

ARE THEY BEING SERVED?
CITIZEN REPORT CARD ON PUBLIC SERVICES FOR THE POOR IN
PERI-URBAN AREAS OF BANGALORE



Association for Promoting Social Action



Public Affairs Centre



Supported by WaterAid India

2005

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CITIZEN REPORT CARD ON PUBLIC SERVICES
FOR THE POOR IN PERI-URBAN AREAS OF BANGALORE

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Public Affairs Centre



Supported by WaterAid India

2005

Published by the Association for Promoting Social Action (APSA)
and Public Affairs Centre (PAC)

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ABBREVIATIONS

APSA	Association for Promoting Social Action
AusAID	Australian Agency for International Development
BMP	Bangalore Mahanagar Palike
BWSSB	Bangalore Water Supply and Sewerage Board
CLEC	
CRC	Citizen Report Card
CMC	City Municipal Corporation
ESI	Employee State Insurance
FGD	Focus Group Discussion
HAL	Hindustan Aeronautics Limited
JBIC	
KFCSC	
OBC	Other Backward Caste
PAC	Public Affairs Centre
PHC	Primary Health Centre
SC	Scheduled Caste
ST	Scheduled Tribe
TB	Tuberculosis
TMC	Town Municipal Council
USAID	United States Aid for International Development

ACKNOWLEDGEMENTS

This study was carried out in partnership by the Association for Promoting Social Action (APSA), Bangalore Public Affairs Centre (PAC), Bangalore using the Citizen Report Card methodology pioneered by PAC. PAC provided guidance and support at each every stage of the process.

Acknowledgements are due to Dr. Samuel Paul, Chairman, Public Affairs Centre for his valuable inputs.

PREFACE

The Association for Promoting Social Action (APSA) is a 25 -year old child-centred community development organization. We believe that development without the participation of traditionally deprived communities is not development at all. Inspired by the motto, "**For Development without Exploitation,**" we work at the grassroots level in over 135 slums in Hyderabad, Secunderabad and Bangalore to facilitate the empowerment of the urban poor through thirteen community-based, interconnected projects. Further, we work at the macrolevels of the state and the country to promote human and democratic rights through advocacy and policy planning initiatives.

APSA works with community based organisations in over 135 slums in Bangalore and Hyderabad, touching over 200,000 people. We believe in the people's right to information and their right to political and economic empowerment. To achieve land and housing rights, and secure identification documents and basic amenities in slums, we use the strategies of grass-roots mobilization, legal aid and government networking.

In the new millennium, the Bangalore Water Supply and Sewerage Board, together with AusAID, worked to prepare the Bangalore Water Supply And Environmental Sanitation Masterplan. The project objective was "to improve the capacity for the delivery of water supply, sewerage and environmental sanitation services to the City of Bangalore with emphasis on the urban poor and vulnerable groups and within a process of long-term environmental, economic, social and institutional sustainability." On July 1, 2005, Union Minister of Finance, Mr. P. Chidambaram officially launched work on a Rs. 340 crore project to supply water to seven City Municipal Councils and one Town Municipal Council. For this purpose, tax-free municipal bonds were expected to raise Rs. 100 crores. The previous day, USAID India Director George Deikun signed a credit guarantee agreement to help the combined municipalities issue bonds on the capital market at reasonable rates. According to press releases, funds raised through the debt market would "finance water and sanitation infrastructure as part of a major \$150 million (Rs. 649.5 crores) water and sanitation public works project for the area".

In the context of a stated commitment on behalf of the BWSSB to improve water supply for the urban poor, and the presence of powerful interests like corporate players like Larsen and Toubro and Thames Water, government agencies, and bilateral aid agencies such as JBIC, USAID and AusAID in the water and sanitation scenario of Bangalore, it was felt that it would be an opportune moment to conduct a micro-study of what the situation related to basic amenities, particularly water and sanitation, were like on the ground for the urban poor of Bangalore. With the financial support of Water Aid India, APSA began looking for methodologies and technical expertise to help it undertake this study. APSA found this in the Public Affairs Centre, a Bangalore-based non-profit organization which is committed to using research, training and advocacy to improve governance.

PAC's research is directed towards improving the quality of various public services. It aims through research to bring greater awareness among both the government agencies who are the major service providers and the citizens who are the users of these services. Its research

is also to enable institutions of civil society assess key issues and identify action areas. PAC uses the findings of its research to inform the public and to encourage and support collective action by citizen groups to improve accountability and performance in government.

PAC's research aims to provide a stimulus for action through knowledge derived from scientific surveys. To this end, it had developed a particularly useful tool, the Citizen's Report Card.

The Citizen's Report Card aims at obtaining citizen feedback of public services. Specially designed questionnaires are used to elicit user responses on the overall satisfaction of service delivery. Information generated through these report cards, it is argued, can help to generate awareness of the poor performance of service providers so that citizens can advocate for change.

After several discussions Dr. Sita Sekhar, Chief Research Officer of the PAC, it was decided that a series of research tools, including a Social Mapping exercise, focus group discussions, and a sample survey would be used to prepare a Citizens' Report Card which presented the state of water and sanitation services, garbage disposal and the availability of government health facilities in four slums in the KR Puram and Mahadevapura CMCs of the Greater Bangalore area. Dr. Sita Sekhar collaborated extensively with APSA's staff for this purpose. She trained the staff in the research methodology and provided them with orientation in the use of the Citizen Report Card using the web-based tools developed by PAC. The staff of APSA, in turn, provided their knowledge of the field to help in the design of the questionnaire and the sampling design.

The field staff of APSA, in particular, Mr. Ramkumar, Mr. Patil, Mr. Isaac, Ms. Pushpalatha, Mr. Beema Shankar in collaboration with other project team members actually conducted the fieldwork. Once the data had been collected, Dr. Sita Sekhar and her team comprising of Mr. Venugopal who carried out the data analysis and prepared the preliminary data tables, and Dr. Meena Nair who contributed to the report preparation and editing of the report, prepared the final report. Dr. Meera Pillai helped us in giving her feedback in every aspect and also in editing the report; Dr. Kshitij Urs contributed to finalizing the recommendations.

The exercise was a valuable learning experience, not only on the state of basic amenities in the slums of the CMCs surrounding Bangalore, but also on the possibilities of inter-NGO collaboration. The mutual respect of APSA for PAC's academic and research skills, and of PAC for APSA's extensive grassroots experience and credibility with the community made for a cordial synergy.

The results of this cooperation are presented in the following report.

REFERENCE:

http://www.usaid.gov/in/newsroom/press_releases/jul01_5.htm, July 1, 2005

P. Lakshapathi
Executive Director, APSA.

EXECUTIVE SUMMARY

The urban poor constitute a substantial percentage of the population in a city or any urban area. While they contribute significantly to the 'informal' sector of the city, most of the city development plans do not acknowledge the same and the process of marginalisation of the urban poor continues geographically also especially to slums in the city outskirts or the peri-urban areas. Studies carried out in such settlements have highlighted the gross neglect that is shown to the residents, with regard to provision of most of the public services, including drinking water and sanitation.

With this background in mind, the Association for Promoting Social Action (APSA) decided to carry out a Citizen Report Card in four slums located in the peri-urban areas of Bangalore city with particular respect to the basic amenities of water and sanitation, in partnership with Public Affairs Centre (PAC). This report is based on the findings from a CRC that was carried out in four slums located in two CMCs (City Municipal Corporations) of Bangalore city.

The methodology of the study followed the CRC approach of implementation, comprising of three stages for this study. These included -

- Carrying out Focus Group Discussions (FGDs)
- Social mapping of the study areas -
- Survey

The objectives of carrying out FGDs and social mapping exercises were to

- understand the geographical boundaries of the areas being studied
- assess distribution of the various water and sanitation facilities in the areas being studied
- understand the socio-economic composition of its population, and
- use the information collected as aspects to be incorporated in the CRC questionnaire for the survey and as inputs for specific policy recommendations for the slums covered.

Four slums from two CMCs of Bangalore were selected which also constitute the areas where APSA proposes to work. These were Nellorepuram and Reddypalya from Mahadevapura CMC, and Sanjayanagar and Manjunathanagar from KR Puram CMC.

A total of 297 households from the selected four slums were contacted during the survey. Data collection exercises including FGDs, social mapping and the survey were carried out by the field workers of APSA, with PAC conducting a one-day training programme among the field workers before fieldwork. Data entry was also carried out in-house at PAC under close supervision of the PAC research team.

The mix of methods applied to carry out the CRC in four slums in the two CMCs of Bangalore has brought out an interesting mix of findings. The **major findings and conclusions** are as follows:

With regard to **drinking water**, it has been observed that there is more access to public sources than to individual connections. While substantial proportion of people have access to these sources, feedback on the sources shows up the problems that slum residents face to access drinking water through two main sources – public taps and piped water supply.

With regard to **public taps**, availability of water throughout the year in public taps is reported by only around 30% of the slum residents. Almost all respondents go to nearby localities to fetch water during the scarcity periods in summer months. Frequency of water is very low in both CMCs with residents of Mahadevapura worse off with most of them getting water only once in a week. Breakdowns are common with 77% of respondents reporting breakdowns within three months. Surprisingly only about 44% made a complaint about the breakdowns and that too mostly orally. This indicates either apathy among residents or a sense of helplessness. Even those who complained reported that there was no prompt action taken on their complaint. Overall dissatisfaction with public taps is very high (over 60%).

With regard to **pipled water**, over 60% households report availability throughout the year. Satisfaction with adequacy is relatively higher. Timings were found to be convenient by a reasonable number of households though there were issues on foul smell. Complete satisfaction with piped water is higher compared to public taps but there is still scope for improvement.

Findings on **willingness to pay** show that the communities from both CMCs are willing to pay for individual connections in large proportions. Considering the the amounts they spend on getting water from other sources when they do not have access to piped water, the amounts they are willing to pay are just marginally higher. The CMCs and BWSSB should exploit this finding and work out a tariff that is affordable for the slum dwellers.

Findings on **toilets** indicate that while **individual toilets** have been reported by 60% households, lack of UGDs have led to widespread usage of the pit system to dispose of sewage. This has implications in terms of seepage from the sewage into groundwater and the latter becoming polluted.

Lack of **public toilets** in three out of the four slums is also a major concern for those who do not have toilets at home, the only other recourse being to use open spaces

which causes other problems such as misbehavior from men especially among women, and also fear of animals.

There is total lack of an underground **drainage** system in all the four slums. Some of the streets along main roads have open drains (L-shaped and U-shaped), which are shallow, not lined properly and mostly come into use during rainy season. Lack of frequent cleaning of drains by the service providers however, adds to problems such as blockage and overflowing of drains during rainy seasons.

While the better organized slums such as Sanjaynagar and Nellorepuram to some extent have some **garbage disposal** sites, there are no such provisions in most of the areas. As mentioned by the respondents, garbage clearance is a rare occurrence due to which garbage spills over the sites and spread over to roads, near houses and drains causing foul smell, mosquito problems and objection from others.

Most of the respondents have reported having no access to primary **health** facilities as a result of which more than 90% use private health facilities. Around one-fifth households have reported incidence of water-borne diseases among children, the main ones being throat infection, and dysentery.

The above findings and conclusions have also led the way to making certain **policy recommendations** as applicable for the four slums. These include acknowledging the human right to water; providing piped water supply; introducing differential tariffs; providing individual toilets; building an Underground Drainage system; providing an efficient garbage disposal system; and providing better health care.

1 INTRODUCTION

1.1 Background

The urban poor constitute a substantial percentage of the population in a city or any urban area. While they contribute significantly to the 'informal'¹ sector of the city, most of the city development plans do not acknowledge the same and the process of marginalisation of the urban poor continues, not only socio-politically but also geographically. With land prices soaring in the city and every piece of land being eyed or used for various development purposes, the poor are mostly pushed out from the city centre; consequently they have no choice but to live in 'informal' settlements such as slums within the city, which may be authorised or unauthorised, urban villages or resettlement colonies, the latter mostly located in the urban peripheries.

Studies carried out in such settlements, especially those located in the city outskirts or the peri-urban areas, have highlighted the gross neglect that is shown to the residents, with regard to provision of most of the public services. These include the most vital ones such as water and sanitation. As is universally acknowledged, neglect of the provision of these two services can lead to disastrous health and environmental consequences. With this background in mind, the Association for Promoting Social Action (APSA) a child-centred community development organisation, facilitating empowerment of the urban poor through community-based, interconnected projects to promote human and democratic rights, decided to carry out a Citizen Report Card in four slums located in the peri-urban areas of Bangalore city with particular respect to the basic amenities of water and sanitation, in partnership with Public Affairs Centre (PAC).

The Citizen Report Card (CRC) approach evolved by the Public Affairs Centre (PAC) has been considered as an international best practice to improve public services. The methodology involves collecting and using feedback on public services to help make improvements in service delivery. CRCs have been implemented not only in India but also in other countries in the world with equal success among both urban and rural communities.

The following report is based on the findings from a CRC that was carried out in four slums located in two CMCs (City Municipal Corporations) of Bangalore city. CMCs are urban local bodies responsible for the administration of the peri-urban areas of Bangalore city; currently there are seven CMCs and one TMC. It has been observed that as compared to the Bangalore Mahanagara Palike (BMP), which

¹ WaterAid India, 2005, Profiling "Informal City" of Delhi: Policies, Norms, Institutions and Scope of Intervention, WaterAid India, New Delhi.

administers the older and more central areas of Bangalore, the CMCs have fewer resources. Consequently, the quality and reach of basic amenities provided by the CMCs tend to be very limited. The study was carried out to assess the water and sanitation services that are provided to the urban poor located in two CMCs. The feedback received from the citizens of these CMCs have been analysed and their 'voice' presented through the findings in the report.

1.2 Objectives

The objective of this pilot project was to use Citizen Report Cards as a tool for assessing access, usage and satisfaction with public services provided specifically to the urban poor located in peri-urban areas. Thus, the objectives of the study were to:

- a. understand the priorities of the community in terms of development
- b. prepare a Citizen Report Card on the quality and reach of services provided to the urban poor;
- c. disseminate the findings to the respective service providers to highlight the ground reality, and
- d. use the findings to implement a pilot project involving community mobilization, and empowering the people of four slums in two CMCs to seek and access better quality basic amenities from the local government, in particular with regard to water and sanitation.

1.3 Methodology

1.3.1 Research Design

The research design of the study followed the CRC approach of implementation. The following comprise the key stages of the study.

Carrying out Focus Group Discussions (FGDs): As per the CRC methodology, FGDs were carried out in all the four slums among the communities residing there. The issues covered included aspects such as:

- What services are particularly important to you?
- For the purpose of a CRC, how would you rank them in order of importance?
- What are the problem areas related to this service?
- Are there recent areas of improvement?
- What aspects of service delivery are important to you and why are they important?

The feedback received from these FGDs were utilized to fine tune the questionnaire to suit the purpose of the study and the needs of the community.

Social mapping of the study areas: A social mapping exercise was carried out in each of the slums, wherein the field workers of APSA went round each street and lane within the slums and mapped the entire area. The maps thus prepared depicted aspects related to the study such as location of public drinking water facilities, types of drinking water facilities that are available, sanitation facilities including drainage, sewerage and community toilets as well as location of garbage disposal facilities.

These maps have contributed to profiling the slums in terms of the geographical distribution of the two public services covered in the study.

Survey: The questionnaire used to carry out the field survey included the following public services:

- i. Drinking water
- ii. Sanitation
- iii. Garbage disposal
- iv. Health

The aspects covered for each of the services included:

- i. Usage pattern
- ii. Problem incidence and resolution
- iii. Speed money
- iv. Satisfaction

1.3.2 Sampling Design

The four slums where fieldwork was carried out are the areas in which APSA proposes to work. The details of the CMCs and the slums are as follows:

CMC - Mahadevapura
Slum 1 - Reddy Palya
Slum 2 - Nellore Puram

CMC - K.R. Puram
Slum 1 - Manjunathanagar
Slum 2 - Sanjaya Nagar

A total of 297 households from the selected four slums were contacted during the survey. This comprised the sample size for this study.

