Below Poverty Line (BPL) cards. In the slums, 72 per cent (945) had APL cards, whereas 25 per cent (328) had BPL cards.

Figures on annual income provided by households largely correspond with the type of ration cards available. Respondents often feel uncomfortable providing income figures and often under-report their income. To work around this, the survey asked respondents to choose from given income ranges, rather than stating actual figures. Incomes in colonies are higher than that of slums with 41 per cent (2,025) colony residents falling in the Rs. 25,000 to Rs. 1 lakh bracket, while 40 per cent (1,983) fall within the Rs. 1 lakh to Rs. 3 lakh bracket. In the slums, 59 per cent (782) of residents earn between

Chart 6: Type of Ration Card (N=6,220)

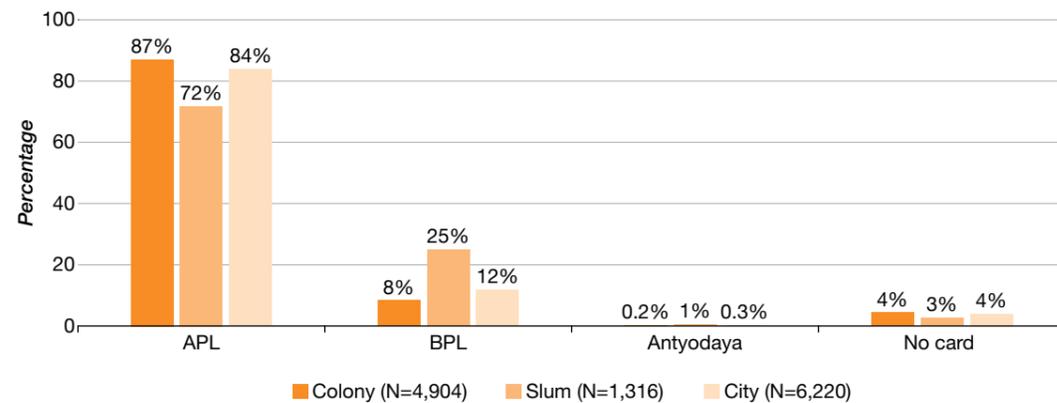
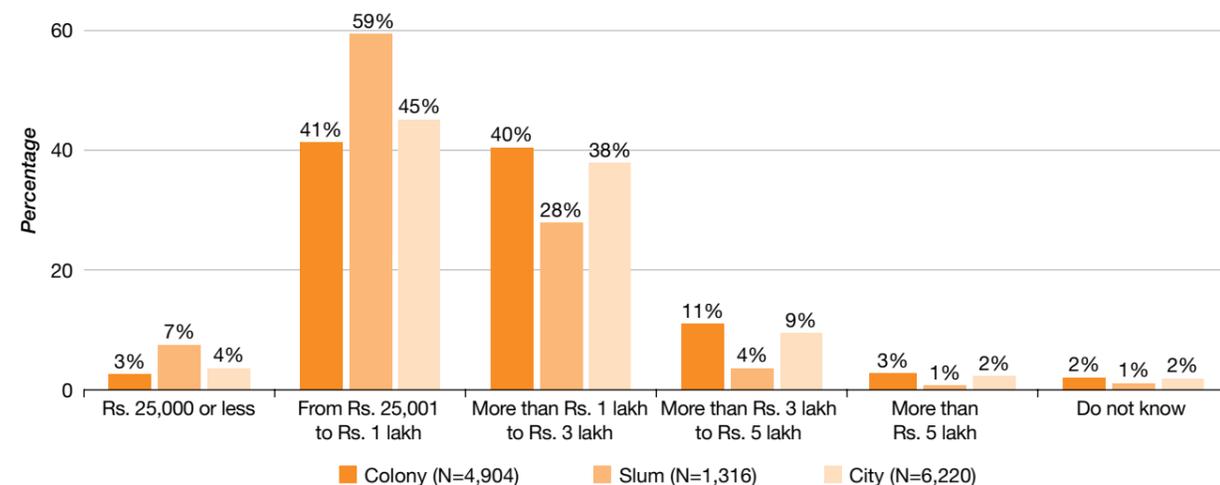


Chart 7: Annual Income of Households (N=6,220)



Rs. 25,000 to Rs. 1 lakh, while 28 per cent (367) earn between Rs. 1 lakh and Rs. 3 lakh. Most male members in slums are involved in daily

wage labour, while women take up household chores and domestic work which explain lower incomes.

Solid Waste Management

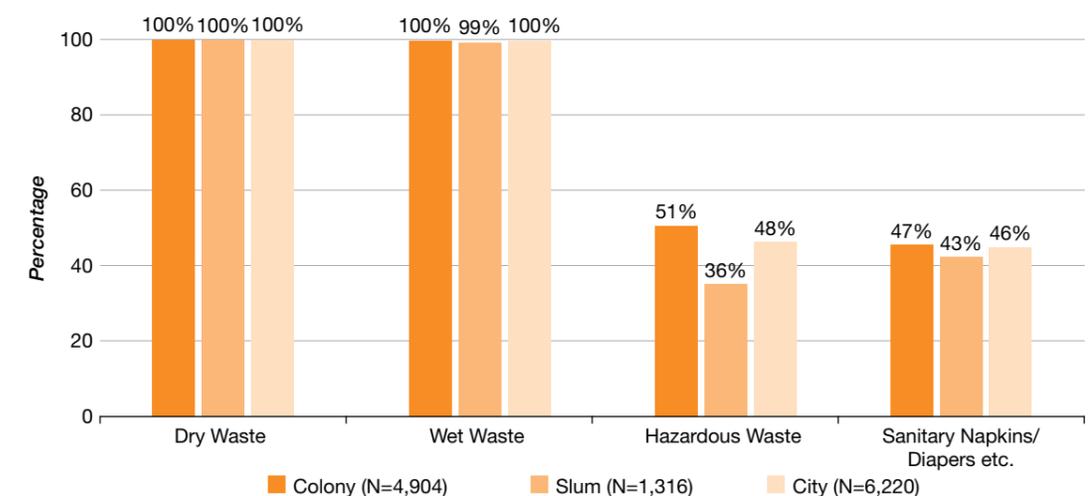
AMC has recently embarked on a door-to-door household waste collection drive in all 60 wards of the city. There are two vans that collect household waste deployed for each ward. The collected waste is then transported to collection centres. According to the AMC, there has been a 40 per cent increase in the collection of waste. The municipality plans to launch segregation of waste at source once household collection of waste reaches optimal levels. In parallel, behaviour change campaigns will also be launched. There are also various initiatives by citizen groups as well as civil society, which include installing underground waste bins and beautification of sites. Currently there are ongoing efforts towards installation of a processing plant for solid waste in the city.

percentage is higher at 51 per cent (2,486) of households. The possible reasons could be higher use of electronic equipment (resulting in disposal of used batteries), toys, syringes, etc. as compared to slum areas. In both slums and colonies, bundling of hazardous waste with other types of waste is a dangerous practice that should be addressed.

A question was also posed regarding sanitary waste. In slums, 43 per cent (572) households said sanitary waste was generated, while in colonies, the figure was slightly higher at 47 per cent (2,298). It is important to keep in mind that this does not necessarily mean usage of sanitary pads. Sanitary waste can refer to the usage of diapers as well as cloth-based solutions for both women and children. Similar to dangerous waste, initiatives are required for segregation of sanitary waste which will make disposal easier for those handling it.

Survey findings indicate that all households in the city generate both dry and wet waste. About 36 per cent (475) households in slums generate dangerous hazardous waste. In colonies, the

Chart 8: Types of Waste Generated in Households (N=6,220)



Segregation of waste

Despite negligible behaviour change campaigns, 19 per cent (934) of the surveyed households in the colonies and 10 per cent (130) households in slums segregate waste at source. Segregation does not necessarily mean that waste is collected in a segregated manner, or that composting is practised. Segregation may also not necessarily mean separating wet and dry waste, in these cases. Many households said that they segregate plastics, paper and cardboard for reutilisation as well as to sell to trash collectors (*kabadiwala*).

Collection of waste

In the colonies that were surveyed, 75 per cent (3,656) of households have some kind of arrangement for collection of waste from households. In the case of slums, this figure falls to 55 per cent (723)⁹. As per SLB 2010-2011 data available for Ajmer, efficiency of collection of Municipal Solid Waste (MSW) stood at 73.6 per cent. The survey figures show only marginal

improvements. Out of 4,379 households which had some arrangement for collection of waste, 76 per cent (2,780) in colonies and 77 per cent (556) in slums said that this was done by the municipal corporation.

Of these households, 72 per cent (2,622) households in colonies and 71 per cent (510) in slums reported waste collection on a daily basis. About 20 per cent (739) households in colonies and 18 per cent (131) said that waste was collected on alternate days, while the rest said that waste was collected once a week. 4 per cent households complained that there was no fixed schedule.

In Ajmer, 19 per cent of city households utilise the services of 'Rani', a traditional sanitation worker who collects waste from a group of houses for a monthly fee. The municipality should make an effort to create an overarching structure that can regulate the informal sector, which is beneficial to the city as well as to the workers employed in this sector.

Wards where households commonly segregate waste
56, 2, 53, 57, 38, 49, 34, 37, 1, 50, 54, 36

Chart 9: Segregation of Various Wastes into Separate Dustbins (N=6,220)

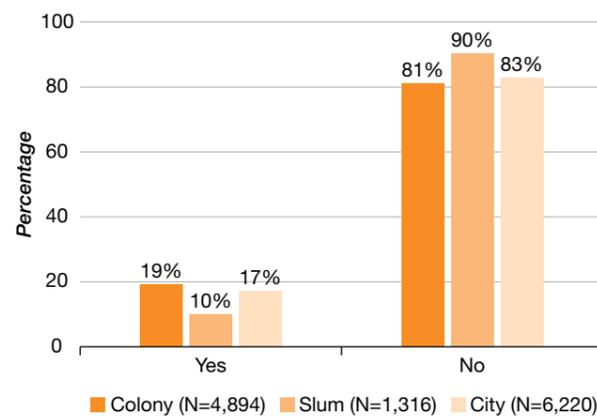
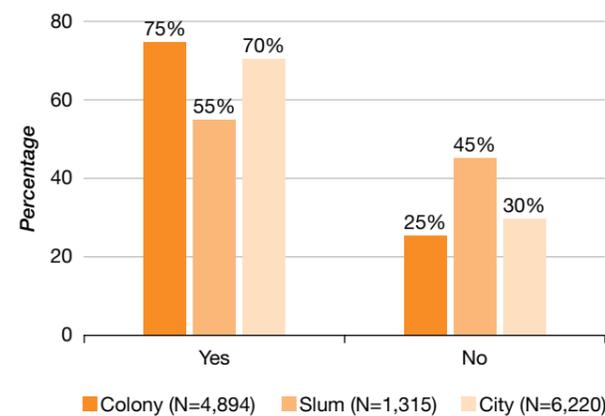


Chart 10: Availability of Household Waste Collection Facility (N=6,220)



⁹ Door-to-door collection of waste using vans has started recently. Hence, the above findings may have changed.

Chart 11: Type of Household Waste Collection Facility (N=4,379)

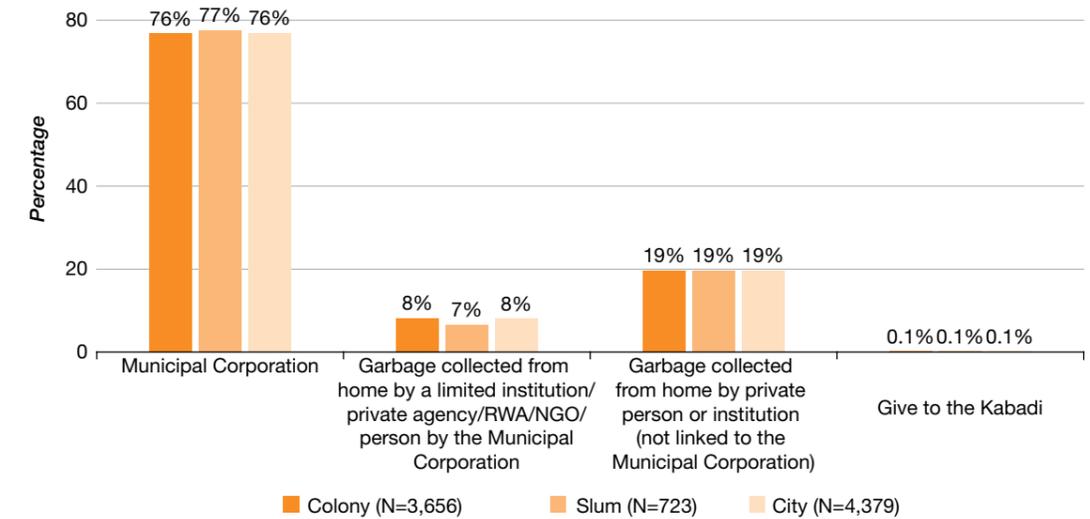
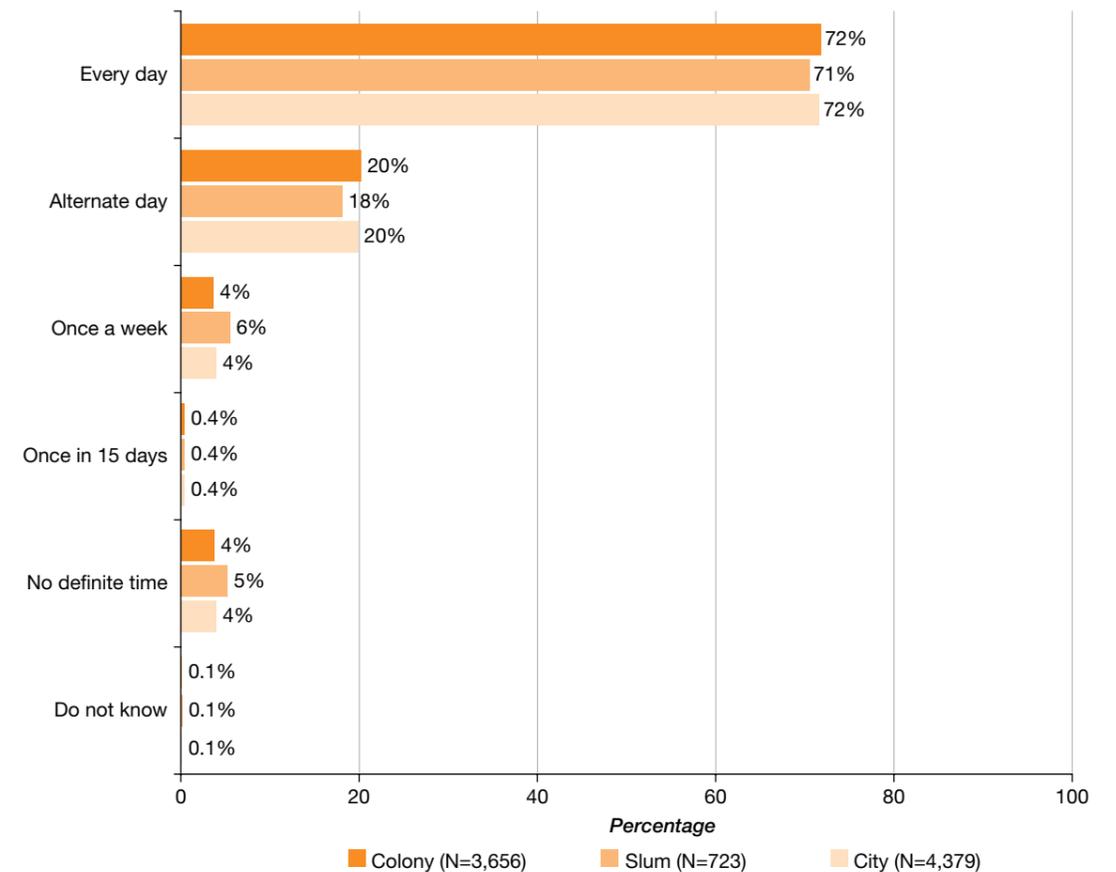


Chart 12: Frequency of Door-to-Door Waste Collection Service (N=4,379)



A total of 1,841 households surveyed did not receive household waste collection services from the municipality. These households use of or more options as given in Chart 13. Since responses

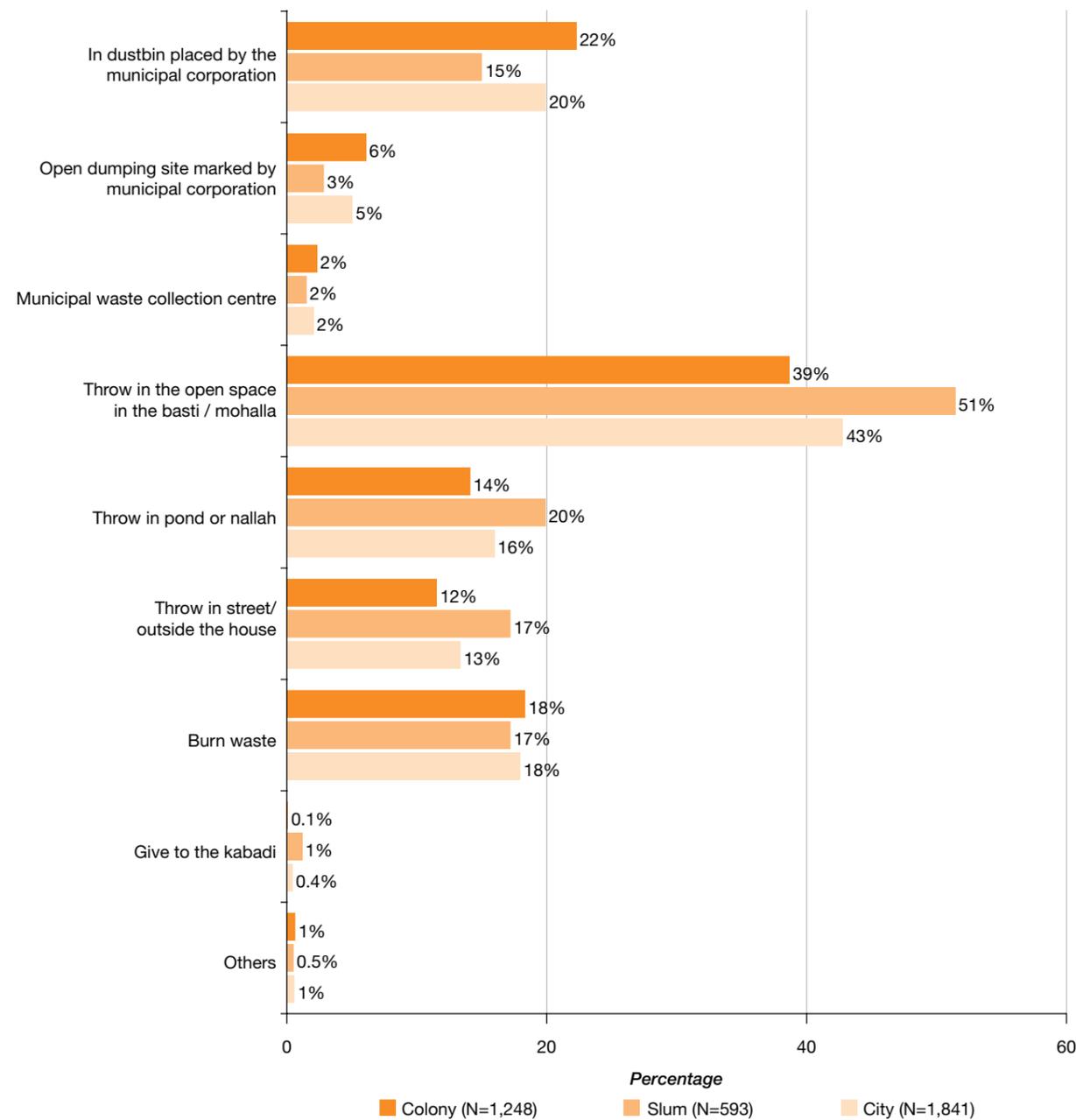
were recorded as multiple choice, the total percentage of responses exceeds 100 per cent. About 22 per cent (278) of colony households and 15 per cent (89) slum households said that

they dispose waste in dustbins installed by the AMC. Another 7 per cent either utilised dumping sites marked by the municipality or threw waste at nearby waste collection centres. Shockingly, 90 per cent households reported some form of unsanitary waste disposal practice which include disposal in open spaces, in ponds or *nallahs*, in streets, as well as burning of waste. Chart 13 shows that while these practices are more

common in slums, colonies too are not very far behind. Such improper waste disposal can lead to massive hygiene problems.

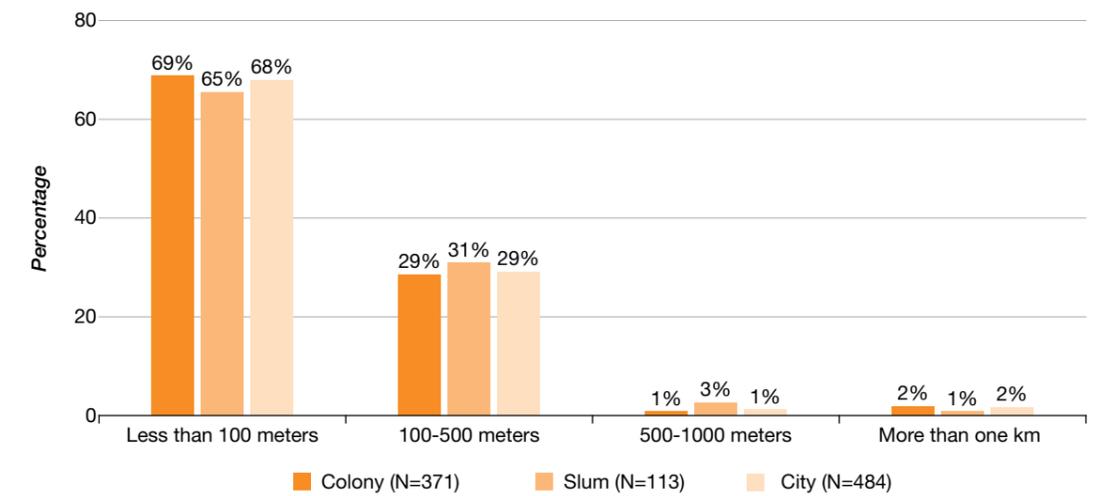
484 households¹⁰ (based on their responses earlier) were asked to report on the distance of dustbins and waste collection facilities from their house. As evident in Chart 14, 68 per cent, (329) households reported distances to be less than

Chart 13: Disposal of Waste, If Household Collection is Unavailable (N=1,841)



¹⁰ A combination of households who utilise dustbins placed by the municipal corporation, open marked dumping sites, or municipal waste collection centres.

Chart 14: Distance of Dustbin/Waste Collection Centre/Dumping Site from Households (N=484)



100 meters. 29 per cent (141) said the distance was between 100 and 500 meters, while the rest said it was more than 500 meters or more than one kilometre.

in colonies paid up to Rs. 50 per month. About 14 per cent households paid between Rs. 51 and Rs. 100 a month while in colonies, a small percent age –7 per cent (45) – paid upwards of Rs. 100 as well.

Payments for waste collection

All 6,220 households surveyed were asked if they made payments for waste disposal. The entire sample was considered since respondents informed us that they often paid service providers like Rani as well. Of the total households that were surveyed in the city, 87 per cent (5,407) said that they did not pay for cleaning services and only 13 per cent (147 in slums and 658 in colonies) reported paying for this.

Road sweeping services

Most households responded positively when asked about street sweeping. In colonies, 84 per cent (4,142), and in slums, 70 per cent (926) said street sweeping facilities were provided. 64 per cent said this facility was provided every day, while 19 per cent said sweeping was done every alternate day.

Amount paid for waste collection

Of the 805 households paying for waste collection, 86 per cent (126) in slums and 79 per cent (519)

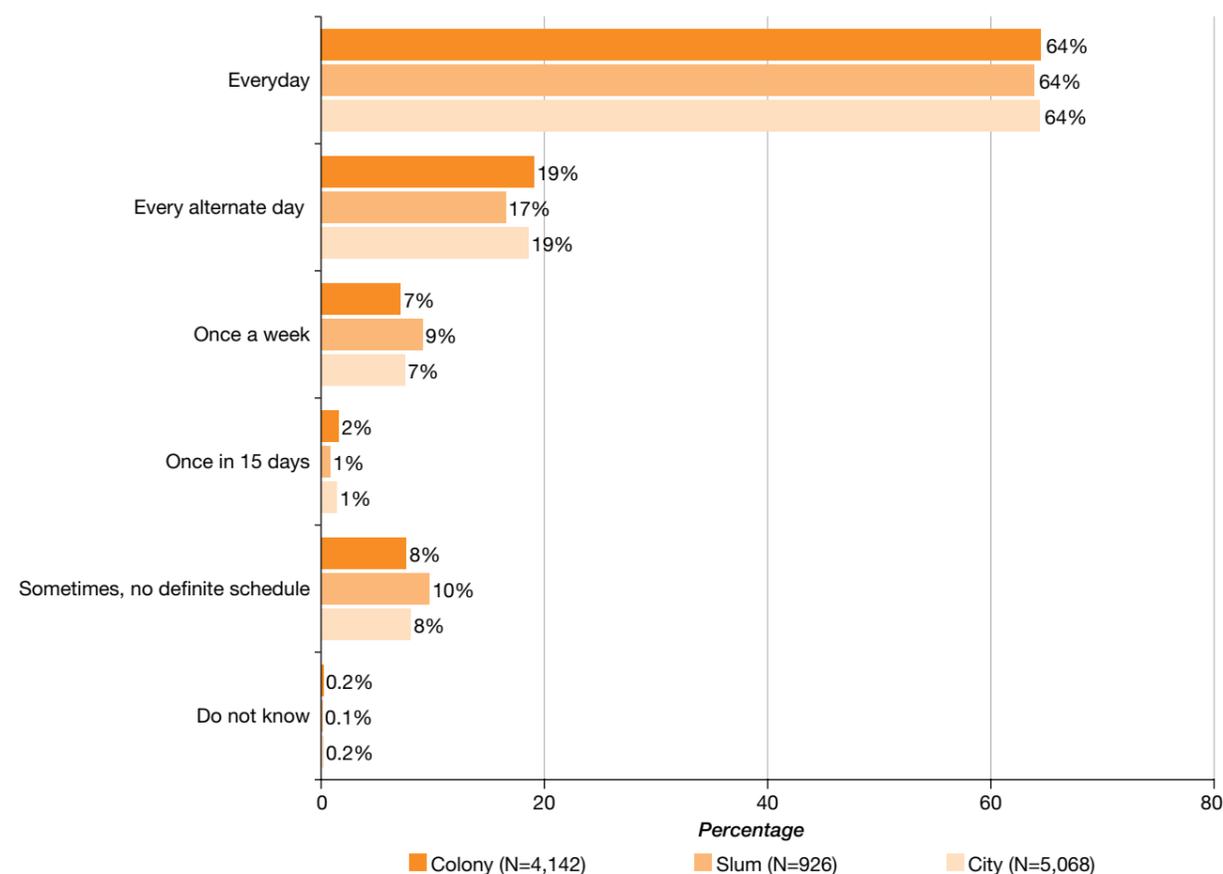
Of the 5,068 households who reported that street sweeping was being done, 76 per cent said that the AMC provided the facility, while 22 per cent said the Rani provided it. A few houses said the service was provided by a society or NGO which had an arrangement with the AMC.

Table 1: Amount Paid Per Month for Waste Collection Services (N=805)

Amount	Colony (N=658)		Slum (N=147)		City (N=805)	
	Ab	%	Ab	%	Ab	%
Up to Rs. 50	519	79	126	86	645	80
Rs. 51 to Rs. 100	94	14	17	12	111	14
> Rs. 100	45	7	4	3	49	6

Ab = Absolute number

Chart 15: Frequency of Sweeping (N=5,068)



Wards where street sweeping facilities are not commonly available

27, 41, 25, 1, 58, 39, 33, 59, 55, 9, 42, 24

Payments for road sweeping

Much like the responses received for payments with respect to waste collection, 86 per cent (4,371) households said they did not make any payments for road and street sweeping. In slums, 14 per cent (130) households said they did pay for this service, while in colonies, this figure is surprisingly lower at 11 per cent (467). For the majority, this figure stayed within Rs. 50, while for some payments ranged from Rs. 50 to Rs. 100. In a few cases, payments exceeding Rs. 100 were also made.

Complaints about waste collection, street and road sweeping

Most of the sampled households never made any complaints about either waste collection or street sweeping to the appropriate authorities. Only 11 per cent (140) of slum households and 6 per cent (307) of colony households had complained at least once. This is very significant because it is clear that slum dwellers account for a higher number of complaints because service quality is abysmally lower in their settlements.

Table 2: Type of Complaints Made About Waste Collection, Street and Road Sweeping (N=447)

Type of complaints	Colony (N=307)		Slum (N=140)		City (N=447)	
	Ab	%	Ab	%	Ab	%
No waste collection	237	77	117	84	354	79
No street sweeping facility	272	89	126	90	398	89
No dustbins nearby	181	59	83	59	264	59
Others	59	19	23	16	82	18

Besides, lower number of complaints does not mean that the quality of service is good. The main reason is lack of knowledge of systems of complaint registration. As a result, most people either do not complain or use informal channels. A total of 447 responses were received for complaints lodged which is presented in Table 2.

Mode of complaint about waste disposal

The most common mode of complaining was to visit the ward councillor individually or in a group. Of the total responses received, 56 per cent (172)

in colonies and 59 per cent (82) in slums reported having complained to the local ward councillor individually. 38 per cent (117) households in colonies and 44 per cent (61) households in slums complained to the ward councillor in a group. Many slums now have Settlement Improvement Committees (SICs) formed through PRIA intervention and are in contact with their councillors, which explains the higher percentage figures in the survey findings. Through the committee, households in slums come together to discuss and take up issues with councillors in a group.

Table 3: Mode of Complaints Made About Waste Collection, Street and Road Sweeping (N=447)

Mode of complaints	Colony (N=307)		Slum (N=140)		City (N=447)	
	Ab	%	Ab	%	Ab	%
Personal visit to municipal office	26	8	6	4	32	7
Group visit to municipal office	13	4	2	1	15	3
Visiting the local councillor individually	172	56	82	59	254	57
Collectively going to the local councillor	117	38	61	44	178	40
Personal visit at the helpdesk	3	1	1	1	4	1
Group visit at the helpdesk	0	0	1	1	1	0.2
Individually through city/faculty engineer/plumber/sanitary inspector/ward jamadar	21	7	5	4	26	6
Going collectively through the city/faculty engineer/plumber/sanitary inspector/ward jamadar	8	3	3	2	11	2
Called helpline/telephone	8	3	0	0	8	2
Through SMS	0	0	0	0	0	0
Through website	0	0	0	0	0	0
During public hearing	3	1	1	1	4	1
Others	7	2	2	1	9	2

Resolution of complaint about waste disposal

Out of the total households that complained about waste collection and disposal, 87 per cent (268) in colonies and 89 per cent (125) in slums reported that their complaints were not resolved. This is in stark contrast to SLB data for Ajmer which shows complaint resolution at 68.2 per cent in 2010-2011. However, the SLB data does not take into account citizen feedback.