1.3.3 Data collection and analysis

Data collection exercises including FGDs, social mapping and the survey were carried out by the field workers of APSA. Prior to the fieldwork, PAC conducted a one-day training programme among the field workers. The total exercise was completed within a period of approximately two weeks. Data entry was also carried out in-house at PAC under close supervision of the PAC research team.

1.4 Chapter format

The rest of the report is divided into four sections. Section II provides a detailed profile of the study areas, viz. the four slums. While major findings on drinking water are presented in Section III, the same for sanitation is provided in Section IV and on health in Section V. Lastly, Section VI of the report summarizes the conclusions and provides policy implications with regard to the findings of the report.

2 A PROFILE OF THE STUDY AREAS

An important prerequisite to carrying out the survey for the CRC is conducting comprehensive pre-survey groundwork. This includes carrying out activities, which would help in understanding the locality and the residents therein and also the aspects that are considered important by the community and need to be covered in the CRC.

Two research methods were applied in the case of this WatSan CRC, before carrying out the survey. These were:

1. Social Mapping, and
2. Focus Group Discussions (FGDs) among women, youth and children.

The objectives of carrying out these exercises were to

- understand the geographical boundaries of the areas being studied
- assess distribution of the various water and sanitation facilities in the areas being studied
- understand the socio-economic composition of its population, and
- use the information collected as aspects to be incorporated in the CRC questionnaire for the survey and as inputs for specific policy recommendations for the slums covered.

Social Mapping: This participatory appraisal method was used to carry out an assessment of the four slums. The field workers prepared sketches of the each slum that highlighted the following

- the boundaries;
- geographical location of facilities which included public sources of drinking water (public tap, handpump, mini water supply, borewell, community wells, etc.), public toilets, garbage disposal, health and educational facilities;
- Sewerage system in the locality;
- Other details such as number of households, population, streets, location of bus stop, telephone poles, transformers, anganwadis, etc.

The field workers prepared rough sketches as they walked around the slums, which were then fine-tuned with continuous addition of information and then finalized on a separate chart.

Focus Group Discussions: As part of the study, to understand and to identify the issues related to service delivery and to understand the social dynamics in the four slums covered from different perspectives, several focus group discussions were conducted. Information gathered from this exercise is presented in this section.

Since the topics covered in the discussion varied from demographic details of the slums to specific problems faced by the people in accessing and using particular services, separate FGDs were conducted for groups of women, youth and children in the four slums. A total of 8 FGDs were carried out – 3 in Mahadevapura and 5 in K R Puram.

The following sections provide a picture of the four slums and the type of residents therein as gleaned from the social mapping and FGD exercises.

2.1 Nellorepuram

Profile - Nellorepuram slum is located in the KR Puram CMC, in the constituency of Varthur and constitutes Ward No 24. This is one of the oldest slums among the four studied and is about 50 years old. It is an authorized slum and is among the list of slums as declared by the Slum Board.

Geographical boundaries - The slum locality is bounded by HAL property on its western and southern sides, J layout on its eastern side and Jagadishnagar on its northern and northeastern sides. Tarred main roads also surround the slum on all its sides.

Distribution of facilities - A study of the distribution of WatSan facilities highlights the following:

- Public drinking water facilities - Among the public drinking water facilities that are available include public taps, water tanks, handpumps/borewells, and open wells.

There are about 35 to 40 public taps located at various points in the locality in almost all the bylanes within. However as per feedback received from FGDs, there are 15 taps according to the youth and 10 according to the children. Water is supplied once a week for about 2 hours. It is mainly the women and children who fetch water. There are fights at the taps according to the children.

About four water tanks are also located in Nellorepuram; however they are more concentrated in the southern part of the slum except one on the eastern main road. There are also three handpumps located on the eastern and western main roads along the slum boundaries, with one of them being a motorable one. Lastly, there is one open well also located in the southern part of the locality. Supply of Cauvery water is approximately 200 metres away from the locality and is fetched by people.

- Sanitation – In terms of sanitation, there are two public toilets in the locality. While Sulabh International is running one of the toilets, the other has been constructed by the Slum Board. The former is a toilet cum bath complex with six toilets and three bathrooms and uses the pay-and-use scheme. The one constructed by the Slum Board has two toilets for men and two for women; use is free and staff coming from the Slum Board maintains all the toilets. Both the toilets are located in the southern part of the slum locality. Feedback from FGDs indicate that people are not satisfied with the two public toilets and have voiced their need for individual toilets, since they feel that public toilets are difficult to maintain. Lack of individual toilets and ill-maintenance of public toilets has let to many people using open spaces in and around the locality to relieve themselves.

In terms of type of sewerage system observed, most of the drains in the locality are open drains (both L-shaped and U-shaped) and mainly concentrated in the southern part of the locality. The drains that pass through the toilets are covered, while around other houses in the same part of the locality, they are mainly open ones. Participants from the FGDs have stated that the community does the cleaning of the drains on a regular basis. However, there is a need to have UGDs along with individual toilets.

Garbage disposal sites are few and far between in the locality. However, it has been observed that none of them are places, which can be called dustbins from where garbage is collected by the Municipality. Also most of these ‘dumping places’ are located outside the boundaries of the slum.

- Other facilities – Among other infrastructure facilities, there are two schools within the boundaries of Nellorepuram – one is a Telugu medium school located in the southern part with classes up to the 4th standard and another, a Kannada school located in the northern part with classes upto the 7th standard. There are also two anganwadi centers in the locality, both located in the northern and southern ends of Nellorepuram.

In terms of health facilities, there are no basic public health facilities in the locality; a private clinic is located in the northern part of the slum.

Other public services include two KFCSC shops and a third one located just outside the northern boundary of Nellorepuram. An Ashwath Katte² is also located in the northern part of the slum, which is used for meeting purposes among the slum dwellers. In terms of the existence of Sanghas, there is the

² Where people gather for meetings, discussions, etc.

Jaibhim Nellorepuram Welfare Sangha (Kshema Abhivruddhi), and also two Stree Shakti Groups, which comprised of active Sangha members.

As an authorized slum settlement, various housing schemes have also been utilized; these include the Valmiki Yojana/Vambay Scheme and the Valmiki Ambedkar Awas Yojana. Under these schemes, in 2003-04 sanction was given to build 40 houses and for the year 2004-05 another 100 houses were given sanctions. The scheme encompasses a sanction of Rs. 60,000/- per house with 50% subsidy.

Population Composition

- Nellorepuram has a population of about 2512 persons in about 500 houses.
- As per feedback from FGDs carried out among women, youth and children, the families here are also migrants from Tamil nadu and Andhra Pradesh who have come mainly in search of jobs. There are Hindu, Muslim and Christian families living here predominantly SC ST and speaking mostly Tamil, Telugu and Kannada.
- The main occupation of men is carpentry and painting, mainly as temporary workers in HAL and BMCL. Women are mostly engaged in domestic work or are paurakarmikas at the CMC, while children work in hotels or garages.
- Most families have a BPL ration card and Voter ID cards are commonly owned. Most families are paying property tax.

Issues raised during FGDs

- While youth identified water, toilets, drainage and roads as the major problem areas, children mentioned drainage, garbage and a playground as the problems.
- The main problems were highlighted by the youth were toilets and roads while children did not mention any. When asked about the problem specific to women, the youth mentioned the lack of toilets and the children did not reply.
- The FGD groups agreed on the need for piped water for their locality. Both groups clearly expressed willingness to take individual connections as well as for paying for the connection. The youth and children specified Rs 500 as the payment they would make for a connection. They were also willing to make payment on a monthly basis for usage.
- The youth seemed aware of water borne diseases. They reported that there were incidents of water borne diseases like dysentery and they mentioned typhoid, fever, and skin diseases as caused by contaminated water. The children did not seem to know.

2.2 Reddypalya

Profile - Reddypalya slum is located in the KR Puram CMC, in the constituency of Varthur and constitutes Ward No 23 of Islampura. The slum is about 30 years old.

Geographical boundaries - The slum locality is bounded mainly by HAL property on almost all its sides, a part of Jyothinagar layout lies to its north-eastern side and on its north there is also a BMP dumping site or landfill area. While the roads inside the slum locality are mud roads, some tarred main roads pass around the southern part of Reddypalya.

Distribution of facilities - The distribution of WatSan facilities in Reddypalya is as follows:

- Public drinking water facilities - Public drinking water facilities that were observed to be available within Reddypalya are public taps, borewells/handpumps with motor, mini water tanks, and open wells. Cauvery water is also located within about 100 feet of the locality. There are about 31 public taps located at various points in the locality mainly in the southern and central bylanes. The lanes around the slum boundaries do not have public taps as was observed in the case of Nellorepuram. During the FGDs, when discussions turned to drinking water and related issues, there was animation in the groups especially among the women. The different groups gave differing figures when asked to specify the number of taps in the slum. The numbers given ranged from 25 to 60. While the youth seemed unaware of the timings or frequency of the water supply, both children and women said it comes daily for an hour or two. The CMC was named as the authority taking care of water supply by youth and women while the children didn't seem to know. All three groups reported that it is either the women or the female children who are mostly responsible for fetching the water. However, this may indicate towards pressure not being enough in some of the taps and therefore not being usable. There are three mini water tanks located in Reddypalya one near the community hall, one near the anganwadi and another in the southern part of the locality. There are only two borewells. These have motors and are located somewhat near to the Anganwadi in the southern part of the locality. One open well is located in the northern part of the slum.
- Sanitation - As against Nellorepuram, there are no public toilets in the locality. This was also confirmed during the FGDs when the participants said that there very few individual toilets in this area. Neither are there any public toilets. All three groups agreed that there is a need for toilets but did not

clearly say whether they preferred public toilets or individual ones for their slum. Many of the people go to open places in areas nearby.

In terms of type sewerage system observed, most of locality does not have any drainage system. The drains that are to be seen are along two roads in the northern part of Reddypalya. These constitute mainly of covered drains. During the FGDs, while the youth and children said there was a drainage system in their slum, the women said there was not. The youth indicated that there were L-shaped drains. When asked if the drains are cleaned the youth said they are not while the children said they are. The children also said that a hired person cleans the drain and the families pay him Rs 40 or 50. There is no UGD provision in Reddypalya.

For the whole slum locality put together there are about four garbage disposal sites or dustbins all located along the southern boundary of Reddypalya. However, they are actually located outside the boundary area of the locality.

- Other facilities - Among other infrastructural facilities, there is one Anganwadi located in the southern part of the slum, right next to which there is also an Ashwath Katte. There is a community hall located in the central part of the locality. One government school and one private school are located within the slum and two private schools are located in its vicinity.

In terms of health facilities, there are no basic public health facilities in the locality; no private clinics are to be seen either.

Population Composition

- Reddypalya has a population of about 2750 persons in about 550 houses.
- The people in this slum are mainly migrants from Andhra Pradesh and Tamil Nadu. The residents comprise mostly of Hindus and some Muslim and Christian families. Tamil, telugu and kannada are the predominantly spoken languages. The residents mostly belong to scheduled castes, but there are some lingayats and gowdas as well.
- The main occupation of the men is driving, carpentry, vegetable vending and construction work, and also as drivers (auto/taxi) while women are mostly domestic workers or working in garment factories. The children work in garages or help with painting work.
- There is a high level of ownership or BPL ration cards and voter ID cards among the residents of Reddypalya and most of them pay property taxes too.

Issues raised during FGDs

- When asked to identify the problems that their locality faces there was not much difference among the three groups. While water and drainage were identified as problem areas by all the three groups, the youth mentioned toilets, housing and roads in addition while the women mentioned toilets, roads and the lack of a bus stop, and children added garbage but did not mention toilets. While the youth did not specify any major or main problem the women highlighted water and drainage as the main issues and so did the children. Interestingly, when asked to identify the problems for women, while the women themselves said water and drainage were the most troublesome, the youth felt it was the distance to the ration shop that was the problem for women and the children did not say anything in this regard.
- There was total agreement among the three groups on the need for drinking water facility in their slum, and also on the need for individual connections (however, the children seemed to indicate unwillingness to pay). Youth and women indicated their willingness to pay for a connection and specified amounts upto Rs 1000 and Rs1500 as what they would be willing to pay for a connection and also reported that they would prefer a monthly payment for the usage.
- There seems to be very little awareness on water borne diseases among the three groups. Only the children mentioned something about their getting fever as a result of contaminated water. Most families do not boil water as fuel is expensive. They just let the water settle and consume the top part.

2.3 Sanjayanagar

Profile - Sanjayanagar slum is located in the Mahadevapura CMC, in the constituency of Varthur and constitutes Ward No 27 of Manjunathanagar. The nearest located main area is Marathahalli and connectivity is mainly from the Marathahalli bus stop. The slum has been in existence for about 25 years now. It is located on government land and was initially occupied by people to prevent the land being taken over by a private party. As a notified slum, people were given khatas to stay in the land under the Ashraya Yojana due to initiatives taken up by the local MLA; as a result, the slum is well-organized with houses arranged in rows with streets in between.

Geographical boundaries - The slum locality is bounded by HAL property on its northern and eastern sides, Manjunatha nagar on its western side and HAL property along with the HAL-Marathahalli main road on its southern side. The entry point from this main road is marked by the location of a transformer and flag post.

Distribution of facilities - A study of the distribution of WatSan facilities highlights the following:

- **Public drinking water facilities** - Among the public drinking water facilities that are available include public taps, mini water tanks, handpumps / borewells, handpumps / borewells with motors and open wells.

There are about 105 public taps located at various points in almost each of the streets crisscrossing the locality; almost every three households have access to one public tap. However, feedback from the FGDs, mainly from the women's groups indicate that that water in public taps is released by the CMC (which maintains the public taps) only once in two days for about two hours, which is not enough. This leads to quarrels at the taps among these women who fetch water. The number of working taps mentioned by the women is also less than the numbers mapped in the social mapping exercise. This indicates that some of the public taps may not be working. The women also reported that a monthly amount of Rs. 10/- is paid to the waterman.

Among the other public drinking water sources, one mini water tank is located at the entry point to the slums from the HAL-Marathahalli main road on the southern side. Of the two handpumps/borewells in Sanjayanagar, one is located on the Manjunatha nagar main road and another on the eastern side of the slum locality. Though there are three borewells with attached motors only one is located in the central area of the slum, the others are located outside the slum boundary on the northwestern side. Unlike the two slums of KR Puram, interestingly there are 14 open wells located in various parts of Sanjayanagar, which are quite well distributed across the various streets in the locality.

- Sanitation – Sanjayanagar does not have any provision for public toilets for its residents.

A sewerage system runs parallel to the outer boundaries of the locality, while none of the streets within the locality have any covered drains. Some drains along the streets in the locality are mainly small stormwater drains – mainly L-shaped drains. According to feedback from the FGDs, they are not cleaned regularly. Since UGD are yet to come, those who have individual toilets use pits to drain their dirty sewage.

Eight garbage disposal sites have been identified in Sanjayanagar, all located along the Manjunathanagar main road and ending at the end of the streets.

- Other facilities – Sanjayanagar as compared to the two slums of KR Puram is more well endowed with other facilities, which among others include two government schools, both primary and high schools, an Urdu madrasa, a Yuvaka Vikasa Mandali, and a Vishwakarma Seva Sangha. The FGD participants indicate that most of the Sanghas are quite active in their locality with the members doing active work. Among the others mentioned include Jhansi Rani Mahila Mandali, and also a collective federation of SHGs which have taken up local issues and demand for their rights.