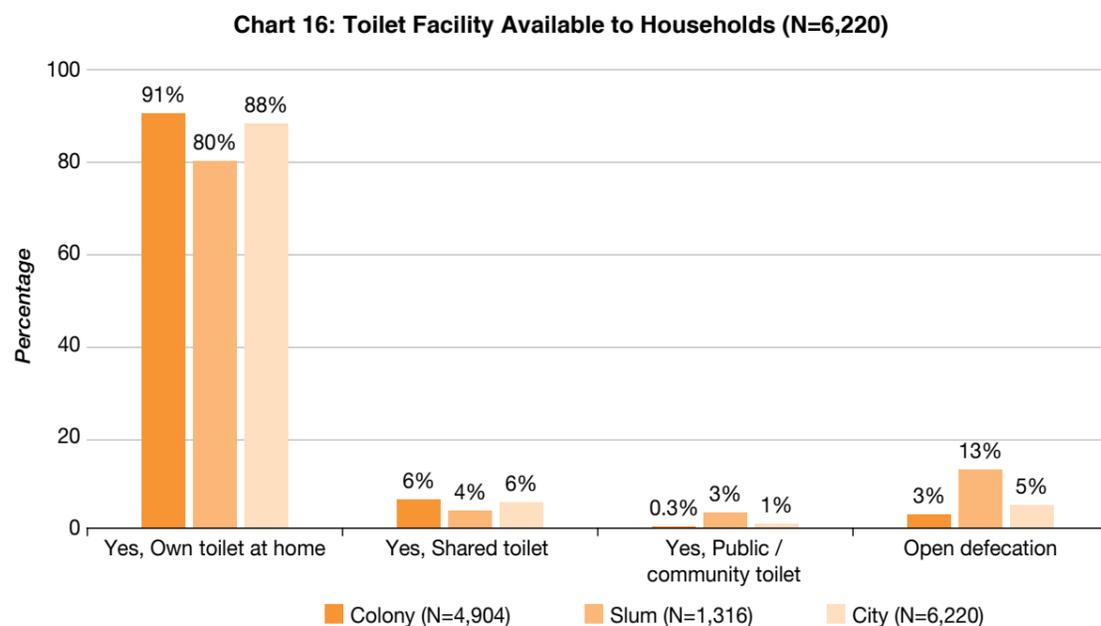
Inability to attend to the complaints of the residents also leads to reduced interest in filing complaints, resulting in fewer number of complaints being registered. Even among those who said complaints had been attended to, a follow up question regarding days taken for resolution yielded unsatisfactory results. Only 60 per cent of these complaints were resolved within 3 days.

Toilet Facilities

Access to a secure toilet facility is a basic right that goes a long way in building hygiene, as well as ensuring safety and security. In the city of Ajmer, 88 per cent (5,492) households have a toilet at home, but this figure is pointedly lower when slum households are analysed separately. While

91 per cent (4,439) households in colonies have individual household toilets, only 80 per cent (1,053) households in slums have one. Approximately 6 per cent (304) of colony households and 4 per cent (49) slum households utilise shared toilets with family members who live close by. The remaining

Wards where open defecation is common
28, 18, 20, 59, 1, 58, 60, 19, 25, 43, 27, 21, 41



61 households utilise community toilets¹¹. In slums, 13 per cent (169), and in colonies, 3 per cent (145) household members defecate in the open exposing themselves to huge risks, both in terms of disease as well as safety. News reports show how vulnerable adolescent girls and women are to molestation and rape, when practising open defecation. As per Census 2011 data for Ajmer, open defecation figures stood at 7 per cent, which has now reduced to 5 per cent according to PRIA's survey. PRIA has also been working closely with Settlement Improvement Committees (SICs) that help advocate the interests of the community, and pitch for toilets for residents. Chart 16 highlights the findings.

types of toilet they utilised at home, as well as the outlets these toilets were connected to. Across the city, a large majority of households use flush/pour flush toilets connected to septic tanks. This is because sewerage connections are still rare. This has been explored later in the report.

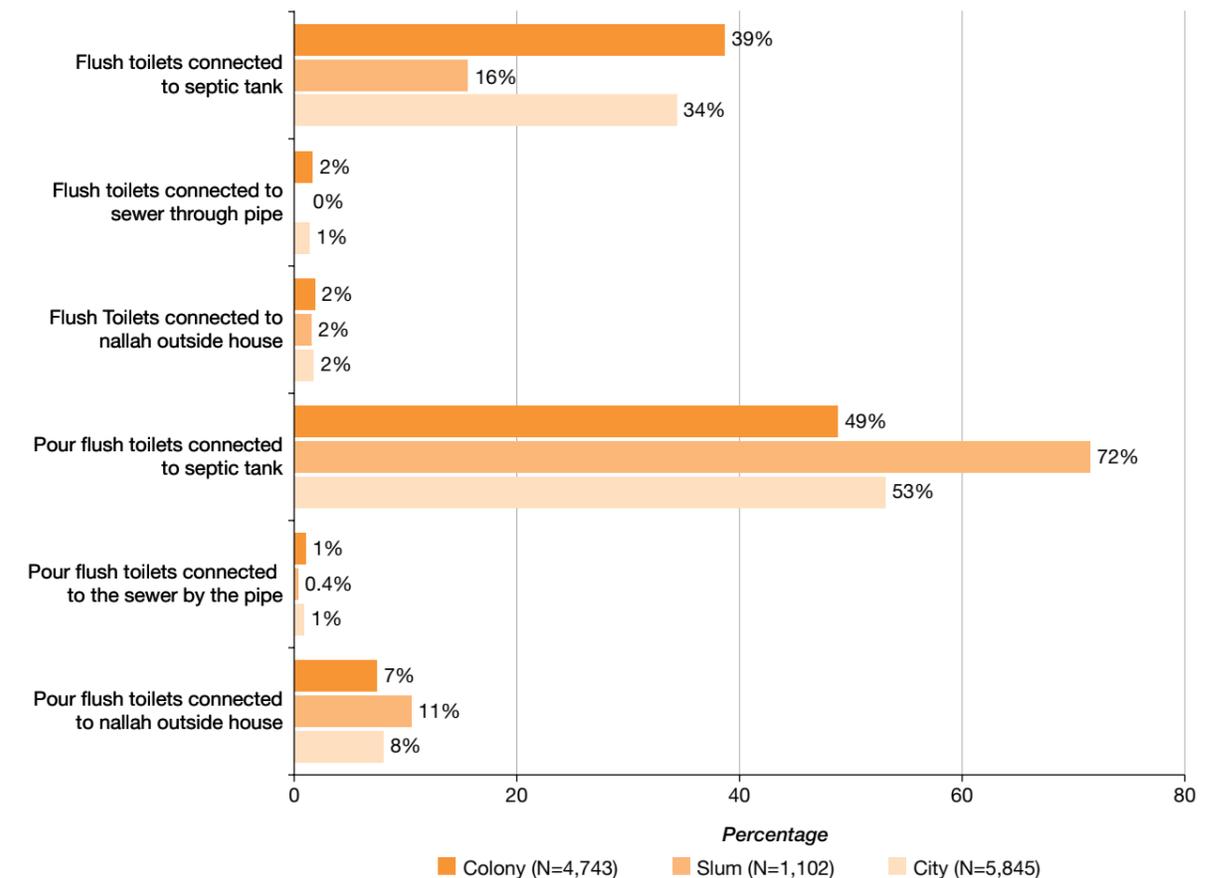
As Chart 17 shows 88 per cent of colony and 87 per cent slum households utilise septic tanks. However, there is a difference in that colony residents use automated flush systems, while slum residents resort to primitive pour flush methods. A few colony households (129 or 3 per cent) have access to new sewerage systems as well.

Type of toilets

Respondents from households who use individual or shared toilet facilities were asked about the

The chart also shows that 10 per cent of toilets are connected directly to *nallahs* outside the houses. This is a major hygiene issue and one that the municipality must immediately address.

Chart 17: Type of Toilet (For Individual/Shared Toilet) (N=5,845)



¹¹ Owing to the small sample size, this section has not been analysed. As part of a separate study with the municipality, PRIA is mapping public and community toilets in Ajmer.

Source of funds for individual or shared toilets

Across the city, approximately 94 per cent of toilets have been constructed using own funding. Only

1 per cent of toilets across the city have been constructed using funding from Swachh Bharat Mission (SBM). These 39 toilets are a subset of the 20 per cent of toilets that city households have constructed in the last five years.

Wards where maximum toilets are connected to *nallah*
10, 6, 7, 13, 8, 53, 12, 58, 17, 11, 15, 59, 44, 54, 14

Chart 18: Age of Personal or Shared Toilet (N=5,845)

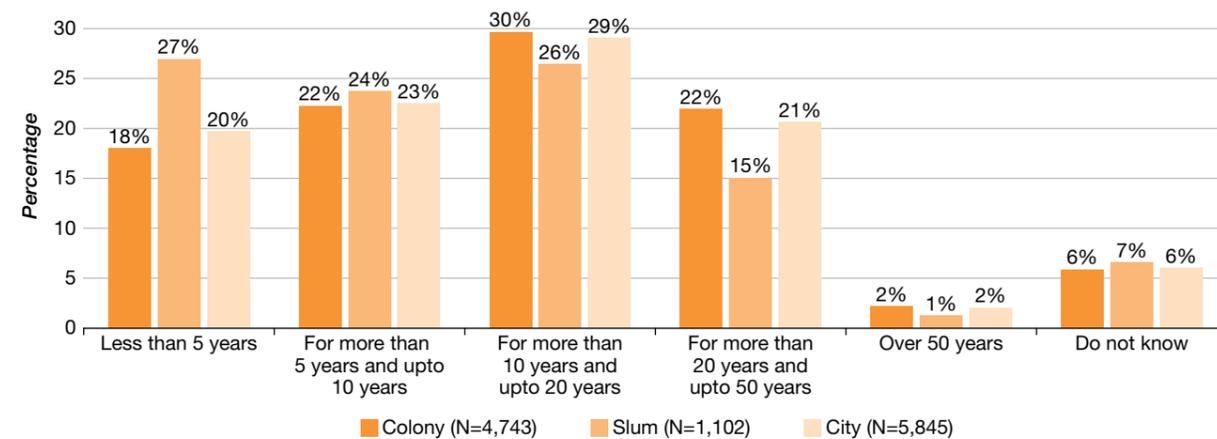


Table 4: Source of Funds for Individual or Shared Toilet (N=5,845)

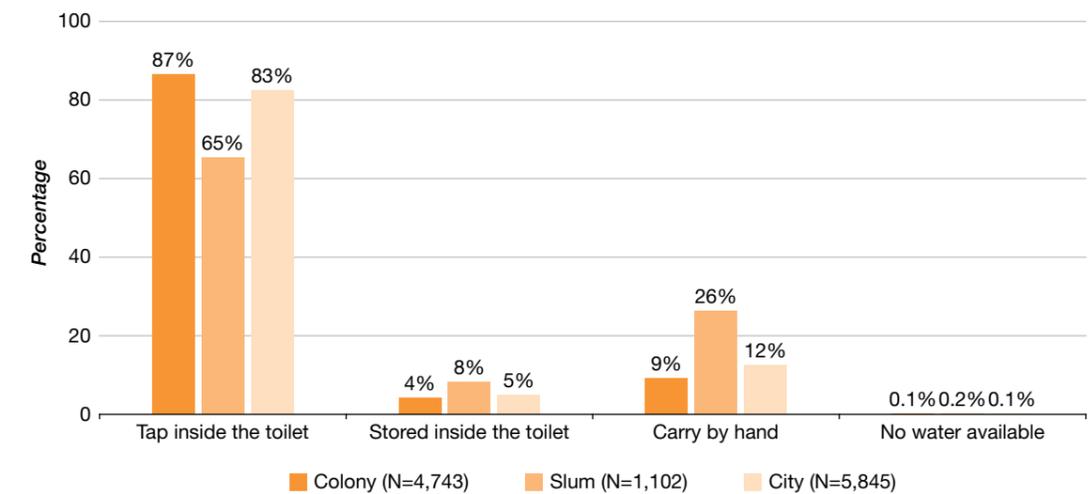
Source of funds	Colony (N=4,743)		Slum (N=1,102)		City (N=5,845)	
	Ab	%	Ab	%	Ab	%
No scheme (used own money)	4,495	95	1,030	93	5,525	95
Rajiv Awas Yojana (RAY)	12	0.3	4	0.4	16	0.3
Swachh Bharat Mission (SBM)	15	0.3	24	2	39	1
Others	70	1	12	1	82	1
Do Not Know	151	3	32	3	183	3

Inlet of water

As elaborated earlier, 5,845 households utilise individual or shared toilets. 38 per cent of colony households have taps for water supply inside toilets, while 13 per cent make other arrangements

that include carrying water or storing it in buckets. Because of size of toilets as well as availability of infrastructural resources, only 65 per cent of slum households have taps inside the toilet, while the others make alternate arrangements similar to what colony residents do.

Chart 19: Source/Inlet of Water for Individual or Shared Toilet (N=5,845)



Knowledge on pit cleaning

The households whose toilets are connected to septic tanks or soak pits were asked about their knowledge of cleaning and maintenance of these types of decentralised systems. 96 per cent of users knew that these systems required regular cleaning, while 4 per cent were not. Surprisingly, residents of slums fared better in this regard since only 3 per cent (30) were unaware, while in colonies, this rose to 5 per cent (193).

The same users were also asked when they had last got these systems cleaned. As Chart 20 shows, 48 per cent (1,922) of colony and 64 per cent (594) of slum households said

their systems had never been cleaned. When cross-tabulated with age of toilets, it appeared that only approximately one-third of these households had toilets that were less than five years old and probably not requiring immediate cleaning. A significant section of the population has septic tanks and pits that need to be cleaned urgently. Additionally, a substantial number of respondents were also unaware of when this process had been carried out for their systems, and it is likely that in many cases, their systems too had never been cleaned.

A total of 1,498 households had got their decentralised systems cleaned at least once. They were then asked about the services they used for

Chart 20: Last Instance of Pit/Septic Tank Cleaning (N=4,956)

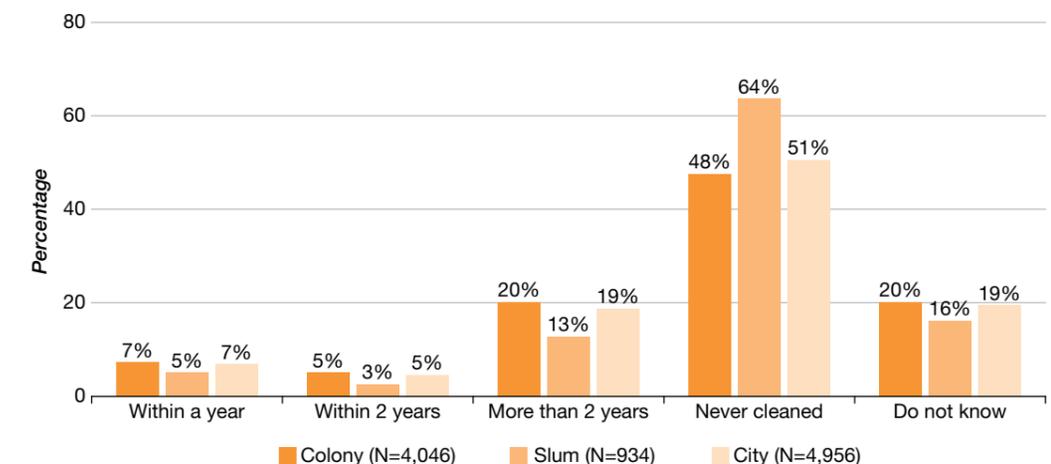


Chart 21: Provider of Service for Pit/Septic Tank Cleaning (N=1,498)

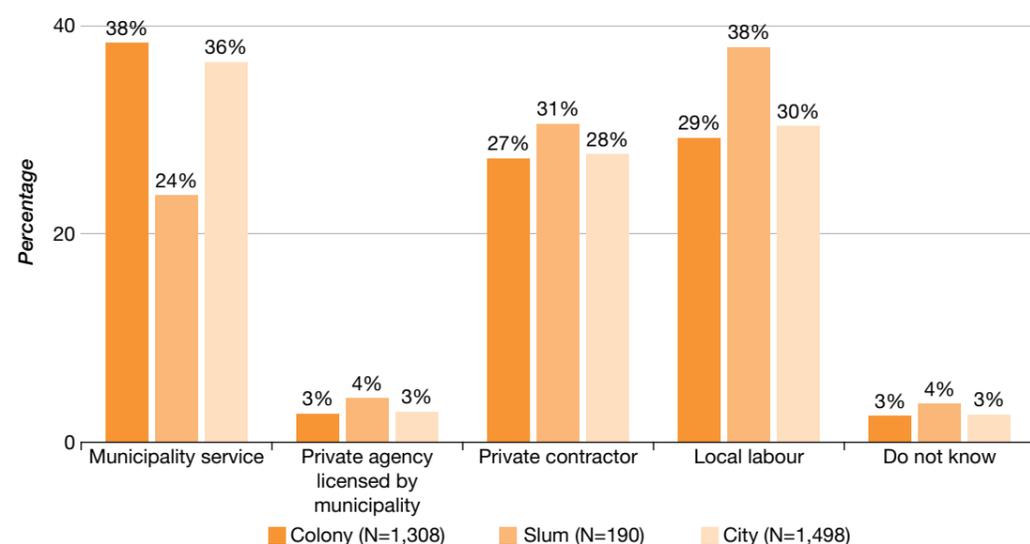


Table 5: Method of Cleaning Used for Pit/Septic Tank (N=1,498)

Method of cleaning	Colony (N=1,308)		Slum (N=190)		City (N=1,498)	
	Ab	%	Ab	%	Ab	%
Completely cleaned with hands	544	42	101	53	645	43
Machine utilisation	625	48	60	32	685	46
Machine is used but to some extent, it is cleaned with hands	139	11	29	15	168	11

this. Households reported employing a diverse set of service providers for cleaning of tanks and pits – the municipality, private contractors, and labourers.