An Agarbatti Factory is also located in the central part of the locality; adding scents to the rolled agarbattis and packing of the same is carried out here. However, the slum does not have an Anganwadi.

In terms of health facilities, there are no basic public health facilities in the locality; no other type of private health facilities either. Unlike the KR Puram slums, there are also no Ashwath Kattes in this slum.

Population Composition

- Sanjayanagar has a population of about 1875 persons in about 375 houses.
- Most of the households comprise of migrant families.
- As per information received from FGDs carried out among the men, women and children in the locality, residents are a mix of religions including Hindus, Muslims and Christians. Among the Hindus, the main castes include SCs and STs speaking Tamil, Telugu, Kannada, Marathi, Malayalam and Urdu; other castes include Reddys and Brahmans.
- Main occupations followed by its residents include men working as painters, construction labourers, Class IV employees in HAL, plumbers, cobblers and factory workers; mostly working as daily wage earners. Among women it is mostly working as housemaids in the nearby localities, flower vendors, workers in garment factories and also rolling agarbattis not only for the factory in the slum but for other factories as well.

- Most families have voter ID cards and BPL ration cards and also pay property taxes.

Issues raised during FGDs

- Participants in the FGDs identified water, sanitation and roads as problem issues.
- Inadequate water from public taps is also of concern among the residents as mentioned vociferously by the participants especially in the FGDs carried out among women.
- Feedback from FGDs also clearly suggests the need for piped water in their area. The participants have noticeably expressed their willingness to take individual connections and pay for them. On an average they have specified Rs. 600/- as the amount they are willing to pay for the connection and also pay a monthly amount for usage of the same.
- No cleaning of drains and need for UGDs are issues that were mentioned by the participants while discussing drainage facilities. The participants also mentioned preference for individual toilets quite emphatically as the opinion was that they are more likely to be kept clean.
- Awareness levels with regard to water-borne diseases are very low. But feedback from FGDs reveal occurrence of cold, fever and throat infection among children in the locality and the women feel that there is a relationship between the quality of water and these illnesses.

2.4 Manjunathanagar

Profile - Manjunathanagar slum is located in the Mahadevapura CMC, in the constituency of Varthur and constitutes Ward No 27. The nearest located main area is Marathahalli and connectivity is mainly from the Marathahalli bus stop. Part of this L-shaped slum belongs to the government and the other to HAL. This slum came into existence about 25-30 years back and has been growing in space and numbers since then. Almost all residents have khatas and 'hakupatras' giving them the right to stay without any land ownership. A substantial proportion of the houses have been built under the Ashraya scheme, though not in the same organized manner as seen in Sanjayanagar.

Geographical boundaries - The slum locality is bounded by HAL property on all its sides, and is in continuation from Sanjayanagar from its eastern side joined through the Manjunathanagar main road.

Distribution of facilities - A study of the distribution of WatSan facilities highlights the following:

- **Public drinking water facilities** - Among the public drinking water facilities that are available include public taps, mini water tanks, handpumps / borewells, and handpumps / borewells with motors.
The social mapping exercise shows that there are about 85 public taps located at various points in most of the inner streets in the locality. The discussions revealed that every 5 to 6 households have access to one tap. The number of taps was varyingly given by the three FGD groups. Some taps were also reported to be non-functioning since there was no pressure. There does not seem to be fixed timings of supply for water. Water is supplied once in two days or four days, and most times late at night. Water is fetched mostly by women or female children. There are reports of fights at the taps.
Two mini water tanks are also located in Manjunathanagar, both located near temple complexes in the southern and northern parts. There are five motor adapted borewells in the locality with only one located in the central part of the locality. Unlike Sanjayanagar, there are no open wells in Manjunathanagar.

- **Sanitation** - Sanjayanagar does not have any provision for public toilets for its residents. Participants in the FGDs also stated that there are not many houses with toilets. All three groups reported that they were using the HAL grounds till recently but now the wall has been raised and they cannot go there. There is an acute need for toilets. While the youth felt that there is a need for both public and individual toilets, the children felt public toilets were required.

The women reported that there was in fact a public toilet built and an inauguration done but the HAL authorities objected and had them demolished. The women expressed the opinion that individual toilets would be preferable as maintenance of the public toilet may be difficult. They also averred that if UGD provision is done they can make space for individual toilets in their homes.

A sewerage system runs parallel to the outer boundaries of the locality; drains are also located along another main road of the slum. According to feedback from all three FGDs, participants majorly reported the existence of drains in the locality. These are mainly open L or U shaped drains. All lanes do not have drains it was reported. While they all agreed that the drains are cleaned, the youth said it was the CMC that cleaned the drains and that no money was paid while the women said they do pay Rs 10 or so to get he drains cleaned. The children said the community cleans the drains. The women amusingly stated that the drains are cleared specially when there are elections coming up. Rainy seasons see overflow of drains into houses. There is no UGD facility according to all groups. The houses that do have toilets use pits for drainage.

About ten garbage disposal sites and dustbins have been identified in Manjunathanagar, however they are all located in the peripheral areas of the slum, some also outside the slum boundaries.

Other facilities - Manjunathanagar also, as in the case of Sanjayanagar has other infrastructural facilities. These include one Angawadi, two government schools, Ashwath katte, APSA CLEC, a Samudaya Bhavan, and a fair number of temples. There are some active Sanghas that take up issues that are taken up on a participatory note by all members, however it has been observed that there also exists some politicization of issues. Some of these organizations include Adi Jambava Janasangha, Arundhati Mahila Sangha, Rajiv Gandhi Yuva Shakti Sangha, SHGs, Children Collectives and Stree Shakti Groups.

Population Composition

- Manjunathanagar has a population of about 2250 persons in about 450 houses.
- Manjunath Nagar also contains mostly Hindu families with about 10 households each of Muslim and Christian families. Most families have migrated from other southern states and rural Bangalore for better prospects. Tamil, Telugu and Kannada are the main languages spoken with a few families speaking Marathi or Malayalam or Urdu.

- The main occupation of men here is painting, welding, vegetable and fruit vending, construction work including brick and tiles making, tailoring and employment in hospitals. The women mostly go for domestic work in nearby localities, while some work at garment factories. The children work in garages and hotels or do construction work too.
- Most families own BPL ration cards and voter ID cards as well.

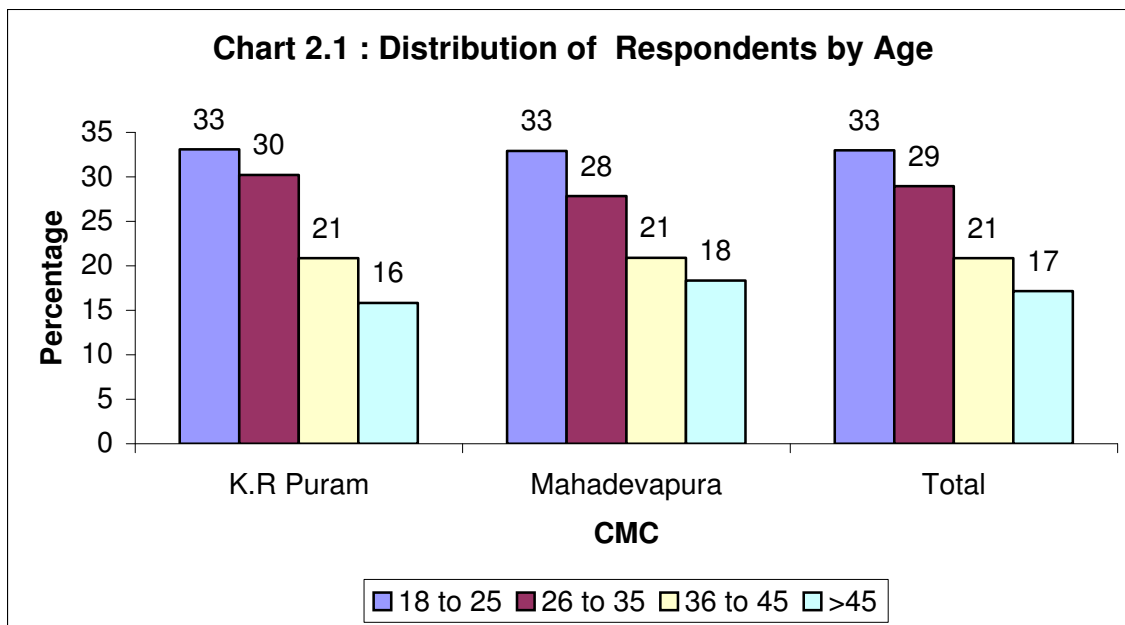
Issues Raised during FGDs

- In the FGDs, women identified water, toilets, drainage, apart from lack of availability of loans, high rents, lack of *khata*, and lack of job opportunities for their children, as the major problems they face.
- The youth listed water, sanitation, drainage, and the lack of a school building as main problems.
- The children gave sanitation, water, garbage clearance, and electricity as problems for their locality.
- With regard to willingness to pay, while all the groups agreed on the need for piped water, there was disagreement on the willingness to pay for it. While the children and youth clearly indicated their willingness to pay and specified the amounts as Rs 500 to 600 and Rs 800 respectively, the women were initially reluctant to specify the amount. After being explained the benefits of getting clean water at their homes they agreed and said they were willing pay around RS 500 for the connection and around Rs 20 or 30 as monthly payment for usage. The women later admitted that if one of the households got a connection others would also follow.
- Regarding other infrastructure facilities, all groups also reported that there is a school building that was begun but due to objections left half constructed.
- Water borne diseases are not a common occurrence in the locality as have been reported by the youth in the area. The children said that there are some water borne diseases but were not able to name them; saying people get fever and colds or malaria. The women talked in general about the danger to the environment and how unclean surroundings may lead to illnesses but were unable to specify any illnesses that could be a result of water contamination.

2.5 Demographic Profile of Respondents from Survey

The demographic profile of the respondents based on the feedback given by residents of K.R.Puram and Mahadevapura are given below.

Out of total respondents, 77% were female (68% from K.R. Puram and 86 % from Mahadevapura). The distribution of the respondents by age is given in Chart ... below. It can be observed that across both CMCs the age distribution is reasonably even. The highest proportion of respondents belongs to the age group of 18 to 25 years (33%) in both the CMCs.



Almost all the respondents, 85% in K.R. Puram and 86% in Mahadevapura are Hindus. Charts .. and give the distribution of the respondents by education levels in the two CMCs. Illiteracy is very high in both K.R. Puram (34%) and Mahadevapura (39%). However, 46 % of the respondents in K. R. Puram and 54% of respondents in Mahadevapurm have studied up to High school level.

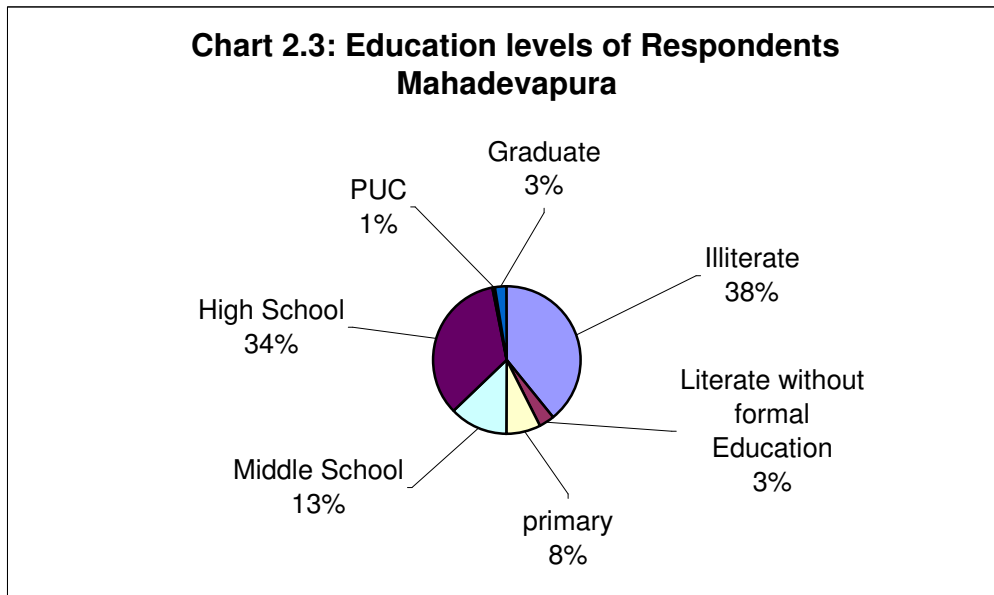
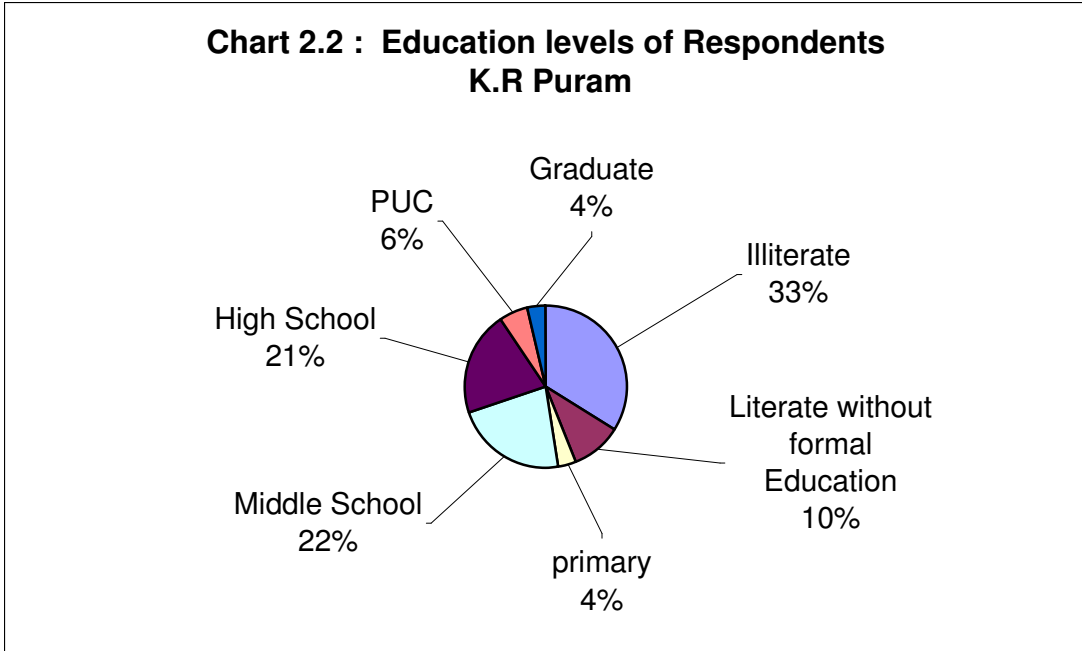
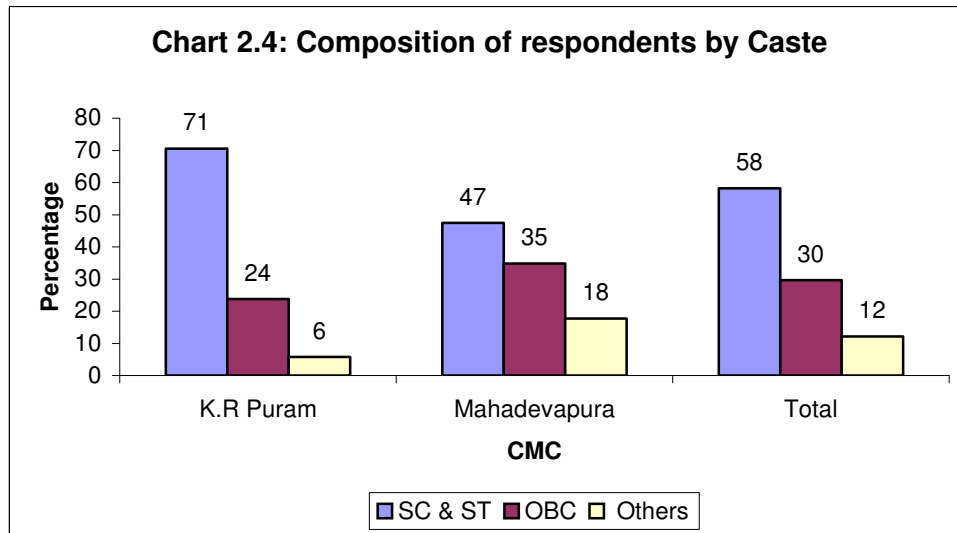
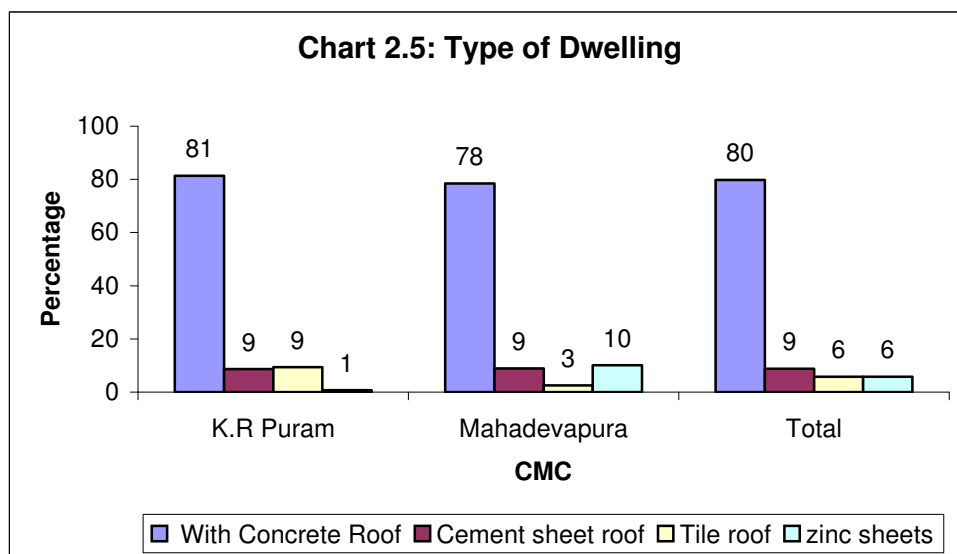