Despite a plethora of policy changes, and a push from the SBM, it appears that a crucial part of the cleaning process is still being carried out by hand. Only 46 per cent (685) of city respondents said that machines were utilised exclusively, while others said that cleaning was either carried out completely using manual processes, or through a mix of machine and hand. For obvious reasons, slum households show results that are much worse than those in colonies.

When method of cleaning is cross-tabulated with the agency in charge, it is clear that the municipality is responsible for a miniscule

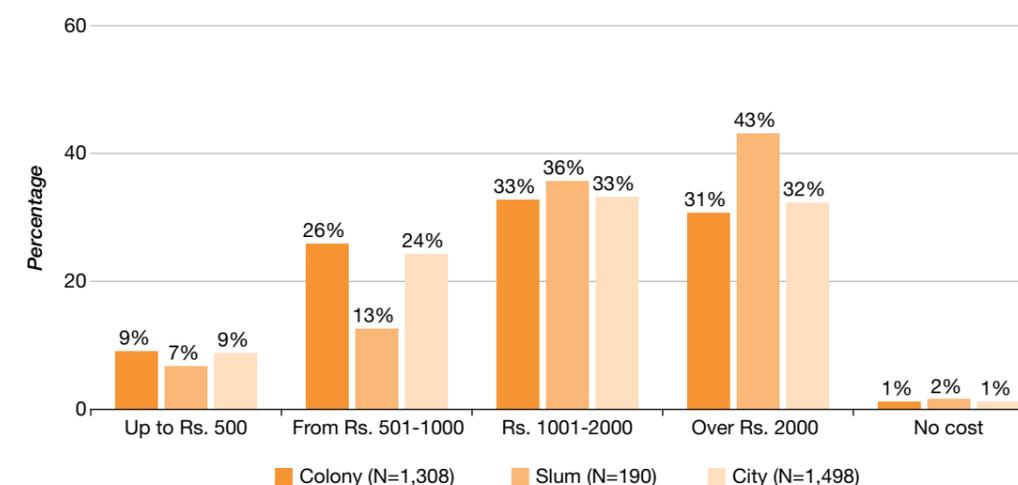
number of manual scavenging cases, approximately 6 per cent. This, however, is still a serious offence that the municipality must address. In a majority of cases, however, private contractors and local labourers are practising manual scavenging.

Costs for cleaning of pits and tanks is summarised in Chart 22. While some households had not carried out cleaning, they estimated that the process would cost a certain amount.

Presence of underground sewerage

Under the Rajasthan Urban Infrastructure Development Project (RUIDP), 207 km of sewerage line was installed, while 115 km was installed under the JNNURM scheme. Approximately 35 wards in Ajmer have sewerage

Chart 22: Amount Spent on Cleaning of Pit/Septic Tank (N=1,498)



lines¹². Since the city of Ajmer has started providing underground sewerage connections, the survey asked the households if connections points were available close by. 8 per cent of city respondents either responded negatively or did not know if there was a line nearby. Households were

also asked why they had not opted for a sewerage connection. In approximately 90 per cent of cases, households had not opted for sewer connections as the process had not started in their areas. Few respondents however were unaware of the process, or felt it was not required.

Table 6: Knowledge of Underground Sewerage Nearby

Knowledge of underground sewerage nearby	Colony (N=1,308)		Slum (N=1,094)		City (N=5,677)	
	Ab	%	Ab	%	Ab	%
Yes	1,100	24	130	12	1,230	22
No	3,164	69	935	85	4,099	72
Do not know	326	7	29	3	355	6

Open defecation and desire for toilets

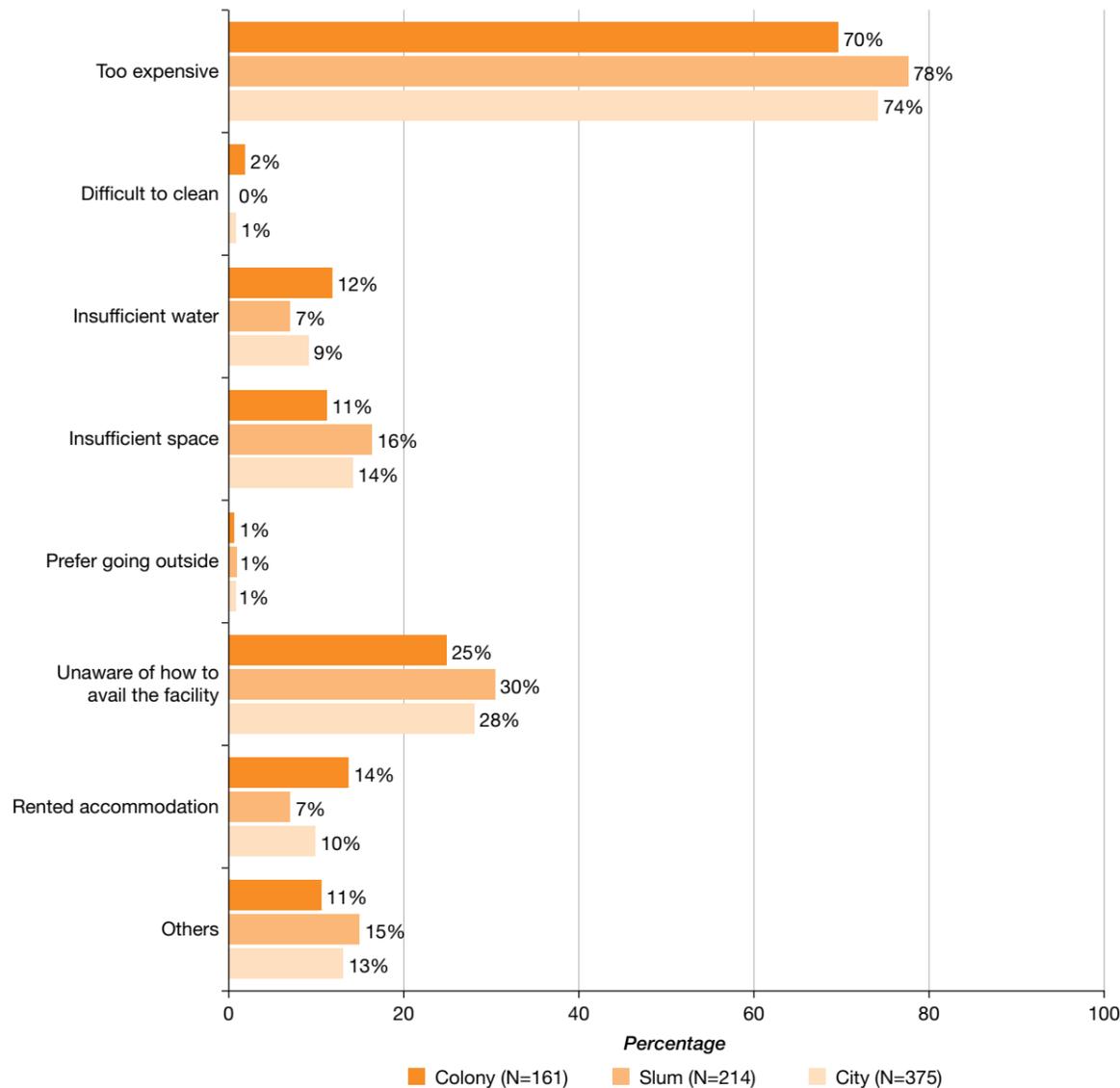
As mentioned earlier, 5 per cent (314) of city households from the survey sample practise open defecation. The share of slums is higher at 13 per cent (169) – as compared to colonies – 3 per cent (145).

These 314 households were asked a multiple-choice question to help understand why they

lacked toilet facilities at home. Across the city, 74 per cent said it was because building a toilet was too expensive, while 28 per cent said they were unaware of how to avail the facility through government schemes. Other reasons include insufficient water, space, as well as the fact that they were living in a rented accommodation as a result of which they could not construct/apply for toilets.

¹² PRIA has conducted household surveys in Ward 42 to attain an understanding of why households do not opt for sewerage. This was done at the request of the municipality. PRIA was informed that 35 wards have been covered

Chart 23: Reasons for Lack of Toilet Facility in Households (N=375)

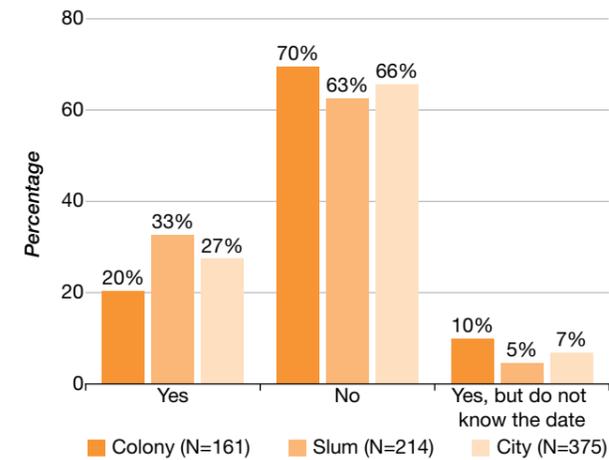


Note: In the Chart, the N value is 375 because the question was posed to those defecating in the open as well as to those using public/community toilets

Out of 375 households who did not possess toilets, only a few had applied to the municipality for the construction of one. Others said that applications were mostly rejected or not followed up on, as a result of which they did not apply. Some were not aware of the procedure for application. These findings are evident in chart 24. Of the 103 households who had applied, 40 per cent (52) had their applications rejected (Chart 25). Forty-five of these households

said no reason was given for the application being rejected, while six said it was because they lived in non-notified slums. Even among the 77 households whose applications were accepted, only eight had received the first instalment of money for toilet construction at the time of the survey. While 19 did not know the status of their application, 50 said that the municipality was working on their applications.

Chart 24: Application Given to Municipality for Toilet Construction (N=375)



Water Outlets and Drainage

Ajmer city has an open drainage system, although a few markets and residential areas have closed drains. In most areas, drains are connected to *nallahs*. Some of the *nallahs*, which play important roles in the drainage pattern of the city, are Bandi River, Kazi ka Nalla, Arihant Colony drain, Anted Chatri Yojna Drain, Vaishali Diversion Channel, Anasagar Escape channel, Brahmapuri Drain, and Anderkot Madar Gate Drain.

As witnessed in most Indian cities, drains are often clogged with solid waste, which blocks the flow of wastewater. During monsoons, the problem is exacerbated which creates multiple complications for public health as well as traffic.

Water outlets

Out of 6,220 households surveyed in the city, 93 per cent (5,758) had water outlets (a section that allows water to exit from the house) in their homes. In slums, 87 per cent (1,145) households had water outlets, while the percentage was higher in colonies at 94 per cent (4,613).

While most water outlets in colonies were of a 'pucca' nature, in slums, 15 per cent (170) reported that their water outlets were 'kutcha'. Spillage of wastewater is a common occurrence in these

Chart 25: Acceptance of Application by Municipality (N=103)

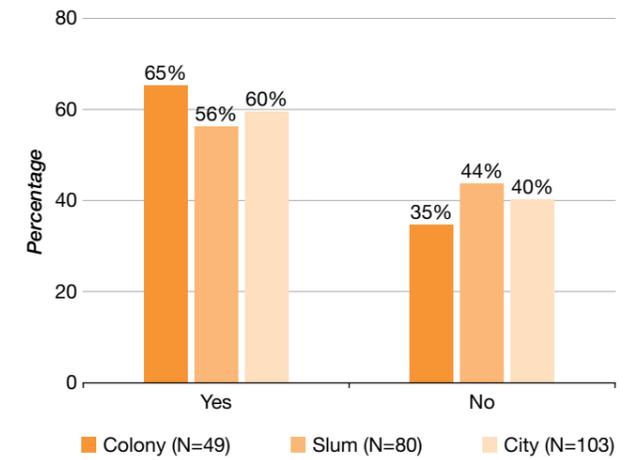


Chart 26: Water Outlet in Households (N=6,220)

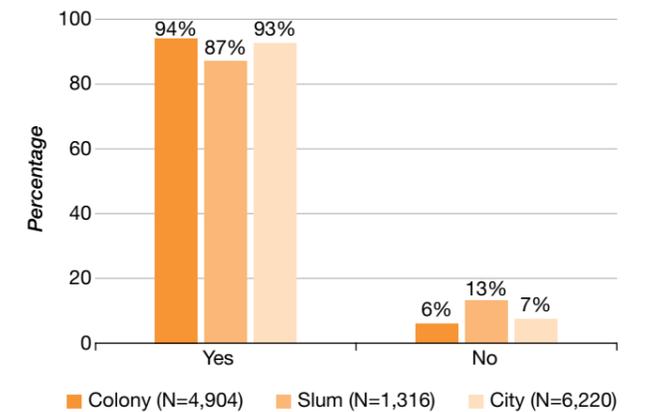
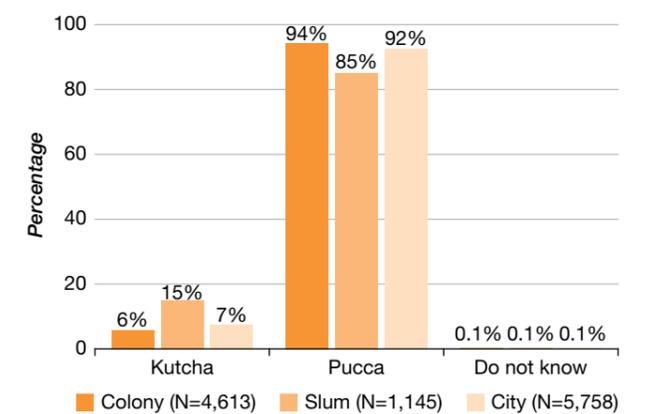


Chart 27: Type of Water Outlet (N=5,758)



households. These outlets are also prone to breakage when subject to higher load.

Chart 28: Outlet for Waste Water from Kitchen (N=6,220)

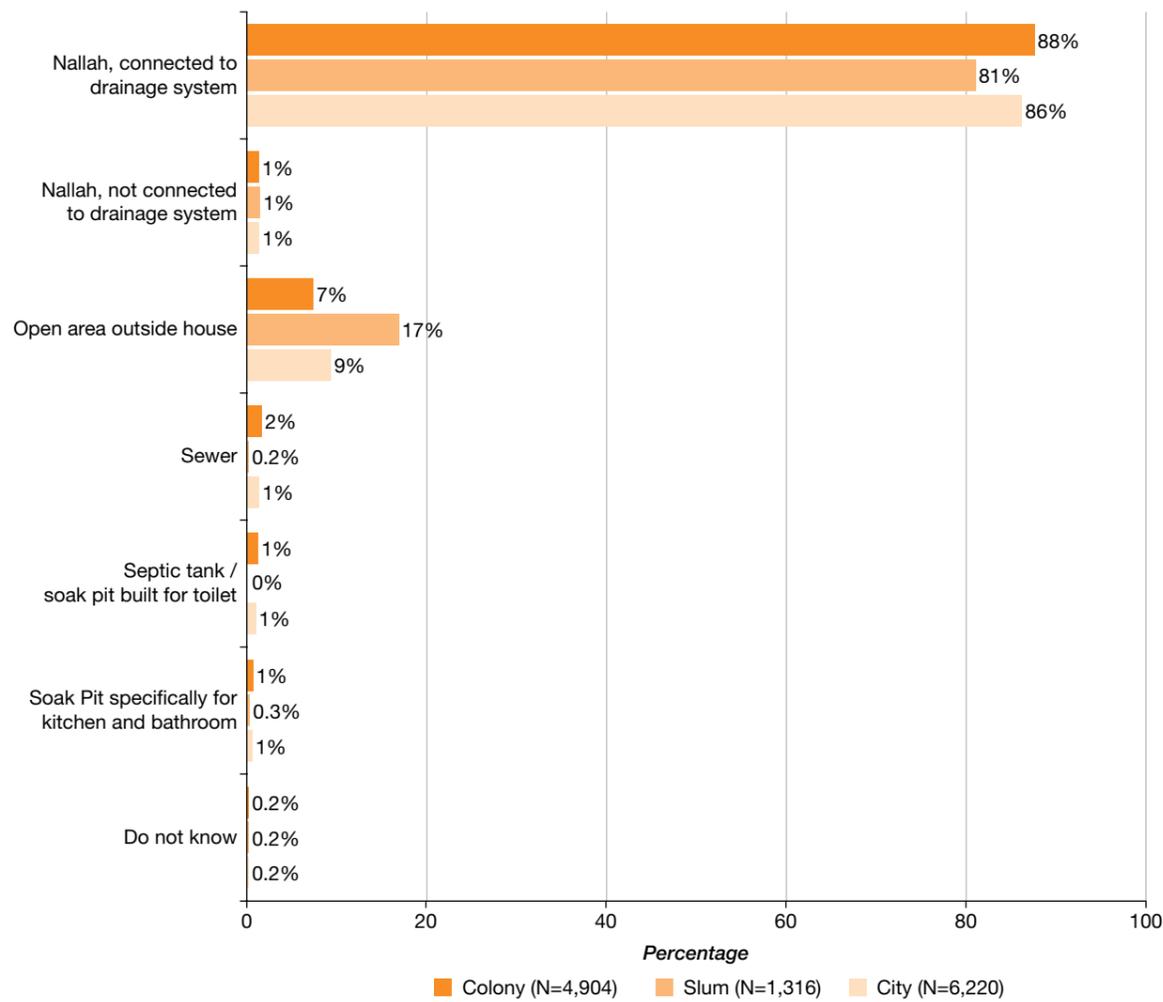
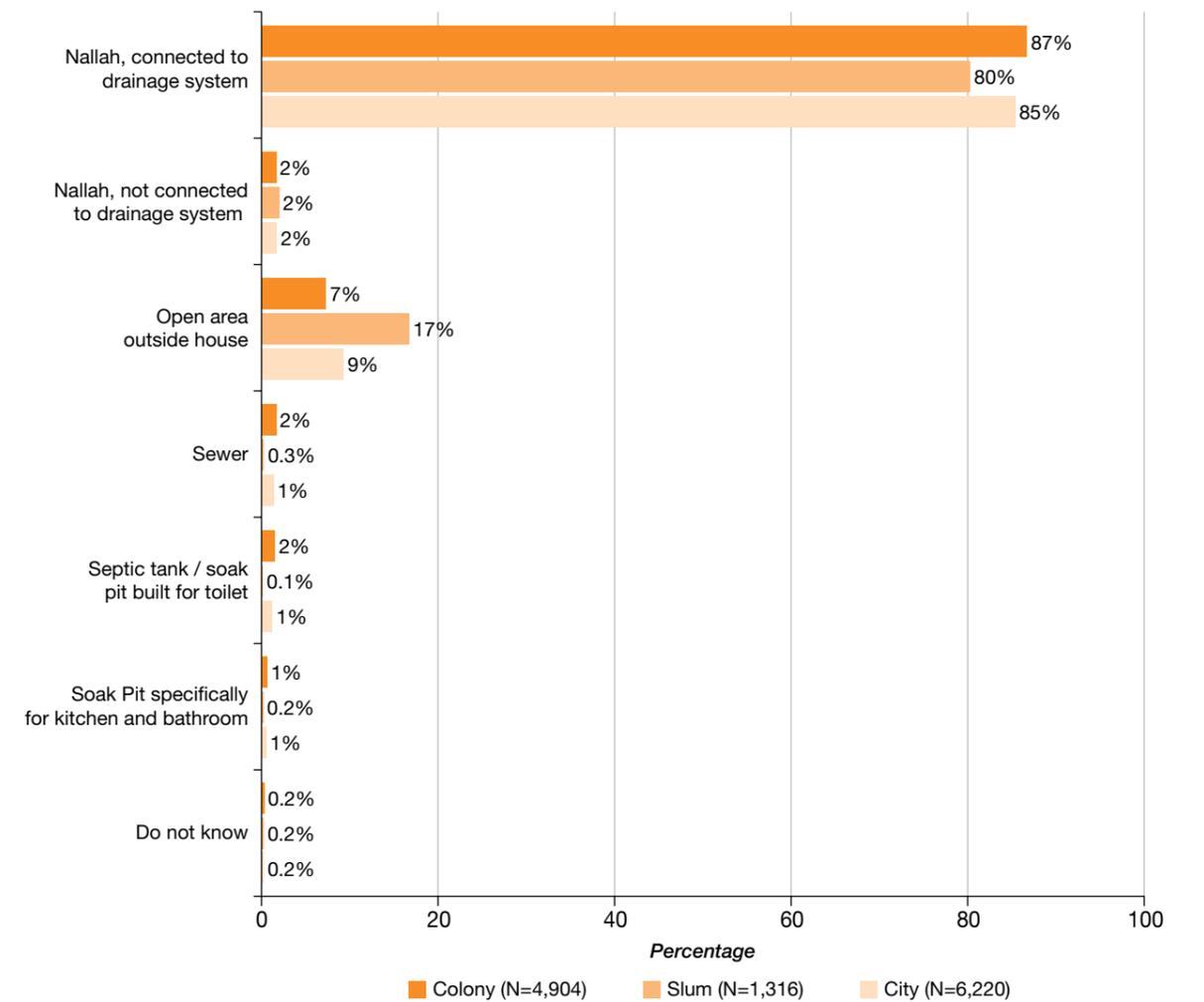


Chart 29: Outlet for Waste Water from Bathroom (N=6,220)





In terms of kitchen and bathroom outlets, an approximate 85 per cent of city households said that wastewater flowed into *nallahs* that were connected to main drainage facilities. As Chart 28 and 29 show, approximately 80 per cent households in slums and 85 per cent households in colonies had this facility. In slums, 17 per cent said that wastewater collects in open areas outside their homes. Apart from this, respondents were also asked about other outlets and their

connection points for wastewater. A majority of respondents indicated that water flowed into *nallah* connected to the drainage system, but a large number (especially in slums – 19 per cent) of respondents stated that wastewater accumulated in the open spaces outside the house. Stagnant water can lead to a plethora of problems including mosquito borne diseases as well as many forms of infection.

Wards Where Kitchen and Bathroom are not Connected to Proper Outlets

41, 59, 27, 23, 39, 18, 60, 21, 1, 55, 42

Chart 30: Who Constructed Water Outlets (N=5,504)

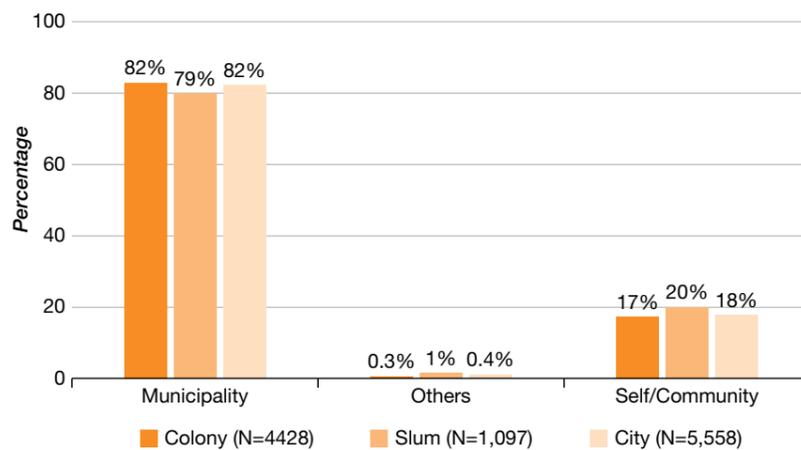
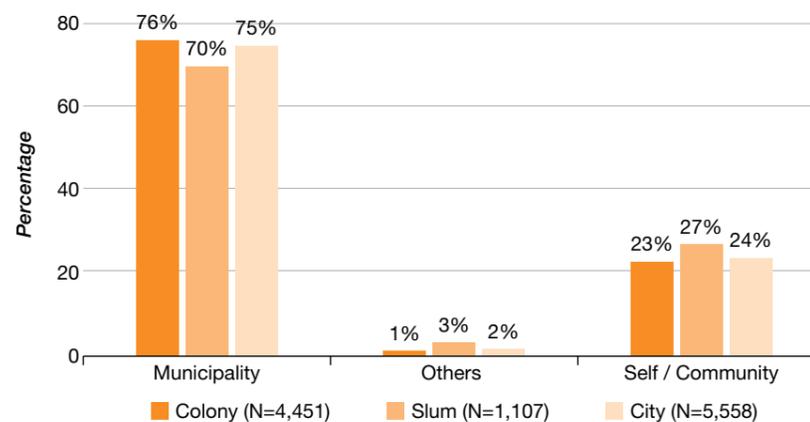


Chart 31: Who Maintains Water Outlets (N=5,504)



Construction, maintenance and payments

The 5,504 respondents who had said water flowed into *nallah* were asked about construction, maintenance and payments. In most cases, the municipality constructed drainage systems – 82 per cent (3,634) in colonies and 79 per cent (866) in slums. In the case of maintenance, however, percentages show a decline. In colonies, 76 per cent (3,357) reported that municipalities carried out the task while in slums it was 70 per cent (762). A large number of households said that they had to carry out cleaning themselves or use other services. This, too, is more common in slums than colonies.

Table 7: Type of Complaints Raised about Water Outlets and Drainage Systems (N=296)

Type of complaints	Colony (N=215)		Slum (N=81)		City (N=296)	
	Ab	%	Ab	%	Ab	%
Water logging	126	59	46	57	172	58
Poor quality of flow	74	34	28	35	102	34
Poor construction of the drainage	97	45	41	51	138	47
Erratic cleaning	118	55	48	59	166	56
All the waste is dumped in the drainage	49	23	26	32	75	25
Different kind of connections are made in the drainage	5	2	0	0	5	2
Others	17	8	9	11	26	9

Among 4,166 households (a subset of those households whose maintenance is carried out either by the municipality or others) in the city, only 296 complaints were made about these services. These complaints were mainly regarding water logging, poor construction of drainage, quality concerns, erratic cleaning and dumping of waste.

collectively, though this is more common in slums than colonies. Only 10 per cent respondents said they had visited the municipal office to complain, while 5 per cent complained to the city engineer/plumber/sanitary inspector/ward *jamadar*.

An important aspect of complaint redressal is the mode of making complaints. Complaints can be made either through formal or informal channels and this influences the readiness of agencies to respond. Formal complaints are understood as those that are provided with a receipt or acknowledgement. This is made possible through visiting the municipality, utilising the website or helpline or utilising SMS services. While councillors too can lodge complaints, it is highly dependent on the individual's desire and motivation to address issues.

While 10 per cent (81) of slum households had complained at least once, the number was significantly lower for those belonging to colonies – 6 per cent (215). On the face of it, this number may seem low, but most respondents said that they felt the situations would never improve and so did not complain to service providers. As Table 8 shows, as much as 77 per cent (227) households that had registered complaints stated that their complaints had never been attended to.

Survey results revealed that the 60 per cent of the 296 complaints were made largely through visiting the local councillor individually and 36 per cent respondents said they visited the councillor

From Table 8, it is evident that only 23 per cent (69) respondents said their complaints had been attended to. Of these, 61 per cent (42) had their complaints resolved while the others had not. 71 per cent (30) of these 42 said complaints had been resolved within 10 days, while 17 per cent (7) said it had taken more than 30 days. The rest said it took between 10 to 20 days.

Wards Where Complaints are Rampant

Type of Complaint	Ward Number
Water logging	36, 33
Poor construction of drainage	33, 14
Erratic cleaning	34, 36, 33, 30

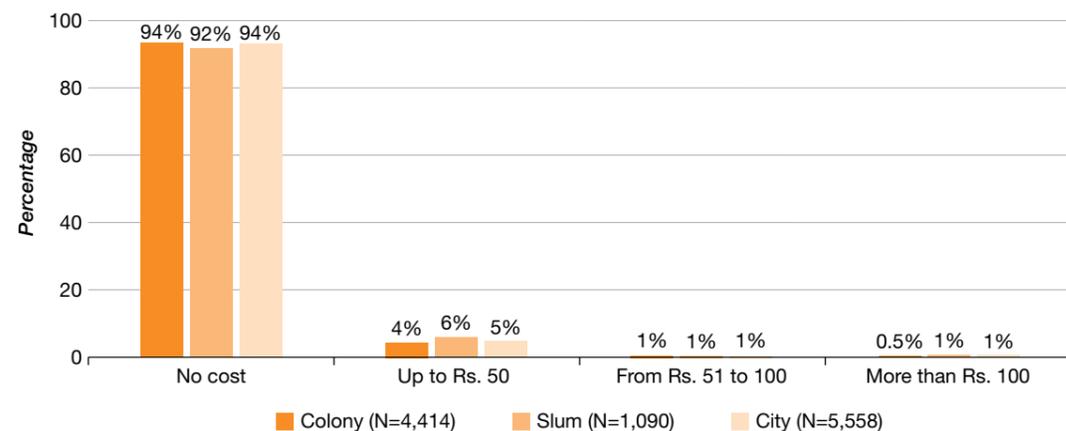
Table 8: Number of Days Taken to Attend Complaints About Water Outlets and Drainage Systems (N=296)

Whether complaint about water outlet and drainage system was attended to	Colony (N=215)		Slum (N=81)		City (N=296)	
	Ab	%	Ab	%	Ab	%
Yes, in 1 day	7	3	1	1	8	3
Yes, in 2-3 days	20	9	10	12	30	10
Yes, in 4-7 days	9	4	1	1	10	3
Yes, after 1 week	18	8	3	4	21	7
Not paid attention	161	75	66	81	227	77

Lack of maintenance can also be attributed to payments. Municipalities usually lack funds, which affects the quality of service provided. An approximate 94 per cent (5,169) of city households said that they did not make payments towards

maintenance of water outlets and drainage systems. Those who did, said they paid up to Rs. 50 per month. The municipality can use incomes as a proxy to impose service charges, revenue from which can be used for betterment of services.

Chart 32: Cost Incurred by Households on Maintenance of Water Outlets and Drainage Systems (N=5,504)



Water Supply

A critical aspect of sanitation and improved health is access to clean water, especially for drinking purposes. In Ajmer, the Public Health Engineering Department (PHED) handles provisioning of water. In colonies, 96 per cent (4,737) of households said that they are dependent on the PHED for drinking water. In slums, this figure fell to 90 per cent (1,179). There is an evident increase in coverage when compared to SLB data for Ajmer, 2010-11, which reported coverage at 75 per cent (SLB 2011). Census data for the year 2011 available for Ajmer also reports 75 per cent coverage of water connections. In the survey sample, 4 per cent (49) slum households relied

largely on government stand posts and 2 per cent (26) on hand pumps as a source of water. Some households also relied on neighbours. Considering the high dependency on PHED water, the department should ensure the water is treated and be free from common forms of infection. It is likely that many families do not filter the water before consumption.