Chart .. Shows the caste composition of the residents of the two CMCs. On the whole, 58% of the residents belong to the SC and ST category. In K.R. Puram 71% belong to SC and ST and 24% belong to OBC. In Mahadevapura 47% belong to SC and ST and 35% belong to OBC.



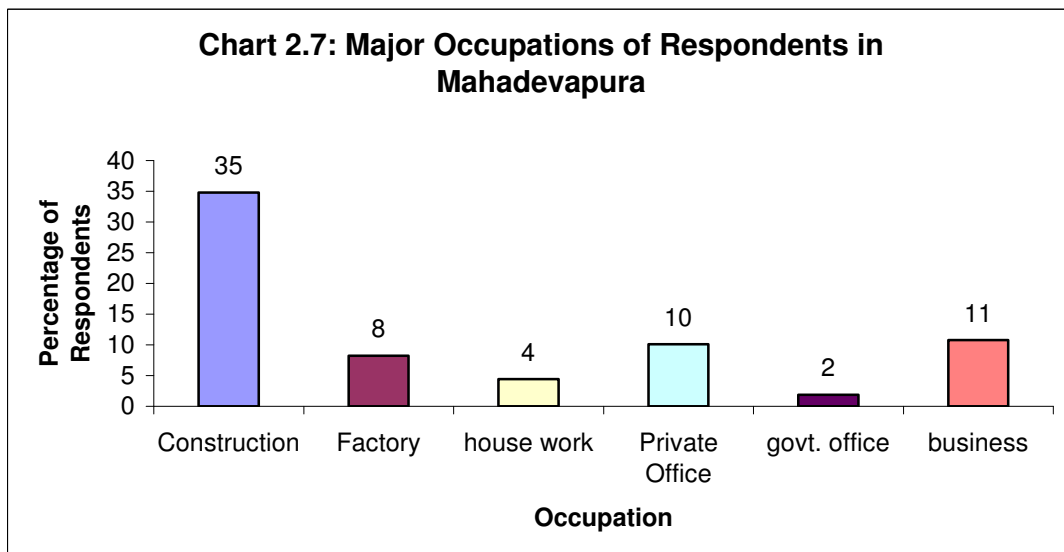
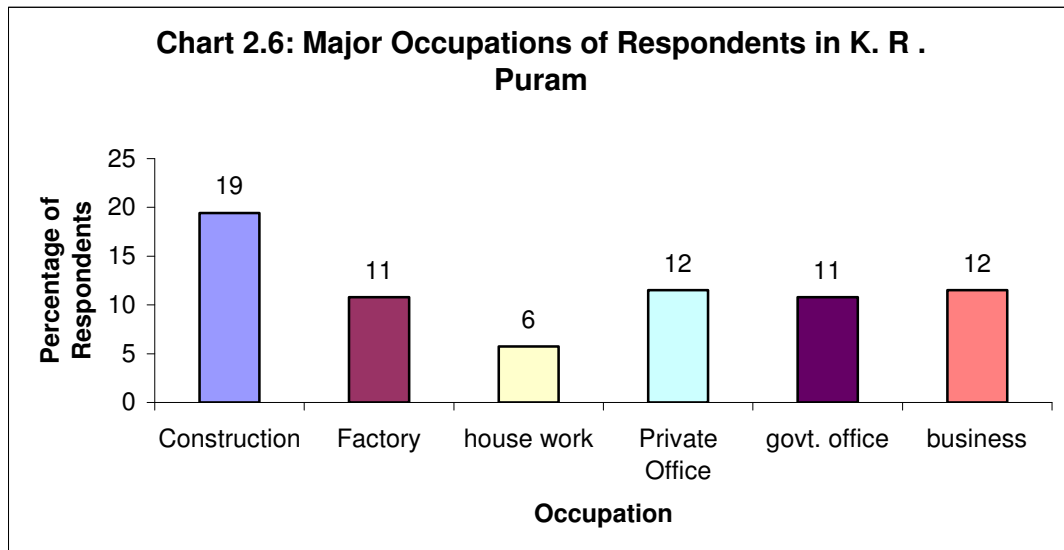
One fourth of households live in joint families that is 23% in K.R.Puram and 27% in Mahadevapuram.

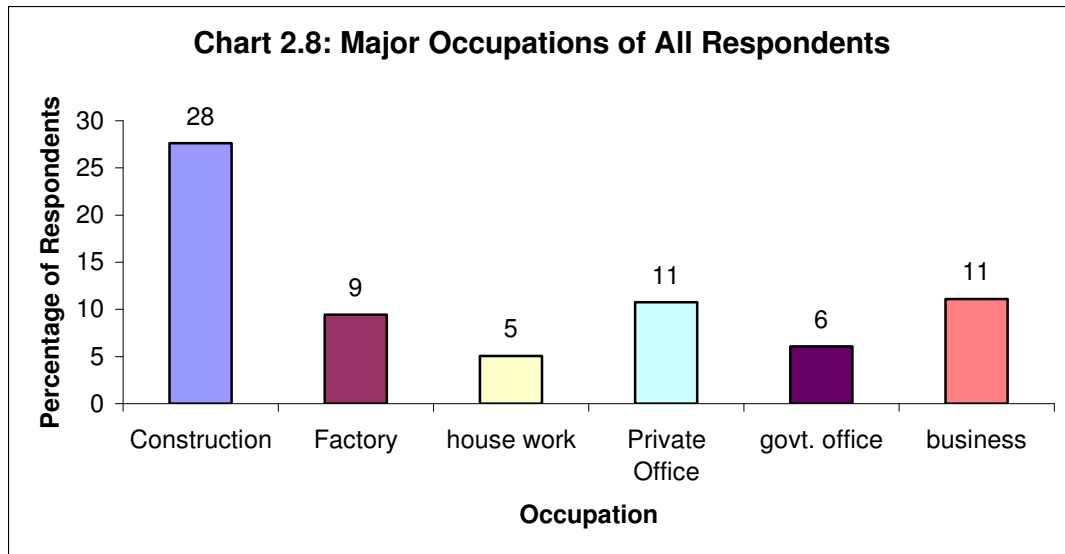
Chart .. shows that most of the residents in both CMCs are living in houses with concrete roofs.



In K.R.Puram, 74% of the households have their own houses while 66% own houses in Mahadevapura. And the rest are staying in rented houses. The approximate size of the house is 384 sq.ft. The average size of the house in K.R.Puram is 397 sq.ft. and in Mahadevapuram it is 372 sq. ft.

The average household size is 8 and the average number of males and females in both the CMCs is 2. The average number of workers is 5. The average number of adult male workers is 2 in K.R. Puram and 1 in Mahadevapura. The average number of adult female workers in both the CMCs is 1.





The three Charts above give information on the major occupations of the respondents in the two CMCs as well as overall. As can be observed, the main occupation seems to be related to construction work. The residents are either masons or painters or bar benders. The women are mostly into domestic work or in garment factories. There are minor variations between the two CMCs in the occupational distribution.

3 MAJOR FINDINGS - DRINKING WATER

The following section presents the major outcomes of the data collection and analysis that was carried out in the four selected slums of the two CMCs for drinking water. Analysis has been carried out at the following levels:

- General, and
- across CMCs and

Feedback collected from the respondents on drinking water services is presented in this chapter. Responses on access, usage, quality of service, corruption and interaction with officials in relation to the different sources of drinking water that are used in the slums covered in the two CMCs.

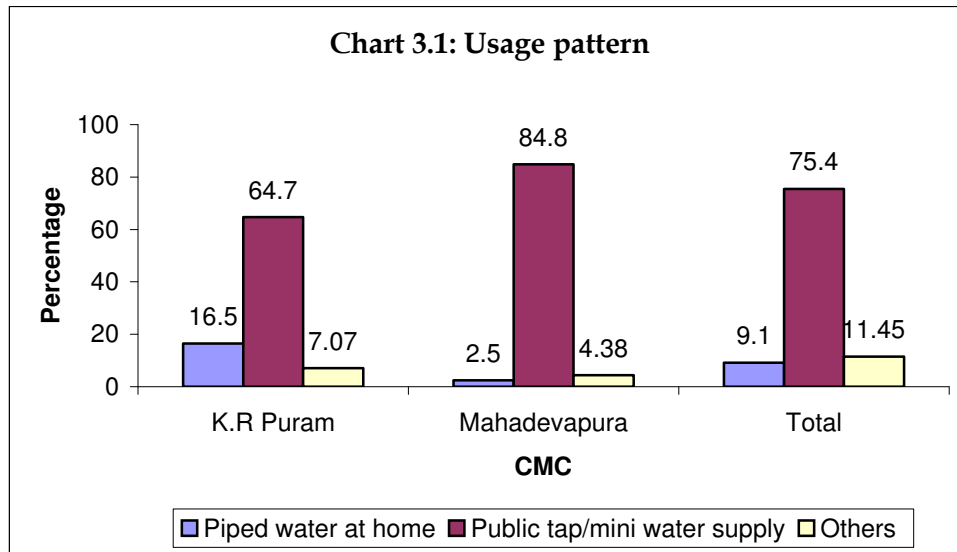
3.1 Access to sources

Access to piped water is very limited with just about 9% of the people having access. The major source available is public taps or mini-water supply taps, (95%). Other sources available include hand pumps, community wells and water supplied through carts.

Table 3.1: Access to sources of water

<i>Source accessible</i>	<i>CMC (%)</i>		<i>Total</i>
	<i>K. R. Puram</i>	<i>Mahadevapura</i>	
	<i>N= 139</i>	<i>N=154</i>	<i>N=297</i>
Piped water at home	16.5	2.5	9.1
Public tap/mini water supply	92.8	96.8	94.9
Others	16.5	10.7	13.5

Comparison across CMCs reveals that access to piped water is greater in KR Puram as compared to Mahadevapura. While public taps are the major source accessible for both CMCs, handpumps are more available in KR Puram and community wells are more common in Mahadevapura.



Those who have access to piped water in their homes are all using the water from the pipe. In the case of public taps, usage is significantly lower than the availability. The gap is higher in the case of KR Puram.

Other sources such as community wells and hand pumps are not used much.

3.2 Public taps

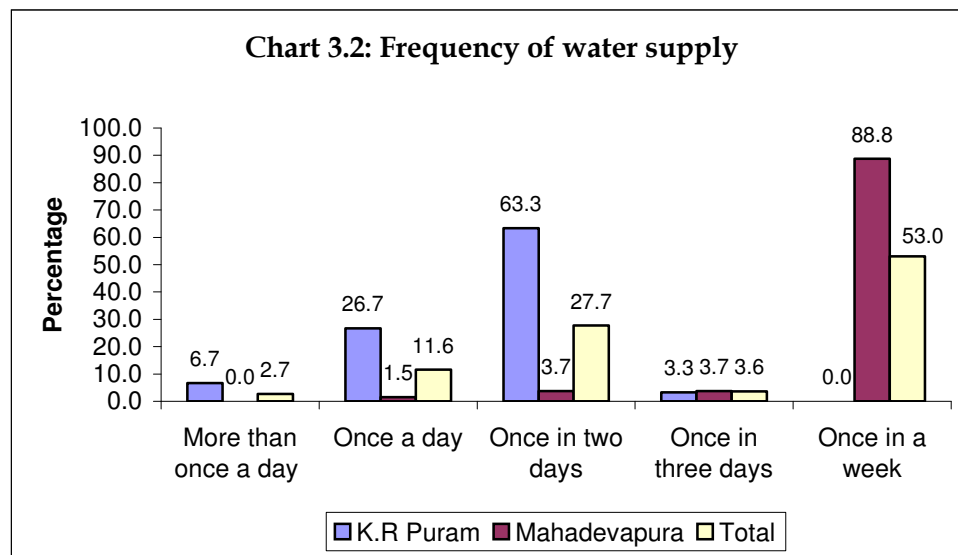
3.2.1 Quality of Services:

Different aspects of service quality were measured through the study. The results are given below.

3.2.2 Availability throughout the year and scarcity

Just about 30% of the users have said water is available throughout the year in public taps. This availability is much higher in KR Puram (44%) than in Mahadevapura (20%). Scarcity of water is more acute during the months of March to May (48% to 94% users report this), more residents of Mahadevapura are affected by the scarcity than the people in KR Puram.

Most residents of the four slums go to either a nearby locality or a water tanker when there is scarcity. About 15% also resort to purchasing water.



Nearly 76% of the respondents find the frequency to be insufficient for them. In KR Puram 57.8% found the water to be insufficient while 88% of users in Mahadevapura say so. Nearly half of those who don't find the water sufficient, want it supplied more than once a day. More of the users of KR Puram (71.2%) wanted the water to be supplied more than once a day than those of Mahadevapura. While residents of KR Puram want water for at least 2.58 hours in a day while those who are from Mahadevapura want water for 2.48 hours.

3.2.3 Distance to Public Tap

On an average people travel a distance of 48.7 meters to access water. While Mahadevapura slum-dwellers have a public tap just 13 metres from their residences, residents of KR Puram have to travel 102 meters to access the tap.

It is the adult female in a large number of households that fetches the drinking water (81.7%). This is more so in Mahadevapura.