When asked about primary sources of water for other purposes, the share of government-provided piped connection fell, especially in slums where it stood at 85 per cent (1,117). As a corollary, usage of hand pumps increased to 6 per cent (84).

Chart 33: Primary Source for Drinking Water (N=6,220)

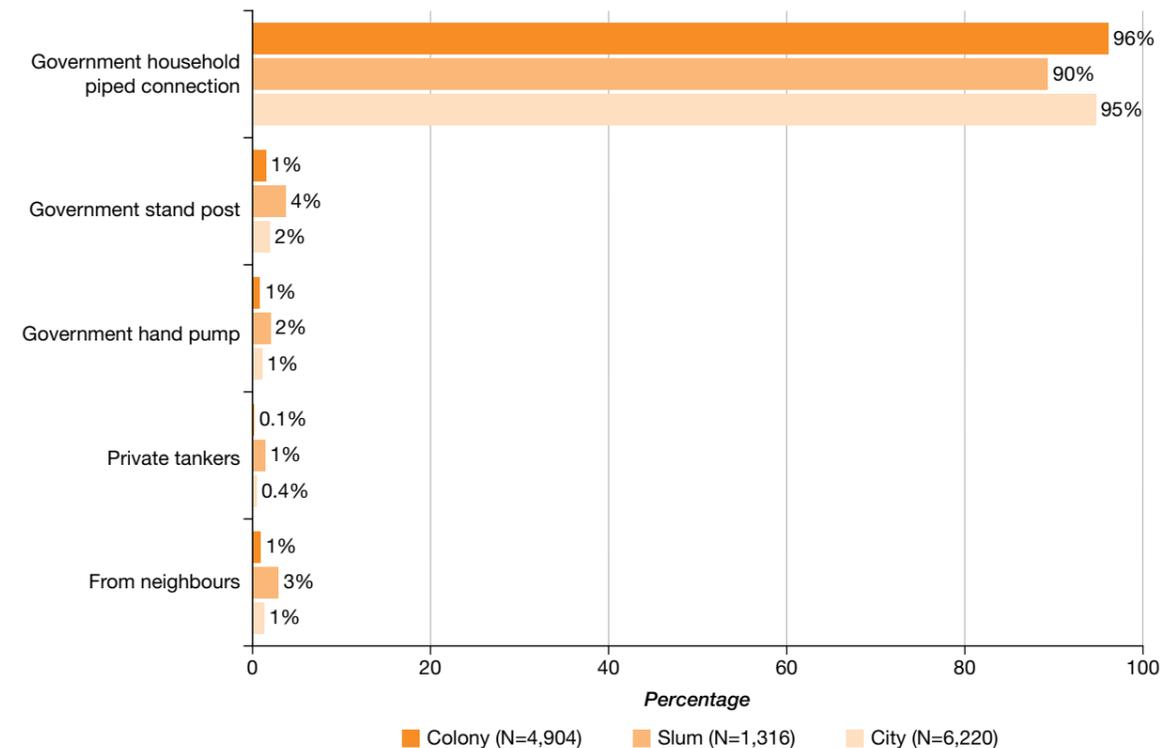
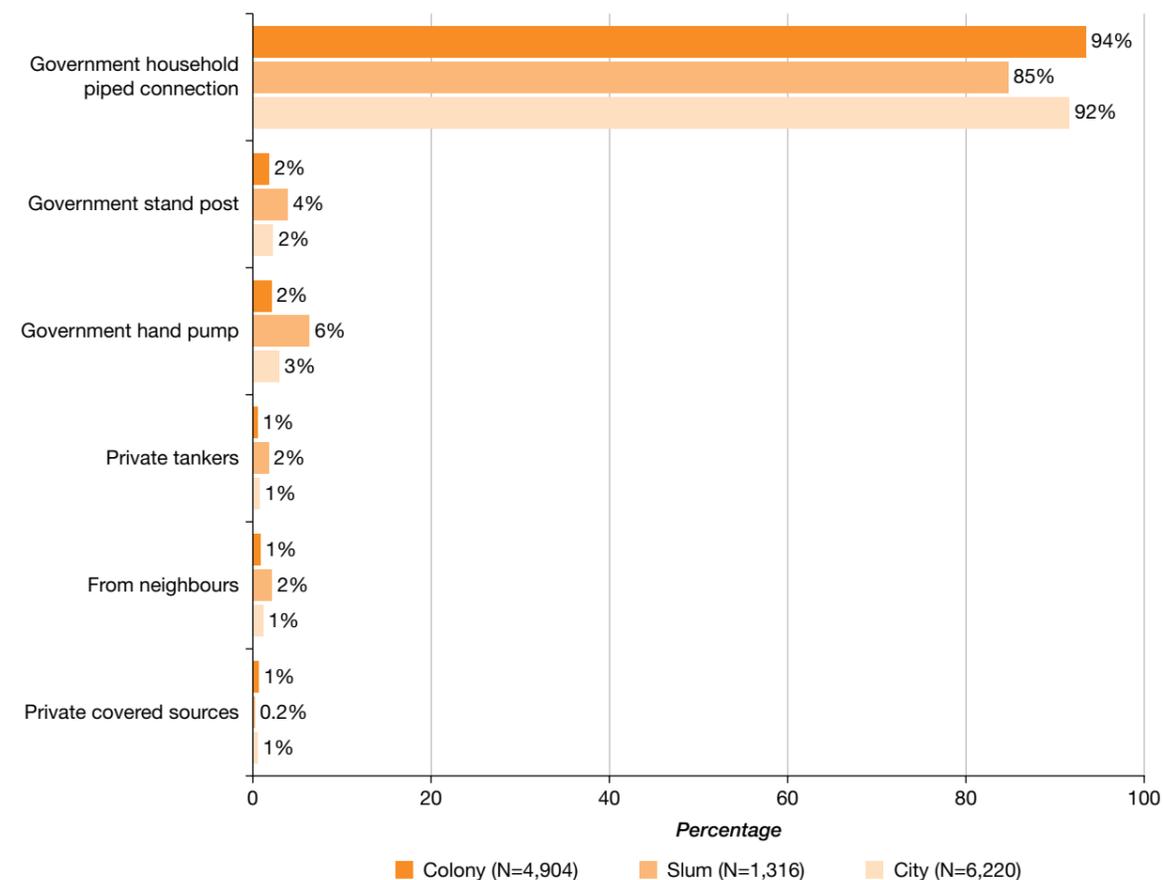


Chart 34: Primary Sources of Water for Other Purposes (N=6,220)



Across the city, an approximate 92 per cent (5,696) relied only on primary sources (for water and other purposes), as charts 33 and 34 show. The remaining 8 per cent (524) utilised secondary sources as well, mainly hand pumps, stand posts, and tankers (both private covered sources and government).

In Ajmer, water is available on alternate days, and the survey findings showed that water was provided three to four days a week in 93 per cent (5,646) households which availed government services. The findings also show that 79 per cent (4,787) of the households receive water between thirty minutes to one hour on these days. This is

Chart 35: Number of Days of Water Supply Received in a Week (N=6,052)

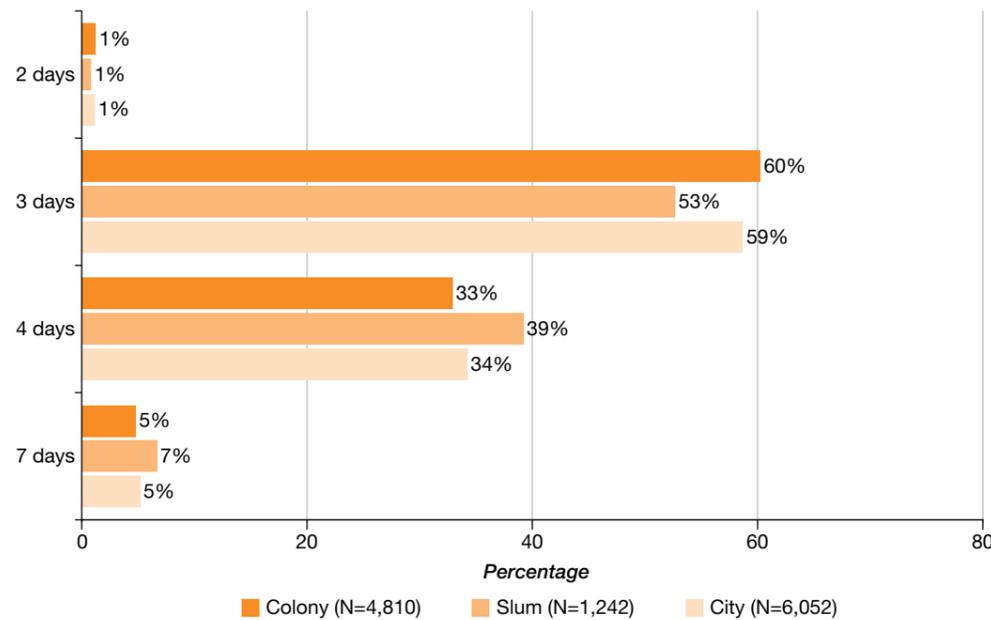
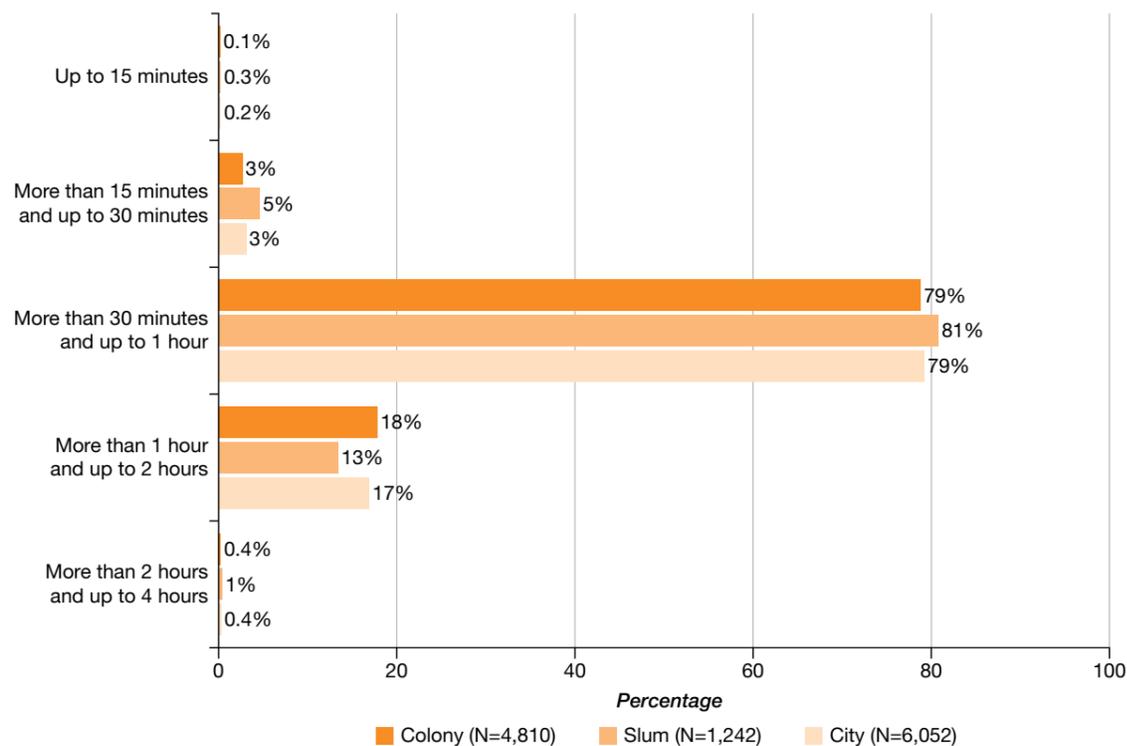


Chart 36: Duration for Which Water is Made Available in a Day (N=6,052)



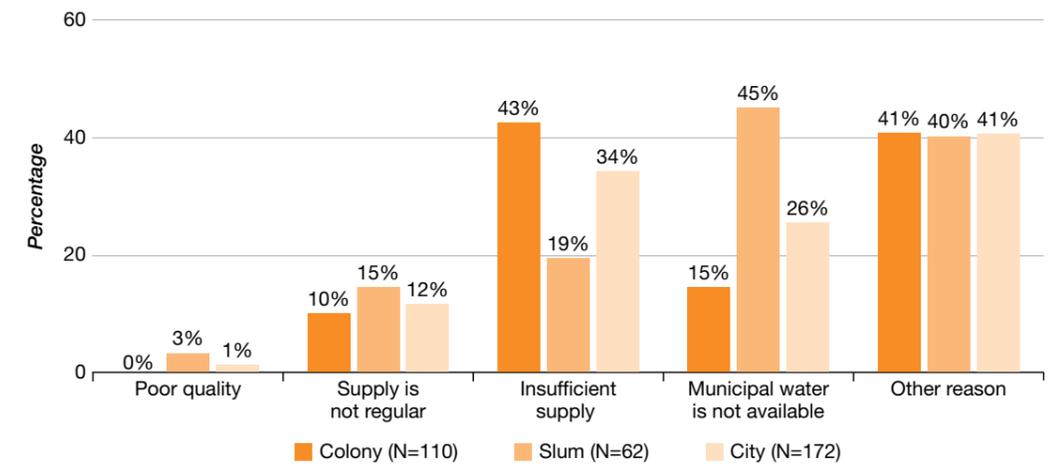
in line with SLB findings (SLB 2011) for the city; between 2010 and 2011, continuity of supply was rated at 0.5 hours. Keeping these factors in mind, 88 per cent (5,448) respondents said that they were satisfied with the availability of water for their needs. However, when slums household responses were analysed separately, satisfaction levels reduced to 84 per cent. The department should strive to ensure water is available on a daily basis. In slums, storage is difficult and water is easily prone to contamination.

Respondents that utilised only private sources such as private tankers, bottled water, private wells/bore wells, submersibles or those that

availed water from lakes, ponds or open wells were asked why they did not avail of government water services. Most responded that supply of water was too limited, or irregular. Others stated that quality was not up to the mark, while some said that their areas were not serviced yet. The PHED can seek information regarding wards where this problem occurs and provide solutions.

Finally, the sample of 6,220 households also ranked the top three activities (from a list of ten options) for which they consumed water. The maximum use of water was for washing clothes, followed by drinking purposes and toilet usage, as evident in Table 9.

Chart 37: Reasons for not Using Water Provided by PHED (N=172)



Wards where Government piped connection is not commonly available

58, 19, 1, 16, 20, 12, 17, 41, 13, 21

Table 9: Usage of Water for Various Household Activities (N=6,220)

Usage of water	Colony (N=4,904)		Slum (N=1,316)		City (N=6,220)	
	Ab	%	Ab	%	Ab	%
For drinking purposes	3,358	68	843	64	4,201	68
For washing clothes	4,153	85	1,177	89	5,330	86
For utensil washing	2,452	50	655	50	3,107	50
For toilet usage	2,746	56	647	49	3,393	55
For bathing purposes	1,513	31	459	35	1,972	32
For cooking purposes	161	3	46	3	207	3
For cleaning of household	260	5	86	7	346	6
For gardening	30	1	9	1	39	1
For animals	36	1	24	2	60	1
For washing car	3	0.1	2	0.2	5	0.1

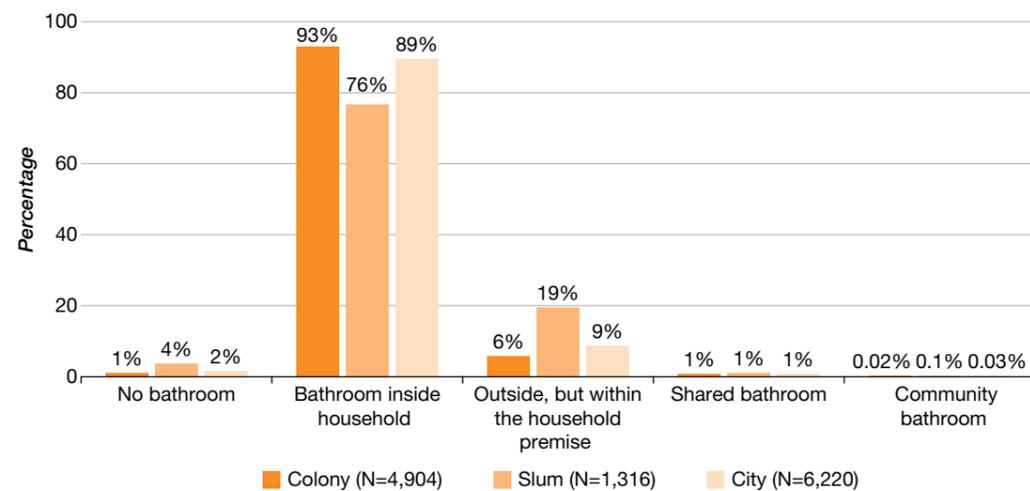


Bathing Facilities

Type of bathing facility

Out of 6,220 households, only 1 per cent (48) of colony households and 4 per cent (48) slum households reported an absence of bathing facility inside their households. This is a significant improvement over data reported for Ajmer's urban areas in the Census 2011 where 8 per cent did not have household bathing facilities¹³. In the sample, respondents without access to a bathing facility bathe using hand pumps and stand posts, although some utilise water from ponds and wells too. 93 per cent (4,542) of colony households had a bathroom within their house, while 6 per cent (281) had a bathroom outside the house, but within the premises. Within slums, owing to the smaller sizes of houses, only 76 per cent (1,002) had bathing facilities within the household, while 19 per cent (253) had bathrooms located within their premises. Many of these are also makeshift arrangements. In addition, a few houses also shared bathing spaces with their relatives and neighbours, while two houses utilised community bathing facilities¹⁴.

Chart 38: Type of Bathing Facility Available (N=6,220)



¹³ Households by availability of bathing facility and type of drainage connectivity for waste water outlet, Census 2011.

¹⁴ Considering the small sample, these have not been analysed separately.

Structure of the facility

While 95 per cent (4,608) households in colonies and 82 per cent (1,040) households in slums across the city had bathing structures that were permanent and secure (with doors), 15 per cent (185) slum households did indicate that their structures were made of mud, thatch or other low-quality materials, as well as various types of temporary arrangements. The predominance of bathing facilities in slums which are situated outside the house, and are of 'kutcha' nature, act as a serious threat in terms of security, especially for women.

Most households in both colonies and slums utilised piped connection water for bathing. In colonies, the usage was 97 per cent (4,710) and in slums 92 per cent (1,169). Other main sources for bathing purposes, especially in slums, are stand posts and hand pumps.

Chart 39: Structure of Bathing Facility in Households (N=6,126)

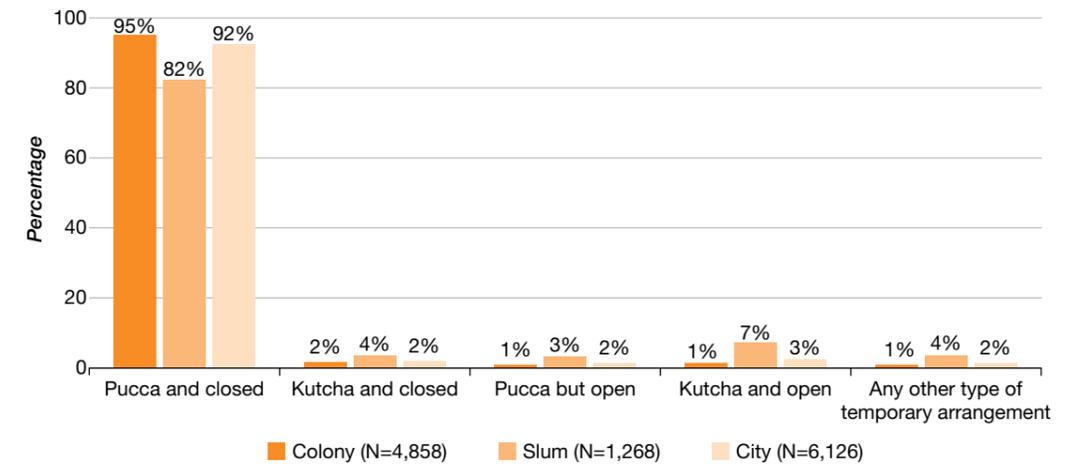
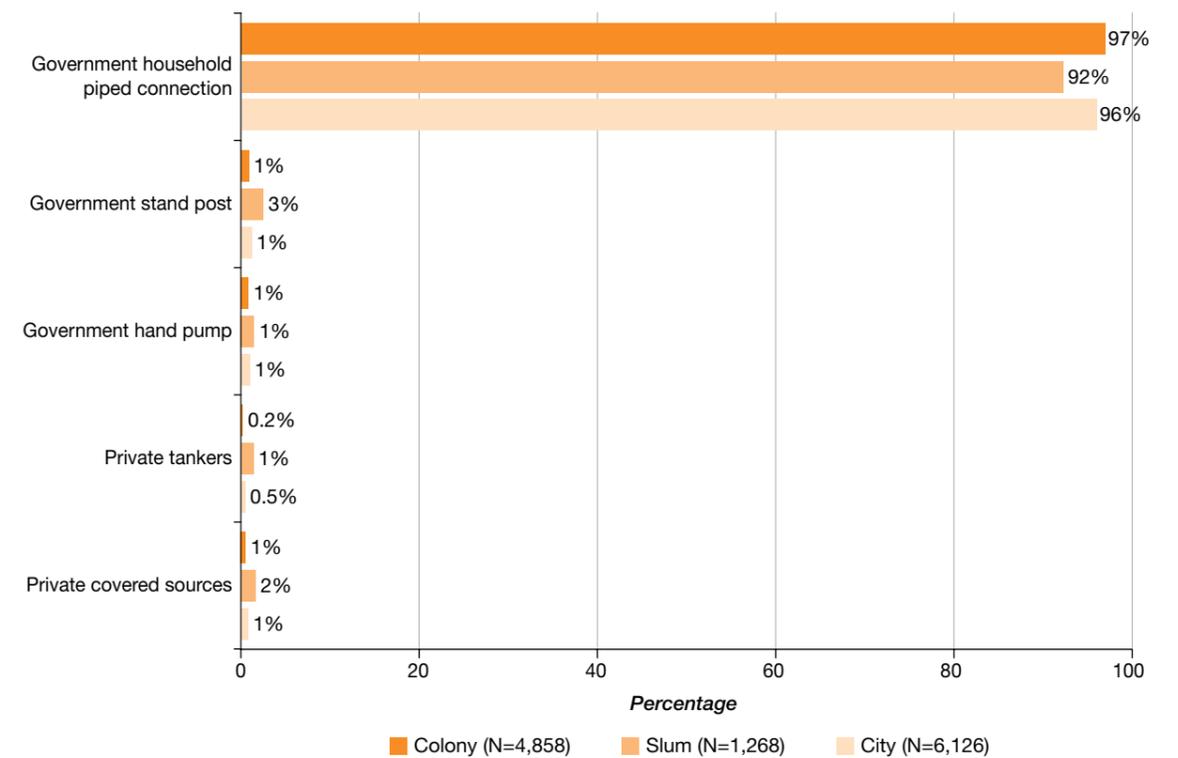


Chart 40: Primary Source of Water for Bathing in Households (N=6,126)





Section 4

CONCLUSION, RECOMMENDATIONS AND WAY FORWARD



Land Ownership and Housing

Rajasthan has been applauded for becoming the first state in India to move towards guaranteed titles for urban properties via the Rajasthan Urban Land (Certification of Titles) Act, 2016. The state government and municipalities should use this reform to eliminate ambiguities pertaining to property ownership and speed up land transactions. This is easily applicable for colonies and will allow individuals to buy and sell property with greater ease and confidence (Deb, 2016).

The situation is different in slums, and the survey data shows that the availability of *patta* (land titles) is an issue in many informal settlements of Ajmer. As elaborated in sections above, out of 1,121 slum households, 49 per cent (548) did not possess any documents that could help them claim secure tenure rights. Many of these settlements are situated/settled on land the ownership of which is claimed by the forest department or the UIT. However, a significant portion exists on municipal land. As per the National Sample Survey (NSS) 69th Round, 69.70 per cent of Rajasthan's slums are located on land owned by the ULB. The land bill described above could be used to provide land tenure to these inhabitants to begin with. This is important because lack of tenure rights can be

directly linked to lower standards of living since people are unwilling to invest in better standards of living because of the threat of eviction or displacement.

In settlements where PRIA has intervened, SICs and other members of informal settlements are making efforts to approach authorities for land titles. The Rajasthan Government has attempted to provide respite to residents living in urban areas through the Mukhyamatri Sahari Jan Kalyan Yojana (MSJKY). The Government has organised Jankalyan Shivar (people's welfare camps) which are platforms through which authorities listen to the issues of settlement dwellers and accept applications for land titles¹⁵. In cases where the municipality finds it difficult to provide land titles, alternate options could be explored. These include leasing land for a fixed period to communities or providing for resettlement colonies. The problem with the latter is that they are usually constructed in periphery areas, as a result of which residents find it difficult to access jobs and services. This should be taken into account if such a move is considered. Failure to do so often leads to selling of land and relocation. This scheme can be considered under

¹⁵ <http://vasundhararaje.in/cabinet-meeting-03052017.html>

the Affordable Housing and Slum Rehabilitation and Redevelopment Policy, 2017. According to the policy, in a building over 4,000 sq. m. or above, private developers will reserve 15 per cent of the flats for Economically Weaker Sections (EWS) and Low-Income Groups (LIG).



Toilets

Over the past year, the AMC has launched ODF (Open Defecation Free) drives in the city and a significant number of wards have been declared ODF. The survey results and continued practice of open defecation in communities, however, show that this may not always be correctly depicted. People often return to open defecation out of habit or due to lack of resources. In many areas, inadequate water availability forces people to defecate in the open despite the presence of toilets. Municipalities could rope in non-governmental organisations and civil society organisations who work with communities and move towards a more accurate assessment of open defecation and latrine use. Municipalities can also promote approaches that encourage community participation, in coordination with NGOs like PRIA that work closely with communities.

Of late, shaming campaigns have become popular and these involve members from communities or vigilance squads who visit and shame those practising open defecation through various methods including photography, whistling, etc. While these methods evoke shame, they are problematic and can evoke extreme reactions from community members. Instead, municipalities should utilise behavioural change campaigns that focus on the importance of privacy. Behavioural change and targeted awareness campaigns are required to urge users to utilise toilets. The reasons for open defecation are varied – personal, traditional, cultural. For some people, morning ablutions is a time for socialisation. For others, it is a habit they have grown up with and mere access

The quota will be 50 per cent in government projects. Applicants with annual income of up to Rs. 3 lakh will be categorised as EWS and those with annual income between Rs. 3 lakh to Rs. 6 lakh will be considered LIG-category applicants (Nezamil, 2017).

to a toilet is not a reason compelling enough to give it up. Many behavioural change campaigns have been running but the crux has always been achievement of targets on construction of toilets, rather than usage.

Dedicated behavioural change is important for many reasons. For example, ritual purity and the sanctity of sacred spaces are important concepts for Hindu households and the impure nature of faeces and its containment within or near the home is thought of as sacrilegious (Alexander, 2016). This can often lead to a reduced interest in construction of a toilet. This is true of community toilets as well. Many people may not use toilet due to beliefs that the structure is oriented/faced in a particular way or that its location is inauspicious. In such cases, it is also important to include local residents in planning processes. Municipalities should break myths and propagate the use of toilets. Many households build toilets citing the safety and security of women as a primary reason. Convenience and time saved are other factors that could be factored in when creating awareness campaigns. Municipalities could also target women and the well-being of young children when convincing residents to build toilets. Municipalities should also target schools and empower children to be messengers of change on sanitation and hygiene. Activities can include rallies, seminars and competitions of various types for children.

As evident in the survey results, the pace of constructing household toilets under the SBM could do with enhanced momentum. In many informal

settlements, municipalities display an inability to facilitate construction of toilets due to issues of contested land, but in such cases, community toilets could be constructed to meet people's needs. These too are covered under the SBM scheme and a notice has extended the SBM's ambit to slums, even if they are on government land. A separate notice has been issued by the Ministry of Environment, Forest, and Climate Change, Government of India, which has granted general approval for using forest land up to one hectare for building community toilets under the SBM (Agarwal 2016). States like Maharashtra have delinked land tenure issues with provision of toilets. The Government of Maharashtra has clarified that No Objection Certificates (NOCs) is not required from government authorities for constructing toilets on government lands¹⁶. In many informal settlements, SICs are being encouraged by PRIA to apply for household toilets and municipalities are being provided with lists to which they are responding positively. PRIA teams have also seen situations where community toilets have been



Sewerage

In Ajmer, only 3 per cent (133) households have sewerage connections. PRIA surveys find that there is a high level of reliance on on-site sanitation systems and most households rely on septic tank-based toilets. Many of these toilets discharge effluents into roadside drains and do not follow CPHEEO norms that mandate septic tank cleaning every two to three years. The survey findings indicate huge numbers of households that had never had their tanks cleaned or said they did not know when this activity had taken place (indicating that it might never have been performed). The municipality needs to urgently raise awareness about the importance of tank cleaning and offer these services to residents of both slums and colonies.

constructed but are not inaugurated or are pending inaugurations for months. These too have been brought to the notice of the municipality by SICs.

Community toilets have often failed in India due to hygiene and maintenance issues, and their use is often affected by functionality, cleanliness and water supply. PRIA has advocated the involvement of communities (SICs) and RWAs in the active management of keeping these assets tidy¹⁷. The Tiruchirappalli City Corporation experimented with volunteerism and local initiative when it joined hands with a city-based NGO, Gramalaya, to encourage women from local slums to take care of their community sanitation complexes. The women took it upon themselves to make sure the facilities were well maintained, thereby ensuring the continued patronage of most fellow-residents. Residents were also willing to pay for improved services. Models like these lead to a feeling of ownership, and outcomes of this programme were so favourable that the city corporation is considering trying it out across the city.

As per the Prohibition of Employment as Manual Scavengers (and their rehabilitation) Act, 2013, manual cleaning/emptying of pit and tank toilets is prohibited. As a corollary to this Act, ULBs are mandated to adopt mechanical processes of cleaning. However, according to the survey results, 43 per cent of city respondents said that toilets were cleaned manually while 11 per cent said a combination of mechanical and manual processes were utilised. Approximately 6 per cent respondents said that municipalities had utilised manual processes to clean their tanks and pits. This is a serious offence that the municipality must address. Fines must also be imposed on private contractors who often force local labourers to practise manual scavenging.

¹⁶ <https://swachh.maharashtra.gov.in/Site/Upload/Pdf/SMUU.pdf> ; information available on page 25.

¹⁷ Case studies available at http://www.gramalaya.in/case_studies.php indicate varied models that have been successful.

The municipality must also distribute safety kits to local labourers and offer them contractual jobs if the body is understaffed. An emphasis on regular cleaning is necessary, because infrequent cleaning leads to solidification of sludge at the bottom of the tank/pit which is hard to remove with low powered machines. Proper trucks also need to be put in place that can carry septage hygienically to Septage Treatment Plants (STPs). Cities like Bengaluru are in the process of implementing 24X7 monitoring processes for STPs. This too is something the Ajmer municipality could implement.