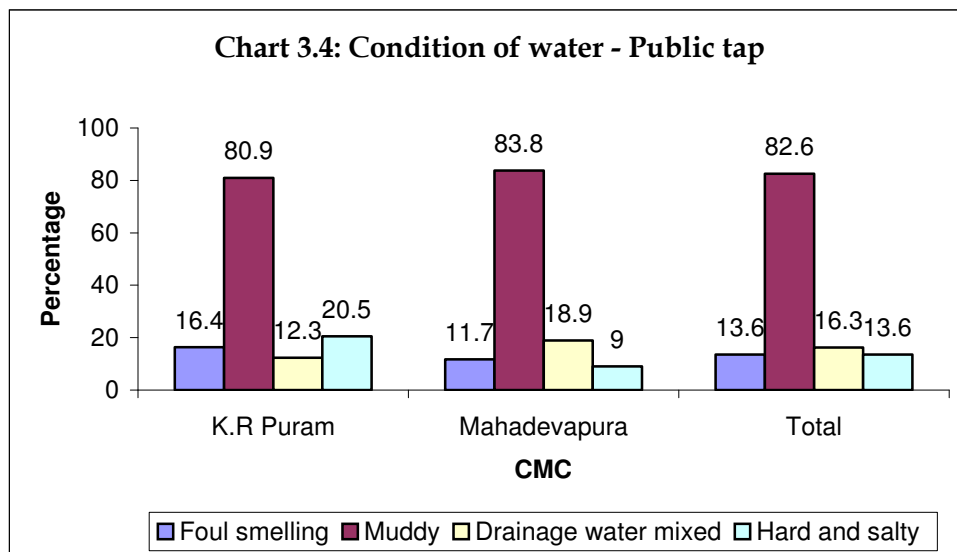
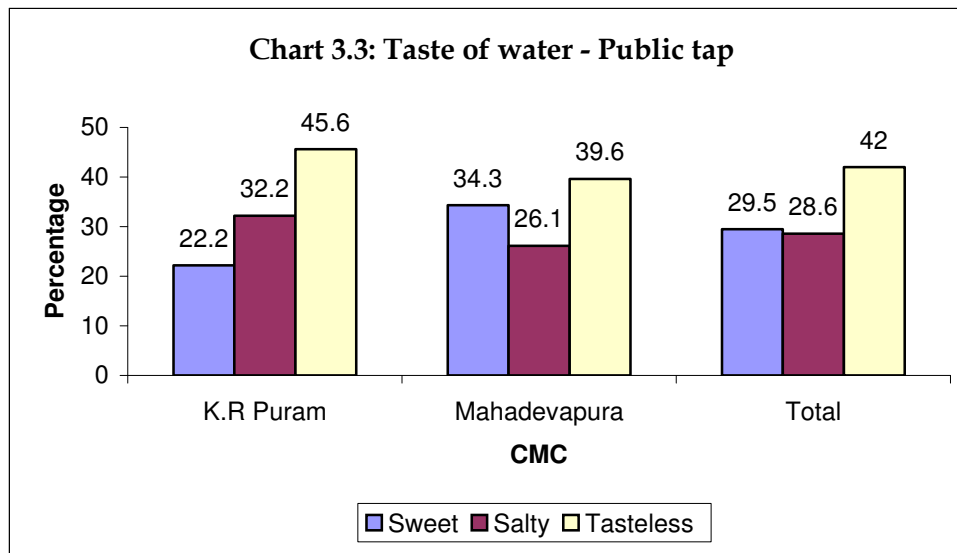
3.2.4 Adequacy of water and convenience of timings and location

Less than a quarter of the slum citizens (23%) find the water to be adequate for their household needs. In KR Puram 40% find the quantity adequate and 11.9% of residents of Mahadevapura complain that the water is not adequate. Only 22 % of the residents of the two CMCs find their timing convenient. More of KR Puram residents find the timings convenient. Water is mostly released in the mornings in both CMCs. Around 55% of the respondents found the location of the source

convenient. More of Mahadevapura residents (46.7%) find the location convenient than do residents of KR Puram (60%).

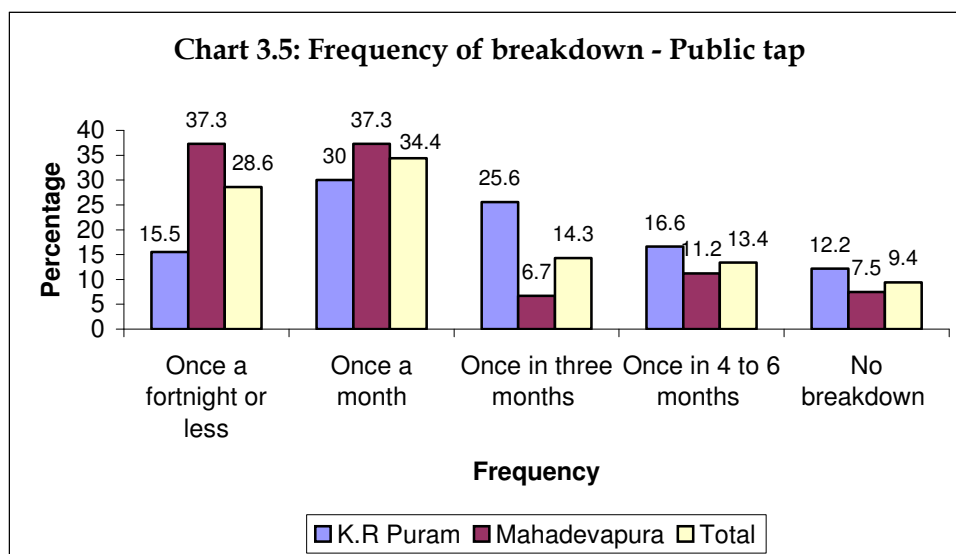
3.2.5 Quality of water

Users were asked to assess the quality of water from public taps in terms of taste and the condition of the water. Findings are presented in Charts 3.3 and 3.4.



3.2.6 Grievance redress

Users of public taps have also reported on the frequency of breakdowns, and their interactions with the staff in relation to complaints.



Around 44% of the users of public taps who experienced breakdowns in the past one year lodged a complaint. A very large percentage of the complaints were made orally (89.9%). Also, these complaints were largely made in groups (88.8%). Interestingly most complaints were made to the councilor of the area (70.8%) and some (16.9%) to the CMC. While 25.8% of the slum residents said prompt action was taken on their complaints, 33.7% said there was delayed action taken. A large 40% of the complainants reported that there was no action taken.

Though there is no significant difference across CMCs in any of these factors, the satisfaction with the complaint dealing system of the CMCs varied. In KR Puram 42.8% of the slum respondents were satisfied while 55.5% in Mahadevapura expressed satisfaction. The major reason given for dissatisfaction was that prompt action was not taken on their complaint (73%). In Mahadevapura 90% of the people gave lack of prompt action being taken as the main reason for their dissatisfaction, while in KR Puram it was 52.9% of the people.

3.2.7 Corruption

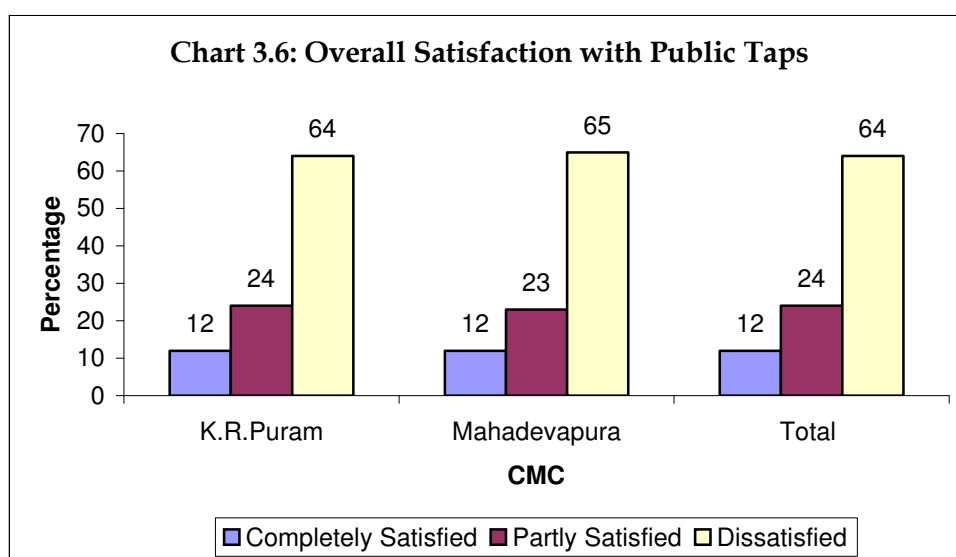
One would expect that slum dwellers being poor would be spared the agony of paying bribes to get their work done. The study revealed that it was not so. Table 3.2 shows the details on what percentage paid a bribe, how much they paid, whether it was demanded and how many times a bribe was paid.

Table 3.2: Corruption indicators for drinking water

Corruption indicators	CMC (%)		Total N=224
	K. R. Puram N= 90	Mahadevapura N=134	
Percentage who paid a bribe	44.4	35.1	38.8
Purpose for payment			
To get connection	22.5	19.1	20.7
For repair work	60.0	72.3	66.7
For supply of water	25.0	17.0	20.7
Average Amount paid	23.0	16.06	19.25
No of times bribe paid			
Once a month	80.0	91.5	86.2
Once in six months	20.0	6.4	12.6
Percentage saying bribe was demanded	60.0	68.1	64.4

3.2.8 Overall Satisfaction with public taps

About 36% of the households have expressed satisfaction with the services of public taps. The satisfaction is relatively higher in KR Puram as compared to Mahadevapura. As can be seen from Chart ... only 12 % of the respondents are completely satisfied with public taps in both CMCs. The dissatisfaction levels are very high in both CMCs.



3.3 Piped water supply

3.3.1 Quality of water supply

Of those households that have access to piped water, 80% used it as the main source of water (76% of residents of KR Puram and all the five households from Mahadevapura). Chart 3.7 presents the frequency of water supply from the piped water source.

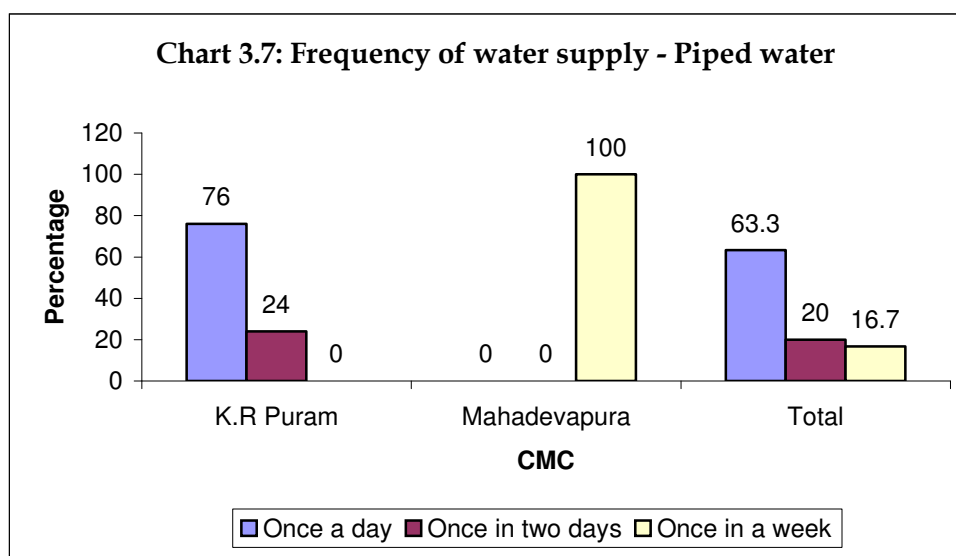
3.3.2 Availability throughout the year and scarcity

Water is available throughout the year for 66.7% of the residents (68% in KR Puram and 60% in Mahadevapura). Maximum scarcity is faced in the month of April and to some extent in May and June. During periods of scarcity the users go to nearby localities to fetch water for their use.

3.3.3 Expenditure on Piped water

On an average, households are spending about Rs 20 every month on piped water. While in KR Puram the average amount paid is Rs.16.67, it is Rs 50 In Mahadevapura.

3.3.4 Frequency of water supply



The frequency of water supply is once a day for most users in KR Puram and once a week for slums in Mahadevapura.

The duration of water supply is .. While KR Puram gets water for .. hrs Mahadevapura get water for .. hrs.

The frequency of supply was found to be insufficient by 56.7% of the slum residents. While 68% of KR Puram slum dwellers said they did not find the frequency sufficient, all the 5 households in Mahadevapura who have access to piped water found it to be insufficient. Of those who found the frequency to be insufficient, 69.2% wanted it to be supplied once a day (76% in KR Puram and 60% in Mahadevapura). Most of the respondents (69.2%) wanted the supply of water from the pipe for atleast 2 hours. While 75% of residents of KR Puram said they wanted water for 2 hours, 60% of those in Mahadevapura said so.

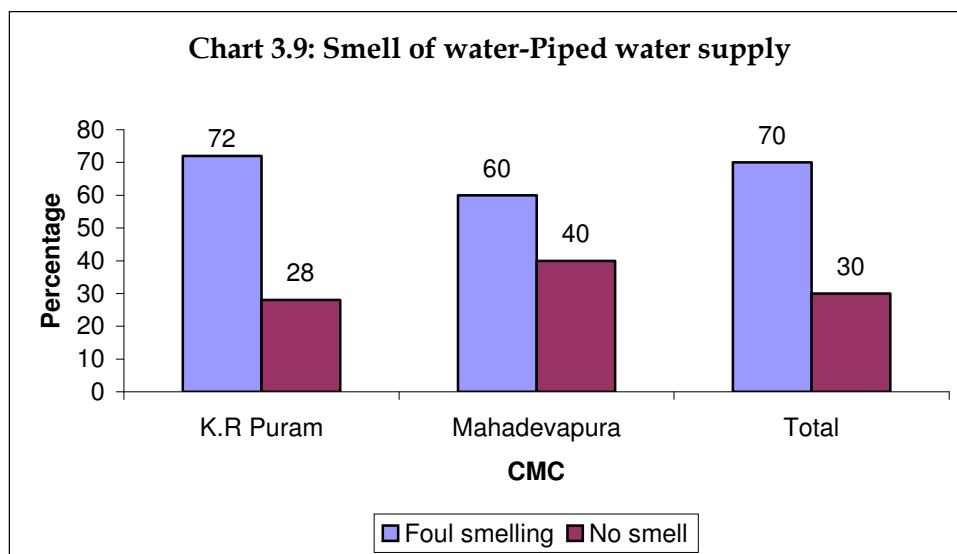
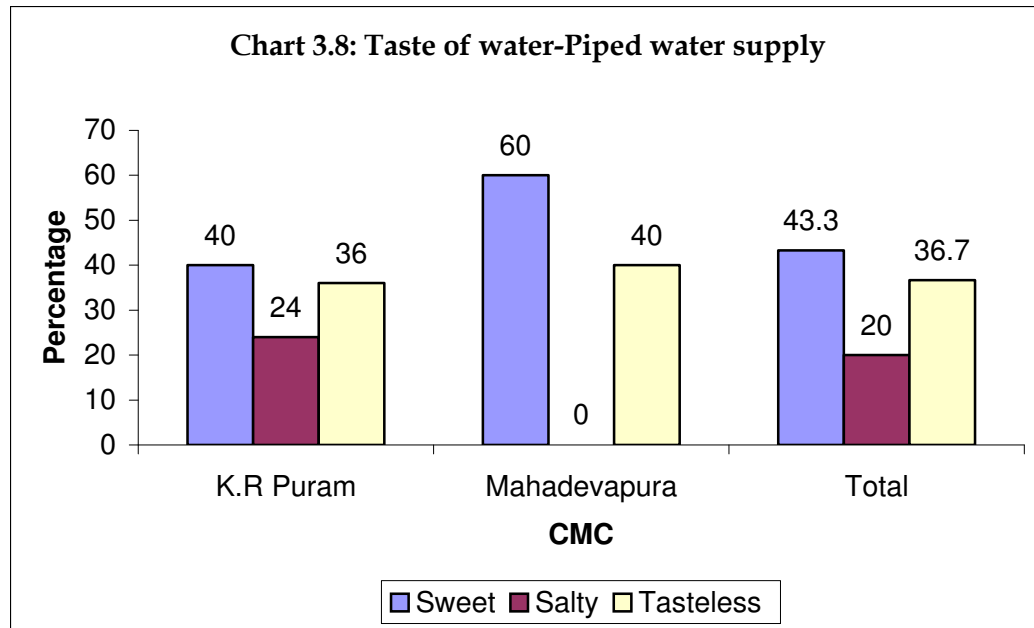
3.3.5 Adequacy of water and convenience of timings and location

Half the households have reported that they are satisfied with the adequacy of water supplied through pipes. Respondents from KR Puram (52%) find the adequacy a little better than those in Mahadevapura(40%).

The timings for water supply were found to be convenient only by 46.7% of the slum dwellers. While 56% of those in KR Puram found the timing convenient, none of the respondents from Mahadevapura did. Those who did not find the time convenient proposed that water be supplied from between 5 am and 11 am.

3.3.6 Quality of Water

Feedback from the residents of the four slums in the two CMCs on the taste and condition of the water supplied to them through the pipe is given in Chart...



The water is found to be sweet by 43.3% of the households and salty by 20%. Around 36.7% find it tasteless. Water in KR Puram seems to be quite salty while there is no salty water in Mahadevapura. The water has been reported to smell foul by 70% of the respondents.

3.3.7 Corruption

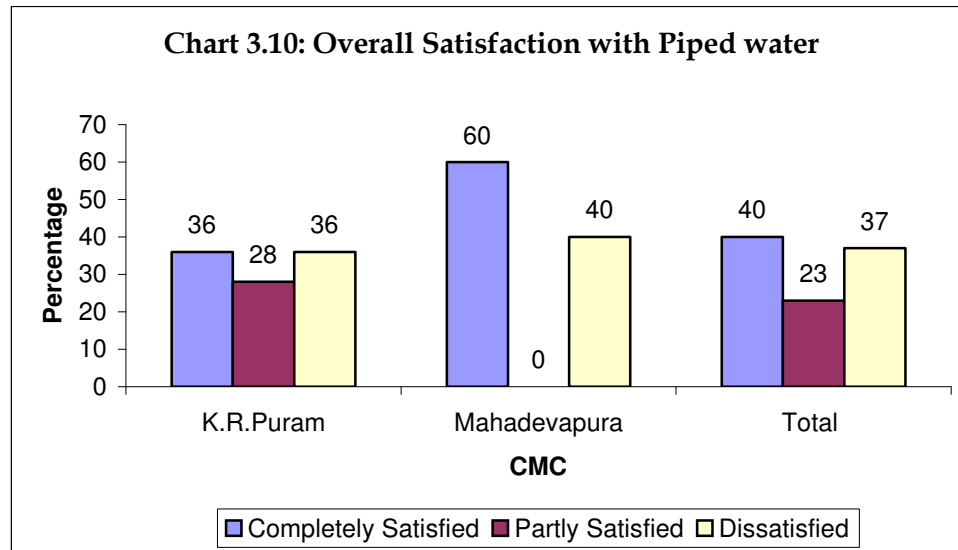
Bribes were paid by 20% of the users of piped water. While 33% paid a bribe to get a connection, and 50% to get water released, 16.7% paid to get repair work done. On an average around Rs113 were paid out as bribes. These payments were for repair work, new connections and for releasing the supply of water. (refer Table 3.3)

Table 3.3 Corruption in the use of piped water supply

<i>Corruption indicators</i>	<i>CMC (%)</i>		<i>Total</i>
	<i>K. R. Puram</i>	<i>Mahadevapura</i>	
	<i>N= 25</i>	<i>N= 5</i>	<i>N= 30</i>
Percentage who paid a bribe	20.0	20.0	20.0
Purpose for payment			
To get connection	40.0	0.0	33.3
For repair work	0.0	100.0	16.7
For supply of water	60.0	0.0	50.0
Average Amount paid (in Rs)	126	50	113.33
Percentage saying bribe was demanded	60.0	0.0	50.0

3.3.8 Overall Satisfaction with piped water supply

Over 63% of the households are satisfied with the piped water supply services. There is no significant difference between the CMCs. The major reasons for dissatisfaction are lack of quality of the water, foul smell and there being no fixed time for supply of water. As can be noted from Chart .., while all those who are satisfied are completely satisfied in Mahadevapura, in K.R.Puram 36% are completely satisfied and 28% partially. Though not as high as in the case of public taps, the dissatisfaction levels are high on the whole.



3.3.9 Expenditure on water supply

Money is spent on getting water to supplement the piped water in 38% of the households. This is more so in KR Puram. On an average, people in KR Puram are paying Rs 94 /- and those in Mahadevapura Rs. 55.26. (on the whole people pay Rs 74.69)

3.3.10 Need for water supply connections:

Around 23% have said they have contacted the agency for piped water supply connections. Almost all (94.3%) respondents have said their locality requires piped water connections. A resounding 86.8% of those who said they require a connection, and 81.8% of all respondents have clearly indicated that they would like to get individual connections.

3.3.11 Willingness to pay for individual connections

There have been several debates and studies on the willingness to pay issue. Since the general impression is that poor people are not willing to pay or not capable of paying for the facility of drinking water in the slums, there is a certain reluctance on the part of the service providers to levy charges. This issue has been well documented in the field note 'Willing to pay but unwilling to charge' brought out by the water and sanitation program of the UNDP and World Bank. This paper also explores the various methods that can be used to measure the willingness to pay and provides evidence on

willingness to pay in rural and urban communities in India³. Table .. below presents the findings from the four slums covered in this study.

Table 3.4 Willingness to pay for individual connections

<i>Willingness to pay</i>	CMC (%)		Total N=297
	<i>K. R. Puram</i> N=139	<i>Mahadevapura</i> N=158	
Percentage willing to pay for connection	71.2	82.3	77.1
Average amount willing to pay for connection in Rs	532.68	1021.35	810.09
Willing to pay on monthly basis	70.5	79.7	75.4
Amount willing to pay per month in Rs	74.88	106.04	94.21
Percentage choosing to pay a fixed sum	58.2	46.8	51.8
Percentage willing to pay meter charges	41.8	53.2	48.2

Willingness to pay for an individual connection is very high at 77% of all respondents and 94.2 % of those who said their locality required individual connections to be provided. The amount specified by the respondents are given in Table 3.4.

Around Rs. 800 is the amount arrived at as what people have expressed willing to spend for the piped water connection. Among those who are willing to pay, across both CMCs almost all express their preference to pay a monthly bill. If calculated on the basis of all respondents the percentages are over 70% in all cases. While half of the people willing to pay on a monthly basis, said they would prefer to make payments through a fixed monthly fee rather than a metered amount while the other half went the other way around. While respondents from KRPuram show willingness to pay Rs 74.88, those of Mahadevapura are willing to pay Rs 106.04 as a monthly fee.

³ Though the contingency method described in the paper is not used here, the respondents were asked several related questions to assess their willingness to pay. They were told of the expenses that the provider incurs, asked about the expenses they incur to get drinking water currently and then asked if they were willing to pay for individual connections and how much they were willing to pay per month.

4 MAJOR FINDINGS - SANITATION

Three aspects were covered in sanitation while carrying out the survey

1. Toilets
2. Drainage
3. Garbage

4.1 Toilets

Along with drinking water, provision of sanitation facilities is another basic need. This CRC assessed firstly the proportion of households that have access to toilet facilities in their homes and access to other sanitation facilities among those households who do not have such facilities.

4.1.1 Toilet facilities - Access and Usage

The study indicates that a substantial proportion (60%) of the surveyed households have toilet facilities at home. However, this is followed by respondents going to open places due to lack of public toilet facilities, especially in Mahadevapura where there are none. Consequently, more than 30% respondents have no choice but to go to open places in this CMC.

Table 4.1: Type of toilet facilities accessed

<i>Type of toilets accessed</i>	<i>CMC (%)</i>		<i>Total</i>
	<i>K R Puram</i>	<i>Mahadevapura</i>	
	<i>N=139</i>	<i>N=158</i>	<i>N=297</i>
Toilet at home	48.2	69.6	59.6
Public Toilet	36.7	0	17.2
Open places	15.1	30.4	23.2

In KR Puram, though the proportion of toilets at home is less, due to availability of public toilets, more than one-third of the households are accessing the same.

It is interesting to note that while **toilets at home** have been reported by more than half of the respondents there does not seem to be an appropriate sewerage system to make sure that the excreta is disposed in a hygienic and environmental friendly manner. This is clearly indicated in Table ; more than two-third of the respondents who have a toilet at home, use the pit system of disposal, while another 12 per cent say that it is disposed through storm water drains and the drains outside their homes.

Table 4.2: Type of sewage disposal from toilet at home

<i>Where sewage from toilet goes to</i>	<i>CMC (%)</i>		<i>Total N=177</i>
	<i>K R Puram N=67</i>	<i>Mahadevapura N=110</i>	
Underground Sewage System	28.4	17.3	21.5
Storm Water Drain	4.5	3.6	4.0
Drain outside the house	17.9	2.7	8.5
Pit	49.3	76.4	66.1

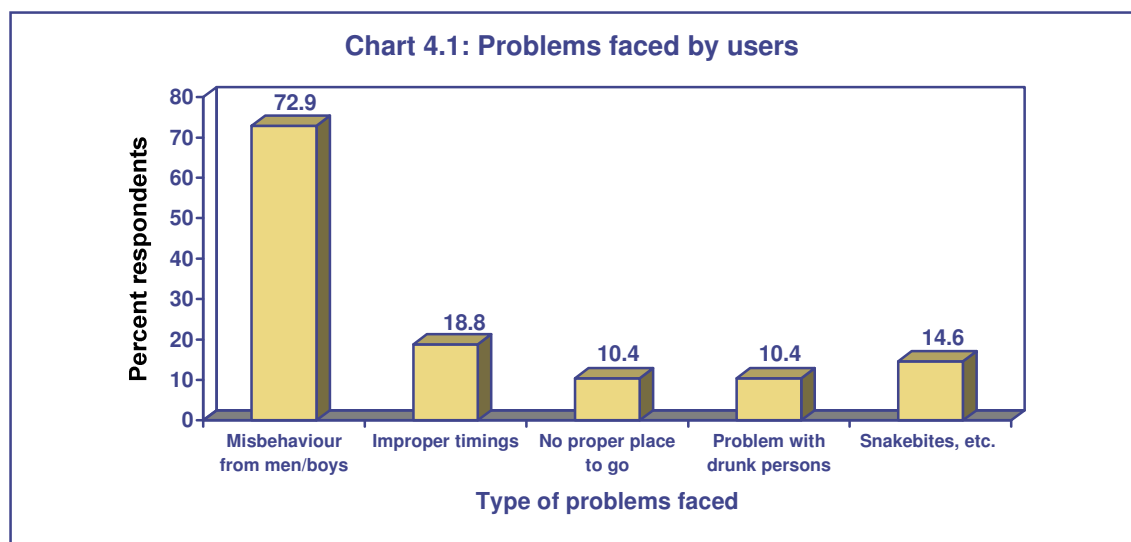
Mahadevapura, which has a larger proportion of households with toilet facilities at home, also has the larger proportion of households with a pit system. Almost 18% households in KR Puram dispose their toilet sewage in the drains outside the house, which can have ramifications in the form of spreading of diseases especially among the vulnerable, such as children and the elderly.

As mentioned earlier, **public toilets** are available in one of the surveyed CMCs, KR Puram and in only one of the two surveyed slums, namely Manjunatha nagar. The key findings with regard to usage of the public toilets are as follows:

- Out of the 51 respondents using the public toilet in KR Puram CMC, 76% say that they pay for the use of the toilets.
- The average amount paid for one use per person is Rs. 1.42/-.
- 49% of the respondents state that a person uses the public toilet not more than once a day. 39 per cent state that it is used at least twice by a person in a day.
- More than half of the respondents (52.9%) using the public toilets state that there is no water supply in the toilets.
- Perceptions regarding the agency managing the public toilets vary among the respondents. While more than one-fourth (25.5%) have expressed their ignorance, another one-fourth (25.5%) state that it is the CMC which manages the toilet. Among the other agencies mentioned include Private (15.7%), Councillor (13.7%), and local people (11.8%).
- Almost all (98%) respondents agree that there are separate toilets for male and females, and a majority says that there are none for children (84.3%).
- More than three-fourth of these respondents say that it would be good if there were separate toilets for children also.
- There are on an average four toilets for men and four for women.
- There is variation in observations regarding timings of public toilets also. Slightly less than half (47.1%) of the respondents state that the public toilets are open through out the day. Another 29% say that the public toilets remain open between 5am and 9pm, followed by those saying 6am to 8pm (11.8%).

Respondents having no toilets at home or any public toilets in their locality have no choice but to use **open places**. As observed, more than one-fifth of all the respondents surveyed, go to open places in general, and this is more than 30% in Mahadevapura.

- Among the respondents going to open places (69), the timings are mainly restricted to early mornings (38%), or late nights (29%). 15% respondents stated that they go both times.
A gender analysis regarding the timings indicates that marginally more women (39%) go in the early mornings than men (33%). However, this is more applicable in Mahadevapura CMC where 47 per cent female respondents have affirmed this as against 29 per cent male respondents. At the same time, this is vice versa in the case of KR Puram, where more proportion of male respondents (36%) go out in the early mornings as against females (26%). More female respondents (47%) in KR Puram go out during night times as against the male respondents (26%).
- Almost 70 per cent respondents say that they face problems while going to these open places. Both male and female respondents have indicated the same, though interestingly this has been said by more proportion of male respondents (74%) than the female ones (68%).
- Among the respondents affirming that they face problems when going to open places, the main problem faced is that of misbehaviour from boys/men/drunkards as stated by 83% respondents. Other problems include being able to go only during fixed timings like early mornings and late night (19%), fear of animals (15%) and no proper place to go to (10%).



4.2 Drainage

Drainage is an important characteristic of a sewerage system. Lack of proper drainage in any area can lead to health problems among its residents and environmental problems in the locality. This would be reflected in frequent occurrences in water-borne diseases among the vulnerable, such as children and the elderly, which has also been covered as a section in this study.

4.2.1 Drainage facilities - Availability and Usage

A significant proportion of the surveyed households have indicated that different types of drainage facilities are available in their localities as can be seen from Table 4.3. Open drains (both L-type and U-type - 63%) are mainly to be seen in the slum areas. More than one-fifth respondents have also mentioned covered drains.

Table 4.3: Type of Drains in the locality

<i>Type of Drains</i>	<i>CMC (%)</i>		<i>Total N=297</i>
	<i>K R Puram N=139</i>	<i>Mahadevapura N=158</i>	
L type drains	37.4	8.9	22.2
U type drains	29.5	50.0	40.4
Underground drains	7.2	10.1	8.8
Covered drains	20.1	24.7	22.6
Storm water drains	1.4	3.2	2.4
Pits	1.4	0	0.7
No structured drains	2.9	3.2	3.0

Between the two CMCs, U-type drains (50%) are most common in Mahadevapura, while in KR Puram both L-type and U-type are common (67%). Covered drains have also been mentioned by about one-fourth respondents (25%) in the surveyed slums of Mahadevapura, while one-fifth respondents in KR Puram have mentioned this.

Among households that generate wastewater, mainly from the kitchen and the bathroom, almost half of the respondents (49%) have said that this goes to underground sewerage systems, while another significant proportion (45%) has said open drains (inclusive of both open ones and stormwater ones).