Under the AMRUT Yojana, a budget of Rs. 348 crore was sanctioned for development

Waste Management

Waste management is a critical aspect of sanitation service. The AMC has recently embarked on a door-to-door household waste collection drive in all 60 wards of the city, but is yet to launch a segregation drive. Despite no awareness campaign, some households do practice segregation and municipalities could seek ward-wise information and then launch targeted campaigns. Segregation at source is pivotal for many reasons. One, it allows for a high rate of recycling at the household level. Two, different kinds of waste can be treated using different methods. Three, the process is time and resource efficient since it puts the onus on the households. Municipalities must also enact laws that empower officials to fine households that do not practice source segregation. According to the Solid Waste Management (SWM) Rules, 2016, municipalities are also empowered to collect charges for waste collection and levy fines as suggested above. Municipalities, on their part, need to ensure vehicles that transport waste have compartments so that waste does not get mixed. Once this is done, organic waste can be directly dumped/composed/used in landfills, while dry waste

of sewerage systems in Ajmer, Kishangarh and Beawar cities. As sewerage expands, households are connecting to the sewerage system and the AMC has applied a ward-wise approach in order to increase the uptake of connections. At the moment, the surveys indicate that only 2 per cent of households have sewerage connections. However, 22 per cent of city respondents said that according to their knowledge sewerage lines had been laid nearby. At the request of the municipality, PRIA has conducted sewerage specific surveys in Ward 42, and has proposed IEC campaigns in thirty-five wards to spread awareness. The municipality can also opt to collect ward-wise data from PRIA surveys which could help with provision of connections.

can be further processed as per requirements. Processes like these reduce the load on the environment as well. Waste material can either be reused or recycled. Some municipalities are utilising innovative techniques that produce biogas from waste which can be used as a source of electricity.

Many cities have distributed two dustbins to residents so that waste can be segregated. While some cities have charged residents, others have used funds from the SBM or the Smart City Mission. The AMC must also follow suit and implement the SWM Rules, 2016 which have been framed. To gain a lead over other cities, AMC could advocate a three-bin strategy, where a third bin is reserved for sanitary waste. Mixing of sanitary waste with dry waste makes processing difficult. Waste collectors too are at a risk since they often handle waste without gloves. While the municipality must endeavour to provide the required safety equipment, it must also realise that manually segregating sanitary waste is often a topic of taboo and also exposes those segregating waste to diseases. Related to this, municipalities

must also implement another section of the SWM Rules, 2016 which pertains to the involvement of rag pickers. The new rules help in the integration of ragpickers, *kabadiwaalas* and waste pickers from the informal sector to the formal sector.

Other Indian cities have displayed high levels of motivation and carried out many activities to address the problem of waste management. The ULBs in West Bengal have been granted stationary and mobile solid waste compactor machines which allow for effective garbage management. These compactors allow for extended use of dumping grounds as they reduce the overall volume of the accumulated waste in addition to being instrumental in reducing transportation costs. In Pune, rules are being

Complaints

Questions regarding complaints were asked in three sections: water outlets and drainage, solid waste management and waste collection and toilets. As already indicated, across sections, the number of complaints filled was low. This should not be misunderstood as satisfaction with respect to service delivery. There are multiple reasons for the low number of complaints. Many respondents said that they felt the situation would never improve and, therefore, did not complain. Slum dwellers said they feared adverse action and did not want to risk eviction. Two aspects need to be understood here. First, those who complained often did so multiple times and about more than one issue, which is indicative of dissatisfaction. Second, a large number of complaints were lodged

introduced that suggest that new housing societies should have their own waste processing plants. Many experts believe that decentralised waste management is the way forward. Such a measure will require an amendment in the development control rules (Manohari, 2016). The initiative will involve door-to-door garbage collection, segregation at source, processing of recyclable waste, green waste and e-waste, along with collection and transportation of silt from drains.

The AMC could also develop an application like the Swachh Delhi App which could be used to register complaints on the basis of which waste can be collected from public areas, roads and streets.

through councillors. The municipality needs to formalise a system that allows for complaints to be lodged easily and such a system should allow for process tracking as well as escalation. A system needs to be put in place which provides a guaranteed and timely redressal of complaints. SLB benchmarks indicate the maximum time in which complaints should be resolved. However, the PRIA survey findings are far from these benchmarks. The municipality could set up a 24X7 central helpline, SMS service and a dedicated mobile phone application with provisions for photo capture and detailing about complaint. These could be starting steps. Systems should be made less complicated and bilingual so that people are able to lodge their complaints.





Ration Cards, Income and Aadhaar Card

Many residents of informal settlements have been working closely with PRIA and their respective SICs to seek BPL cards so that they can avail benefits provided to them by the State. SICs have also requested Governments for Aadhaar camps that have allowed them to be a part of the scheme. Municipalities have often obliged

and could continue to set up camps in wards that allow residents to obtain these services as well as connect their cards to biometric systems so that benefits can be sought under the National Food Security Act. PRIA's presence in the informal settlements of Ajmer through SICs could be utilised to meet this goal.



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Annex 1

SAMPLE SURVEY PREPARATIONS AND TRAINING PROGRAMME



Designing the Mobile Application

The sample survey is undertaken by our enumerators who visit specified (a section on sampling follows) sample houses, seek the required information and enter it into the application on their mobiles. Data is collected on CommCare¹⁸, an application designed and supported by Dimagi. CommCare allows users to code a questionnaire into the application, which is accessed and filled using android mobile phones. The application can be used offline (in areas where internet is not easily available) and is compatible with various languages, including Hindi. There are many advantages to using a smartphone and the CommCare software, some of which are detailed below.

(i) The process is resource and time efficient, since no transcribing is required to be done. Data is immediately synced to a server, which makes remote access possible. Conducting the survey on mobiles allowed us to save huge quantities of paper, helping with costs as well as efficiency. Data collected for the sample survey is accessed in Microsoft Excel using connections between excel and the server hosted by CommCare, and updated at the press of a button after which connected pivots and charts automatically refresh. Updated data can thus be accessed anywhere.

(ii) Certain validations, conditions and skip logic can be built into the application, which prevent various types of mistakes and errors. This is an advancement over the use of paper-based surveys in numerous ways. For example, mobile numbers less than ten digits are not accepted by the application. Enumerators are also unable to skip questions that are considered compulsory. Deeply embedded skip logic is also present which presents different sets of questions depending on whether slums are being surveyed, or colonies.

(iii) In case of mistakes or errors being detected at later stages, the platform allowed for editing surveys at the back end.

(iv) All enumerators have unique user names and surveys are geotagged, which ensures proper monitoring as well as the ability to represent information spatially. Other aspects monitored include the version of application used to ensure that no newer additions to the questionnaire are missed out, as well as the time taken to finish the survey, along with the actual time in which it was conducted. Any entries that do not fall within defined parameters are automatically flagged by the system for follow up.

¹⁸ <https://www.commcarehq.org/>



(v) The use of mobiles allows for photo capture, which our enumerators use to show ground realities as well as corroborate data they have filled.

(vi) Images are also used as part of questions, which help enumerators and respondents achieve clarity. In our application, images include different types of toilets, water sources as well as outlets.

(vii) Questions and options can be updated at any time without effecting the analysis template or data filled earlier.

Most importantly, both enumerators and respondents found the process exciting and new. Many of them had never utilised a smartphone before and thus found this to be a form of personal development as well.

Procuring Handsets and SIM Cards

PRIA procured 15 smartphones for each city, ensuring the following minimum standards:

- Smartphone operating at least Android V.6.0 (Marshmallow).
- Five-inch touch screen.
- Battery size of 2,800 mah and above.
- Multilingual support.
- 8 MP primary camera with auto focus and flash.
- Equipped with Global Position System (GPS) technology.
- Ram of 2 GB or above.

Enumerators were to procure their own SIM cards before undertaking surveys. A 500mb plan per user per month would allow for data syncing and GPS capture.

All users were given instructions on management and maintenance of instruments. Before handing them over to the supervisors and enumerators, all mobile sets were equipped with screen guards and a pouch. Users were also advised to ensure that the mobile sets are fully charged before they start the survey.

Training Programme

A brief of the points covered in the training follow:

- a) *Introduction to the ECRC*
The participants were introduced to the objective, process, methodology and the intended outcomes of the project.
- b) *Understanding water and sanitation services, from the city's perspective*
The project being largely sanitation oriented, participants were given intensive education modules, which helped them understand the broader picture of water and sanitation services from the city's perspective which

then governed the shape of our research.

- c) *Understanding the survey questionnaire*
The survey questionnaire was discussed in detail with the participants. Each section of the questionnaire was explained along with the logic behind the questions for the participants to understand clearly.
- d) *Introduction to smartphones*
Participants were introduced to the basics of using smartphones through which the surveys were to be undertaken. The smartphones were provided by PRIA,

and were chosen based on predefined parameters. This training was necessary as many participants had not used a smartphone before. The training also focussed on the use of GPS, and how to ensure reliable and accurate readings.

- e) *Understanding the CommCare application*
The second stage of introduction to smartphones involved the participants exploring and running the CommCare app to understand its features and how to use it.
- f) *Understanding survey etiquette*
The workshop then moved to the ethics of data collection where participants were explained the etiquettes of survey collection and the importance of undertaking data with honesty.
- g) *Understanding sampling*
The following session explained the sampling methodology and the way in which households should be selected. Participants were introduced to the right-hand technique and skip-interval. Challenges in following the selection methodology were also outlined along with alternate solutions.
- h) *Field work simulation*
The participants were then acquainted with aspects of logistics, targets, expectations, selection of household, etcetera for field work. This was done through a group exercise, which aimed at familiarising the teams with nuances of the survey methodology.
- i) *Pilot testing*
Following this, participants were asked to go to their allocated field sites and practically try out the survey on field.
- j) *Experience sharing*
Experiential learning through the field was the basis of the next module, which was meant

to discuss their learnings and observations. They were encouraged to speak about their experiences with the application, the level of comfort of the respondents and their attitudes, their use of rules of sampling and more.

- k) *Feedback session*
The sharing was then followed by one of the PRIA facilitators transferring all the data onto an excel sheet and explaining the possible mistakes or errors in the data collected. This session explained why it was important to understand the logic of questions and answers.
- l) *Mock interviews*
In this session, mock interviews were conducted to improve the participants' interviewing skills. All the participants participated in 'one to one' interviews. Pairs were made and an observer sat through every interview. All the observers gave their feedback on each enumerator and highlighted areas of improvements.
- m) *Monitoring protocol and structure*
This session explained the levels of checks and balances put in place to monitor the quality of surveys. The supervisors and survey administrators were introduced to the way the different components and stages of monitoring were to be done, the automated as well as the physical checks necessary and the consequent monitoring and approval required at each stage to ensure the quality of surveys.
- n) *Participant feedback*
This session concluded the workshop with some participants giving their feedback and overall experiences from the workshop.

Annex 2

PERMISSION LETTER FROM MUNICIPALITY

Municipalities were briefed about the surveys and informed that the data would be shared with them. A letter of consent was also issued by the municipality, a copy of which was provided to all the enumerators and supervisors.



कार्यालय नगर निगम, अजमेर
पृथ्वीराज मार्ग, अजमेर

क्रमांक : एच.ओ./2016-17/ 1735

दिनांक : 28/11/2016

श्री भूपेन्द्र कौशिक,
वरिष्ठ कार्यक्रम अधिकारी (अजमेर)
42, तुगलकबाद इस्टीट्यूशनल एरिया
नई दिल्ली - 110062

विषय :- "सक्रिय नागरिक-क्रियाशील शहर" कार्यक्रम के अंतर्गत परिवार स्तरीय सर्वेक्षण के संबंध में नगर निगम के सहयोग बाबत।

प्रसंग :- आपका पत्र क्रमांक प्रिया/16/21 दिनांक 08.11.16 के संदर्भ में।

उपरोक्त विषयान्तर्गत एवं प्रासंगिक पत्र के संबंध में लेख है कि आपकी संस्था द्वारा "सक्रिय नागरिक-क्रियाशील शहर" कार्यक्रम के अंतर्गत परिवार स्तरीय सर्वेक्षण पूर्ण नगर निगम अजमेर क्षेत्र में किया जाना है। जिसके अंतर्गत शहर में सेनिटेशन से संबंधित सेवाओं के संबंध में नागरिकों की प्रतिक्रियाओं जानने हेतु सर्वेक्षण का आयोजन किया जा रहा है जिसमें उक्त सेवाओं के स्तर की जांच कर आंकड़े एकत्रित किये जायेंगे एवं प्रत्येक वार्ड से सेम्पल के आधार पर 100 परिवारों को चिन्हित कर कुल 60 वार्डों में 6000 परिवारों के सर्वेक्षण कर आंकड़े एकत्रित किये जायेंगे।

अतः आप निगम के क्षेत्राधिकार के अंतर्गत आने वाले 60 वार्डों में 6000 परिवार (प्रति वार्ड 100 परिवार) के सर्वेक्षण कर आंकड़े एकत्रित करने हेतु किसी भी परिवार से ना तो कोई शुल्क लिया जायेगा एवं ना ही निगम द्वारा उक्त कार्य के संबंध में आपको किसी भी प्रकार का कोई भुगतान करेगा।

अतः आप द्वारा उपरोक्तानुसार कार्य किया जाता है तो नगर निगम को कोई आपत्ति नहीं है।

उपायुक्त

नगर निगम अजमेर

Annex 3

SAMPLING PLAN FOR WARD 9 IN AJMER

Sl. No.	Name of Area	Status	Households	Sample size
1	Aama Bawdi	Non-notified slum	80	7
2	Jaliyan	Non-notified slum	20	2
3	Garib Nawaj Colony	Non-notified slum	140	13
4	Karim Chacha Ki Gali	Non-notified slum	80	7
5	Bhata Bhav	Non-notified slum	120	11
6	Noor Colony	Colony	55	5
7	Lohar Colony	Colony	70	6
8	Mumtaj Colony	Colony	80	7
9	Husaini Mohalla	Colony	120	11
10	Tausvi Mohalla	Colony	150	14
11	Badbaav	Colony	100	9
12	Gafur Ali Masjid Gali	Colony	90	8
Total Households			1,105	100

About PRIA

Established in 1982, PRIA (Participatory Research in Asia) is a global centre for participatory research and training based in New Delhi. Currently, PRIA has field offices in several states of India and partnerships with 3000 NGOs across the global North and South to deliver its programmes on the ground. Over 35 years, PRIA has promoted 'participation as empowerment', capacity building of community organisations, and people's participation in governance. Initiatives are undertaken in the overall perspective of 'making democracy work for all' – in the political system; democratic culture in families, communities, and society; and participatory democracy with active citizenship. PRIA's programmes on the ground focus on promotion of participation of the poor, especially women and youth, to claim rights and basic services.

Through building knowledge, raising voice and making democracy work for all, PRIA realises its vision – of a world based on values of equity, justice, freedom, peace and solidarity.

About Engaged Citizens, Responsive City

Engaged Citizens Responsive City is a four-year long intervention supported by the European Union which focuses on strengthening civil society of the urban poor to participate in planning and monitoring of sanitation services. The project works across three cities in India (Ajmer in Rajasthan, Jhansi in Uttar Pradesh, and Muzaffarpur in Bihar). It primarily engages the urban poor through capacity building activities to enable them to become active citizens, and to use the new skills learnt to participate in planning (at city level) and monitoring (at the ward level) of sanitation services. Partners in this change include urban poor and middle-class residents, with leadership of young women and men; mayors, elected councillors and related government departments; traders and market associations; civil society, academia and media; and women sanitation workers.

To know more about the programme, please visit [here](#).

ABOUT THE REPORT

The sanitation survey in Ajmer was undertaken by PRIA to generate citizen-led data, with a focus on informal settlements (slums) and colonies in the city.

Data collection was undertaken as part of the Engaged Citizens, Responsive City project supported by the European Union, which strengthens participation of the urban poor in citywide planning and monitoring. In our efforts to establish a platform that allows all residents to voice grievances, issues and aspirations and collectively develop strategies, authentic and lucid data emerged as a crucial piece of the puzzle. The ward-level, disaggregated data available in this report meets this need and provides information that supports participatory planning.

The survey results will be of use to municipalities, parastatals, civil society organisations, development agencies and engaged citizens working together to make Indian cities responsive, inclusive and sustainable.



This project is implemented
by PRIA



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