Table 4.4: Where does the wastewater from your kitchen and bathroom go?

<i>Place where waste water goes to</i>	<i>CMC (%)</i>		<i>Total</i> N=233
	<i>K R Puram</i> N=114	<i>Mahadevapura</i> N=119	
Underground sewerage system	45.6	52.9	49.4
Storm water drain	14.9	8.4	11.6
Open drain	33.3	32.8	33.0
Toilet Pit	1.8	5.0	3.4
Open Place	3.5	0.8	2.1
Others	0.9	0	0.4

The two CMCs also do not show much variation from the proportions as mentioned in the totals.

4.2.2 Maintenance of Drains

The role of cleaning the drains is clearly divided between the CMC and the citizens in the community. As can be observed from Table , more than half the respondents (52%) report that it is the public in the localities that cleans the drains. Another 14% say that this is carried out by the CMC.

Table 4.5: Agency cleaning the drains

<i>Agency cleaning drains</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
CMC	31.7	54.4	43.8
Public	61.2	43.0	51.5
Association	1.4	0	0.7
No one	5.8	2.5	4.0

This pattern is also observed in KR Puram CMC, where a majority of the surveyed households (61%) have reported that the community has taken up the responsibility of cleaning the drains. Almost 6 per cent have also said that no one cleans the drains as against about 3 per cent in Mahadevapura. As against this, respondents in Mahadevapura have indicated that CMC (54%) plays a larger role in cleaning the drains in the slums covered.

However, respondents in general are not satisfied with the maintenance of the drains as is clearly indicated in Table . 89% of the respondents have stated a resounding 'No' when asked whether they were satisfied with the maintenance of the drains. This is also reflected in the two CMCs where 82% respondents in KR

Puram and 95% in Mahadevapura have expressed their dissatisfaction with the maintenance of drains.

Table 4.6: Satisfaction with maintenance of drains in the locality

<i>Whether satisfied</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Yes	12.8	2.4	7.4
No	82.1	95.2	88.9
Do not know	5.1	2.4	3.7

4.2.3 Problem Incidence and Resolution

Less than one-fifth (17%) of the surveyed households have reported having had no problems with the drains in their localities. As shown in Table , the rest of them have mentioned problems that range from foul smell (81%) to water logging (48%) and overflowing (30%).

Table 4.7: Type of drainage related problems experienced

<i>Type of drainage problems</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Foul smell	79.9	81.6	80.8
Water logging	54.7	42.4	48.1
Overflowing	41.7	20.3	30.3
No problem	17.3	15.8	16.5

Foul smell is the predominant problem in both the CMCs. This is somewhat closely followed by water logging (55%) and overflowing (42%) in KR Puram, both of which are comparatively lesser in Mahadevapura.

As expected, in terms of seasonal occurrences, most of these problems occur during rainy seasons (Table 4.8) as reported by more than three-fourth (76%) respondents.

Table 4.8: Seasonal occurrence of drainage related problems

<i>Seasons when drainage problems occur</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Rainy	85.2	68.4	76.2
Winter	2.6	6.8	4.8
Summer	12.2	24.8	19.0

More than 85 per cent respondents in KR Puram have reported problems occurring mainly during rainy season, while just about 12 per cent in the summers. However, problems occurring in summer also have been mentioned by almost one-fourth of the respondents in Mahadevapura.

While almost every surveyed household in the slums covered had some problem or the other with the existing drains, lodging of complaints is not a priority among the respondents. When asked whether they lodged a complaint for the drainage related problems that they experienced, only one-third of the total respondents answered in the affirmative.

Table 4.9: Lodging a complaint for drainage related problems

<i>Whether lodged a complaint</i>	<i>CMC (%)</i>		<i>Total N=297</i>
	<i>K R Puram N=139</i>	<i>Mahadevapura N=158</i>	
Yes	33.0	32.3	32.7
No	67.0	67.7	67.3

This is also true with the respondents in KR Puram and Mahadevapura.

Among those respondents who lodged complaints, less than one-fifth (16%) respondents gave the same in writing (Table).

Table 4.10: Type of complaint lodged

<i>Type of complaint lodged</i>	<i>CMC (%)</i>		<i>Total N=81</i>
	<i>K R Puram N=38</i>	<i>Mahadevapura N=43</i>	
Written	21.1	11.6	16.0
Oral	78.9	88.4	84.0

Between the two CMCs, written complaints were given by a larger proportion of respondents in KR Puram (21%) than those in Mahadevapura (12%).

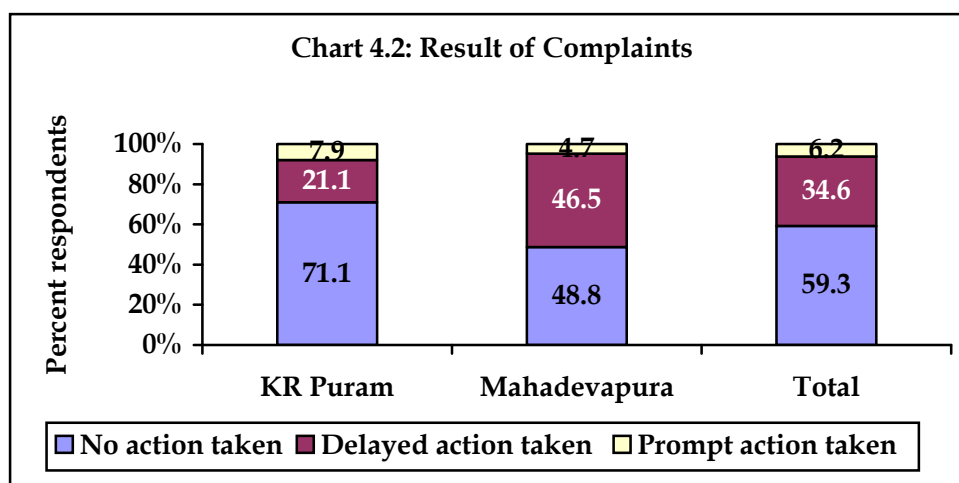
The main person approached was the councilor (73%), followed by the CMC or MLA (20%) at a distant second as shown in Table .

Table 4.11: Person(s) complained to

Person(s) complained to	CMC (%)		Total N=81
	K R Puram N=38	Mahadevapura N=43	
Councilor	92.1	55.8	72.8
CMC/MLA	7.9	30.2	19.8
Corporator	0	7.0	3.7
Head of the locality	0	4.7	2.5
House owner	0	2.3	1.2

At the CMC level, as compared to Mahadevapura where more than half of the respondents (56%) reported to the councilor, a massive proportion of 90 per cent respondents in KR Puram have complained to the councilor.

It is interesting to note that in spite of the complaints lodged, only 6 per cent respondents reported that prompt action was taken (Chart). More than half of the respondents (59%) who lodged a complaint stated that no action was taken.



This is more so in the case of KR Puram where more than 70% respondents have reported that no action was taken for the complaints lodged.

Table indicates the satisfaction levels of the respondents with the action taken on the complaints lodged. As can be observed, more than 60% respondents were dissatisfied with the results, which is a natural reflection of no action being taken by the service provider.

Table 4.12: Satisfaction levels with action taken on complaint

<i>Person(s) complained to</i>	<i>CMC (%)</i>		<i>Total</i> <i>N=81</i>
	<i>K R Puram</i> <i>N=38</i>	<i>Mahadevapura</i> <i>N=43</i>	
Completely satisfied	2.6	4.7	3.7
Partially satisfied	10.5	16.3	13.6
Neutral	13.2	30.2	22.2
Not satisfied	73.7	48.8	60.5

This again is more for KR Puram where almost three-fourth of the respondents who lodged complaints were dissatisfied with the action taken on complaints.

Reasons for dissatisfaction expressed by the disgruntled respondents are also equally obvious, the overwhelming response being lack of any prompt action taken, among all the respondents (89%) who lodged complaints as well as those in the two CMCs (89% and 90% in KR Puram and Mahadevapura respectively) surveyed.

4.3 Garbage

Appropriate garbage disposal is another matter of concern in any area. In the earlier days, people practiced hygienic methods of disposal of kitchen wastes by using them as compost, etc., but now with the introduction of plastics that are used to dispose wastes in, garbage disposal has acquired much importance to prevent not only health problems and environmental pollution but also factors such as choking of drains.

4.3.1 Garbage disposal facilities - Availability and Usage

However, as indicated in Table below, more than 70% respondents do not have any fixed place to dispose garbage.

Table 4.13: Availability of fixed place to dispose of garbage

<i>Whether fixed place is available</i>	<i>CMC (%)</i>		<i>Total</i> <i>N=297</i>
	<i>K R Puram</i> <i>N=139</i>	<i>Mahadevapura</i> <i>N=158</i>	
Yes	19.4	38.6	29.6
No	80.6	61.4	70.4

This is reflected in both the CMCs though with different variations. While more than one-third respondents have access to fixed places in Mahadevapura, this is so for less than one-fifth respondents in KR Puram.

Among the respondents affirming that a fixed place is available for garbage disposal, another question that was asked - whether there exist proper dustbin facilities in the localities for respondents to dispose of their garbage. As can be seen from Table , majority respondents (78%) echo that there is no such facility available.

Table 4.14: Availability of dustbin facility

<i>Whether facilities are available</i>	<i>dustbin are</i>	<i>CMC (%)</i>		<i>Total</i>
		<i>K R Puram</i> N=27	<i>Mahadevapura</i> N=61	
Yes		51.9	90.2	78.4
No		48.1	9.8	21.6

The two CMCs also replicate the same patterns of response, though again while in KR Puram more than half of the respondents say that dustbins are available, this has been said by more than 90% of the respondents who had stated that there is a fixed place for garbage disposal.

In terms of the agency disposing or collecting the garbage from the fixed places, 91% respondents report that it is the CMC which carried out this exercise (Table).

Table 4.15: Agency collecting garbage from fixed garbage disposal sites

<i>Agency collecting garbage</i>	<i>CMC (%)</i>		<i>Total</i>
	<i>K R Puram</i> N=27	<i>Mahadevapura</i> N=61	
CMC	85.2	93.4	90.9
Local people	3.7	3.3	3.4
No one	11.1	3.3	5.7

In both the CMCs, majority respondents echo the same.

As can be observed from Table , only 9% of the respondents (who mentioned that a fixed place is available for garbage disposal) have reported lodging a complaint.

Table 4.16: Lodge a complaint about cleaning garbage

<i>Whether complaint lodged</i>	<i>CMC (%)</i>		<i>Total</i>
	<i>K R Puram</i> N=27	<i>Mahadevapura</i> N=61	
Yes	11.1	8.2	9.1
No	88.9	91.8	90.9

Almost no variation is observed on the same among both the CMCs also.

The main observations with regard to the experiences that the eight respondents who lodged a complaint, had with regard to action on complaints is as follows:

- Three-fourth respondents (6) have complained to the Councillor, while the rest have gone and complained to the Corporator.
- All respondents stated that as a result of the complaint delayed action was taken.
- In spite of the delayed action, among these eight respondents, two still said that they were completely satisfied, five partially and one was neutral.
- Six respondents have expressed dissatisfaction, with 50% saying that there is no proper system (all in KR Puram) and the rest saying that works have not been completed (in Mahadevapura).

4.3.2 Garbage disposal practices

When asked about their garbage disposal practices, it was observed that mainly less than one-tenth of the total respondents disposed garbage into the dustbins. Most of the garbage disposal takes places in open places that include open plots, near roads, cemeteries, compound walls, tanks, drains, temples, public toilets, etc.

Table 4.17: Place of garbage disposal by respondents

<i>Place of garbage disposal</i>	<i>CMC (%)</i>		<i>Total N=297</i>
	<i>K R Puram N=139</i>	<i>Mahadevapura N=158</i>	
Dustbins	10.1	34.8	23.2
Open places			

Less than one-fourth of the respondents say that they throw their garbage into dustbins. This is even less in the case of KR Puram (10%) than in Mahadevapura (35%).

When asked whether the respondents faced any problems while disposing garbage in the said places, more than 40% said that they do. The same was expressed by about one-third respondents in Mahadevapura (33%) and less than half in KR Puram (48%).

As a result, problems experienced are also numerous. As can be observed from Table 4.18, problems range from foul smell (37%), to having to face objection from others (33%) and mosquito problems (22%).

Table 4.18: Type of problems faced by respondents while disposing garbage

<i>Problems faced</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Spreading of garbage	25.0	5.9	16.8
Causes diseases among children	13.2	7.8	10.9
Litters others' property	13.2	13.7	13.4
Objection from others	22.1	47.1	32.8
Mosquito problems	27.9	13.7	21.8
Foul smell	27.9	49.0	37.0
Blocked drains	5.9	0	3.4
No dustbin	1.5	5.9	3.4

In the two CMCs, apart from the problems of foul smell (28% and 49% in KR Puram and Mahadevapura respectively), respondents have to face objection from others (47%) in Mahadevapura and mosquito problems in KR Puram (28%).

5 MAJOR FINDINGS - HEALTH

Lack of basic infrastructure facilities such as toilets, proper drainage systems and regular solid waste management practices can have a telling effect on the health of the community, especially the vulnerable such as children and the elderly.

The CRC study also included a section on access to health facilities in the localities covered and also on patterns of occurrence of water-borne diseases in the community.

5.1 Access to health care facilities

One of the basic public health services that are provided is Primary Health Clinics or PHCs both in urban suburban areas and in rural areas. Table 5.1 looks at the accessibility patterns of PHCs. An overwhelming proportion of 97% respondents said that they have no access to PHCs.

Table 5.1: Access to PHCs

<i>Whether have access to PHC</i>	<i>CMC (%)</i>		<i>Total N=297</i>
	<i>K R Puram N=139</i>	<i>Mahadevapura N=158</i>	
Yes	0.7	5.1	3.0
No	99.3	94.9	97.0

Almost all respondents in KR Puram and 95% in Mahadevapura have also mentioned that they have no access to PHCs.

Among those respondents who do not have access to PHCs, more than 95% go to private clinics for treatment. Other public facilities such as government hospitals, ESI hospitals comprise of miniscule proportions.

Table 5.2: Type of Health facilities availed

<i>Places going for treatment</i>	<i>CMC (%)</i>		<i>Total N=288</i>
	<i>K R Puram N=138</i>	<i>Mahadevapura N=150</i>	
Private clinic	96.4	96.7	96.5
ESI Hospital	2.9	0.7	1.7
HAL	0.7	0	0.3
Govt Hospital	0	2.7	1.4

The same pattern is observed in both the CMCs also.

5.2 Incidence of water-borne diseases

Respondents were asked if they experienced any water-borne diseases among their children in the last one year. As Table indicates, more than one-fifth respondents (21%) affirmed that this as happened among children in their families.

Table 5.3: Incidence of water borne diseases among children in last one year

<i>Whether there was incidence of diseases</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Yes	25.2	17.1	20.9
No	74.8	82.9	79.1

Among the two CMCs, occurrence of water-borne diseases has been mentioned by more than one-fourth respondents (25%) in KR Puram, while this is comparatively lesser (17%) in Mahadevapura.

The diseases that the children had to suffer as cited by the respondents include mainly throat infection (52%), followed by dysentery (42%) and stomach ache (36%).

Table 5.4: Type of diseases

<i>Type of diseases</i>	<i>CMC (%)</i>		<i>Total</i> N=62
	<i>K R Puram</i> N=35	<i>Mahadevapura</i> N=27	
Cholera	11.4	11.1	11.3
Dysentery	37.1	48.1	41.9
Gastroenteritis	5.7	3.7	4.8
Throat infection	62.9	37.0	51.6
Stomach ache	37.1	33.3	35.5
Others	5.7	11.1	8.1

In KR Puram, throat infection is a major problem among children as articulated by 63% respondents; other diseases majorly mentioned include dysentery and stomach ache (37% each). In the case of Mahadevapura, almost half the respondents (48%) have mentioned dysentery, followed by throat infection (37%) and stomach ache (33%).

When asked if there have been cases of water-borne diseases among family members of the respondents, the proportion reported was slightly lower, indicating towards the vulnerability that children face as against adult family members. Altogether only 13% respondents have mentioned incidences of water borne diseases among family members.

Table 5.5: Incidence of water borne diseases in respondent families in the last one year

<i>Occurrence of death in the family</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Yes	17.3	10.1	13.5
No	82.7	89.9	86.5

This has been said by 17% respondents in KR Puram and 10% in Mahadevapura.

Respondents were also asked if they have had any experience with public facilities, especially government hospitals. Less than one-fifth of the respondents (18%) have affirmed that they have visited a government hospital for a health check up.

Table 5.6: Availed of government hospital for health checkup

<i>Whether any family member ever visited a govt hospital</i>	<i>CMC (%)</i>		<i>Total</i> N=297
	<i>K R Puram</i> N=139	<i>Mahadevapura</i> N=158	
Yes	21.6	15.8	18.5
No	78.4	84.2	81.5

More than one-fifth respondents (22%) in KR Puram have mentioned that someone from their family has availed of a government hospital, while this has been said by only 16% in Mahadevapura.

Respondents whose family members had taken treatment in the respective government hospitals were asked to rate the response levels of the government hospital staff. The ratings indicate that 60% respondents had 'good' and 'not bad' experiences. Around one-fifth also mentioned that the response was bad.

Table 5.7: Rating of government hospital staff response levels

<i>Response of government hospital staff</i>	<i>CMC (%)</i>		<i>Total</i> N=55
	<i>K R Puram</i> N=30	<i>Mahadevapura</i> N=25	
Excellent	10.0	8.0	9.1
Very Good	16.7	0	9.1
Good	23.3	48.0	34.5
Not bad	20.0	32.0	25.5
Bad	26.7	12.0	20.0
Very Bad	3.3	0	1.8

Ratings such as ‘good’ and ‘not bad’ have been given by lesser proportion of respondents in KR Puram (48%) as against those in Mahadevapura (80%). Also, more than one-fourth (27%) respondents in KR Puram said that the response levels were bad as against 12% in Mahadevapura.

Only 2% respondents (7) have reported experiencing a death in the family in the last one year due to a serious illness.

Table 5.8: Occurrence of death in the family due to a serious illness

<i>Occurrence of death in the family</i>	<i>CMC (%)</i>		<i>Total N=297</i>
	<i>K R Puram N=139</i>	<i>Mahadevapura N=158</i>	
Yes	2.9	1.9	2.4
No	97.1	98.1	97.6

Of the seven cases of death, the illnesses mentioned include liver problem (2), heart problem (2), TB (2) and Cancer (1).

6 CONCLUSIONS AND POLICY RECOMMENDATIONS

The mix of methods applied to carry out the CRC in four slums in the two CMCs of Bangalore has brought out an interesting mix of findings. Most of these are similar across the four slums while a few are different from each other also. This chapter summarizes the findings and brings out conclusions along with policy recommendations.

6.1 Conclusions - Drinking water

Access to piped water is restricted in the four slums. However, the access to drinking water through public sources such as public taps and mini water supply systems is very good with substantial proportion of people having access to these sources. However, a close look at other feedback on the sources shows up the problems that slum residents face to access drinking water.

Usage of drinking water varies across sources with public sources being more common in general.

Public Taps

Availability of water throughout the year in public taps is reported by only around 30% of the slum residents. Across CMCs there is a big variation with lesser people in Mahadevapura (20%) reporting availability throughout the year. Almost all respondents go to nearby localities to fetch water during the scarcity periods in summer months.

Frequency of water is very low in both CMCs with residents of Mahadevapura worse off with most of them getting water only once in a week.

Distance to the tap is greater in KR Puram than in Mahadevapura though on the whole the distance is not too much. However, adequacy, convenience of timing and location of the taps, taste and texture of water are all issues.

Breakdowns are common with 77% of respondents reporting breakdowns within three months. Surprisingly only about 44% made a complaint about the breakdowns and that too mostly orally. This indicates either apathy among residents or a sense of helplessness. Even those who complained reported that there was no prompt action taken on their complaint.

Though bribes were paid by a large percentage of respondents, the amounts paid are very small. However, further probing shows that even these amounts are extorted rather than paid willingly.

Overall dissatisfaction with public taps is very high (over 60%).

Piped water

Over 60% households report availability throughout the year. Scarcity is most acute in May and June. Again residents of Mahadevapura get water only once a week while most of those of KR Puram get water once a day.

Satisfaction with adequacy is relatively higher. Timings were found to be convenient by a reasonable number of households. Foul smell and tastelessness were issues even in the case of piped water.

A larger percentage has paid bribes for connections or repair and the average amount is quite large at Rs. 113.

Complete satisfaction with piped water is higher compared to public taps but there is still scope for improvement.

Findings on willingness to pay show that the communities from both CMCs are willing to pay for individual connections in large proportions. Considering the amounts they spend on getting water from other sources when they do not have access to piped water, the amounts they are willing to pay are just marginally higher. The CMCs and BWSSB should exploit this finding and work out a tariff that is affordable for the slum dwellers.

6.2 Conclusions - Sanitation

Findings from the CRC study indicate that provision of sanitation facilities is very poor in all the four slums. This is across all the three types covered – toilets, drainage and garbage disposal.

Toilets

While individual toilets have been reported by 60% households, lack of UGDs have led to widespread usage of the pit system to dispose of sewage. This has implications in terms of seepage from the sewage into groundwater and the latter becoming polluted. This could become the root cause for frequent occurrence of ailments including throat infections, fever and even skin diseases.

Lack of public toilets in three out of the four slums is also a major concern for those who do not have toilets at home, the only other recourse being to use open spaces which causes other problems such as misbehavior from men especially among women, and also fear of animals. Adding to their misery is their inability to go out anytime there is an urge, which leads to other health problems.

Drainage

There is total lack of an underground drainage system in all the four slums. As observed from the social mapping exercise and survey, some of the streets along main roads have open drains (L-shaped and U-shaped) which are shallow, not lined properly and are mostly to come into use during rainy season. However, these drains are used for sewage disposal and also to throw away refuse from individual households. Lack of frequent cleaning of drains by the service providers further adds to problems such as blockage and overflowing of drains during rainy seasons, once again causing environmental and health havoc in the localities and major dissatisfaction among the residents.

Garbage

While the better organized slums such as Sanjaynagar and Nellorepuram to some extent have some garbage disposal sites, there are no such provisions in most of the areas. As mentioned by the respondents, garbage clearance is a rare occurrence due to which garbage spills over the sites and spread over to roads, near houses and drains causing foul smell, mosquito problems and objection from others.

6.3 Conclusions - Health

Access to and usage of health facilities

Most of the respondents have reported having no access to primary health facilities as a result of which more than 90% use private health facilities. Very few households have availed the government hospital with their opinion on response from the staff of the government hospital varying mainly between 'good' and 'not bad'.

Around one-fifth households have reported incidence of water-borne diseases among children, the main ones being throat infection, and dysentery.

6.4 Policy Recommendations

Acknowledging the human right to water

Water is a precious and indispensable natural resource held in trust to support the lives of all beings. The state has a responsibility to recognize the right of all people to this vital resource, and to provide all citizens with this resource in a way that does not compromise the right to life enshrined in the constitution, either in letter or in spirit.

The U.N. Committee on Economic, Social and Cultural Rights in its comments on the Right to Water clearly specifies that 'the elements of the right to water must be adequate for human dignity, life and health'⁴. It also emphasizes that 'while the adequacy of water required for the right to water may vary according to different conditions', factors such as availability, quality and accessibility (physical, economic, non-discrimination, information) apply in all circumstances.

Providing piped water supply

Access to piped water is a big need. Innovative methods and approaches are required to provide this. The community participation model used in Hubli can be considered. Differential rates could be worked out based on consumption. Findings on willingness to pay clearly show that residents of all sums are willing to pay for piped water connections. For those families that cannot afford to pay for connections or monthly charges, public taps can continue to be sources but with increased frequency of supply. Further assessments can be carried out to get the exact need for individual connections and public taps.

Another issue is that in most of the slums there is lack of any storage facility for water either for want of space or want of funds to be able to afford to have tanks, etc., which on the other hand is common in non-slum areas; most middle class households construct storage facilities like underground sumps and overhead tanks for water. Thus, though water may be supplied only for a few hours at a time, a few times a week, they can store water and use it as and when they require it. People who are severely economically deprived, however, almost never have the space or other resources for such storage facilities, and store water in pots and vessels. Moreover, the crowds at public taps mean that each household usually has access to the tap for a very brief period, usually only enough to fill a couple of pots. Hence, **while supply for a few hours two or three times a week may suffice for more economically well-off communities, water must be supplied for a few hours daily to poorer communities, so that their lack of storage space does not hinder them**

⁴ Salman, S.M.A and S. McNerney-Lankford (2004) The Human Right to Water – Legal and Policy Dimensions, The World Bank, Washington D.C.

from accessing water in quantities necessary to sustain a minimum decent quality of life.

Most members of the communities have expressed the wish to obtain individual water connections, with those who cannot afford these willing to take group connections. However, there must still be a few public taps, which supply water free to the truly indigent. Community leaders can evolve a monitoring system whereby water from free public taps are not accessed by those with individual and group connections so that costs can be kept to a minimum.

Supply of water need not be equal, but it must be equitable. Inability to pay should not deprive very poor consumers of this resource essential for the sustenance of life. At the same time, prohibitive or deterrent charges may be applied to rich consumers who consume more than their fair share of this limited resource. For the economically deprived, the authorities must determine a fair connection charge based on ability to pay, without insisting on an initial deposit for supplying the connection.

Public participation (with appropriate levels of representation of women and youth) must be ensured in decision-making, implementation and monitoring of basic-amenities related projects.

Quality of water from existing sources definitely requires improvement and steps have to be taken in this regard.

Introducing differential tariffs

In continuation of the previous recommendation of not ignoring the water needs of the poor, one needs to also keep in mind the BWSSB commissioner's comment during discussions held post findings presentation – tariffs need be applied to all the users of drinking water regardless of their place of stay or economic status. This goes with the approach that expenses are involved for the provision of the same. While it is said that water as a resource is free, 'water supply involves costs (purification, pumping, constructing and maintaining pipelines and so on), and these costs have to be recovered and revenues generated for maintenance and further investments'⁵.

To take care of the same, differential tariffs could be introduced such as fixed access fee and variable usage fee⁶, which could be pro-poor and at the same time also help BWSSB to recover their costs to some extent.

⁵ Iyer, Ramaswamy R., 2003, Water – Perspectives, Issues, Concerns, Sage Publications, New Delhi.

⁶ As suggested through learnings from reforms carried out in Australia, published in Basics, Vol 1, Issue 3, May 2005.

Providing individual toilets

With regard to sanitation, people have demanded individual toilets since there is a pervasive perception that public toilets are not looked after properly, are not hygienic and can cause health problems. Other issues that have come into the picture include

- lack of space for public toilets within the slum boundaries as observed from the social mapping exercise;
- unwillingness to have public toilets near residences due to fear of foul smell, overflowing from choked or blocked toilets, etc.
- lack of commitment from either the service provider or any other organization to maintain public toilets.

As pointed out earlier, focus group discussions reveal that all the communities favoured individual toilets. Various toilet-building schemes can look into evolving creative and cost-effective solutions to ensure that families/households have individual toilets to the greatest extent possible.

To this end, the service provider may consider supplying low-cost hardware to the communities, following the example of what Gramalaya initiated in the urban slums of Tiruchirapalli⁷.

In addition, every community must have at least one public toilet. The community must maintain this public toilet. It has been observed that when government departments are responsible for the maintenance, the quality of the toilet quickly deteriorates.

Water and electricity for the public toilet in the community must be provided free of cost by the state.

Building an Underground Drainage system

However, closely related to building individual toilets is the need for underground drainage system. As has been mentioned in the report, pit system is used for the current individual toilets among those households that have this provision. This can cause environmental and health hazards.

In the interests of public health and hygiene, given the concentration of human beings per unit area in slums, as well as to fulfill the state's responsibilities to

⁷ The WAVE federation, facilitated by Gramalaya, developed a polypropylene plastic sanitary pan, weighing 500gms and costing Rs. 60 called EasyFlush, which as WAVE claims is easily replicable, available and transportable.

provide basic amenities, underground drainage systems must be provided to the slums.

Providing an efficient garbage disposal system

The CMC must help to identify spaces in the community where garbage can be disposed and provide appropriate garbage bins.

The community must be educated on the importance of segregating garbage into food waste, easily biodegradable materials like paper products, and plastics and other difficult-to-dispose materials.

A door-to-door collection system for solid waste may be instituted with the participation of the community.

Opportunities for composting/vermiculture using food waste may exist to provide income and employment in the community. Models like those instituted by the Corporator of the Jayamahar Ward may be studied and replicated as possible.

Providing better health care

Since the majority of the residents in the slums in this study reported using private services in the absence of primary health centers, PHCs may be built in each of these communities or at appropriate distances to serve more than one community. Quality medical care and supplies should be available at these PHCs.

6.5 Slum based policy recommendations

Reddypalya and Nellorepuram slums come under the jurisdiction of KR Puram CMC, whereas Sanjaynagar and Manjunathnagar slums come under Mahadevpura CMC. The families living in all the four slums have obtained the rights to stay in these slums under the Ashraya Yojana.

Nellorepuram

The slum is notified by the Karnataka Slum Clearance Board and the residents are in the process of getting their Slum IDs. There is one public toilet already built by the Karnataka Slum clearance Board and maintained by Sulabh International.

There is another public toilet, which is in pathetic condition, and needs reconstruction and that can be maintained by the community themselves. There is space available for building at least 3 public toilets and 3 taps and the community requires the same.

In spite of being a notified slum, there is a lack of proper UGD system and toilets follow the pit system, which is harmful. A proper UGD system needs to be introduced in this locality.

However, people prefer individual toilets and tap connections.

Reddypalya

The slum has not been notified by the Karnataka Slum Clearance Board and the land belongs to HAL in part and to a private party in parts.

People in the slum prefer individual water and toilet connections. However to help the lonely senior citizens, disabled and some people from below poverty line, at least 4 public taps are to be provided.

There is no space for building community toilets, thus accentuating the need for individual toilets along with proper UGD system.

Sanjay Nagar

The slum is also not notified by the Karnataka slum Clearance Board. A small part of the land belongs to HAL and the rest to the state government.

Because of the availability of a large number of public taps and other public drinking water sources, the demand for Cauvery water is not very high, however more frequency is needed because of its large population size. However, most of the community need individual taps as some of these public taps do not evince enough pressure to be able to provide adequate water.

This slum also does not have space for public toilets as most the lanes end in dead ends with houses organized on both sides. As a result, while almost 50% in the community already have individual toilets, rest of the community also needs the same along with proper UGD system.

Manjunath Nagar:

The land in which the slum is located belongs to HAL. There are currently no public toilets though there is space available for constructing community toilets and to provide public taps.

While 20% of the community has expressed interest for having common toilets and shared water connections, 80% of the community prefers individual tap and toilet connections.

Finally though not related to water and sanitation, there is also demand for one primary school by the locality residents.

Recommendations for all the four slums

- Better awareness on segregation of garbage
- Plan to carry out door to door garbage collection
- People's participation and formation of slum-wise committees for planning, implementing and monitoring of water and sanitation facilities.
- At least one Primary Health Centre in each of the CMCs to be shared by the two slums.

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