Citizen's Report Card on Urban Water, Sanitation and Solid Waste Services in Kenya

Summary of results from Nairobi

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Acronyms

CBS	Central Bureau of Statistics
CBS	Central Bureau of Statistics
CRC	Citizen Report Card
CSO	Civil Society organizations
FGD	Focus group discussions
GoK	Government of Kenya
IDA	International Downtown Associations
IEA	Institute of Economic Affairs
KARA	Kenya Alliance of Resident Associations
KEPSA	Kenya Private Sector Alliance
KLDA	Karen Lang'ata District Association
KSH	Kenya Shillings
KWAHO	Kenya Water for Health Organisation
LGMSF	Local Government Ministerial Stakeholders Forum
MDGs	Millennium Development Goals
MOH	Ministry of Health
MOWI	Ministry of Water and Irrigation
NWSC	Nairobi Water and Sewerage Company
PHO	Public Health Officials
SANA	Sustainable Aid in Africa International
SMSF	Security Ministerial Stakeholders Forum
SPA	Service Provision Agreement
UFW	Unaccounted for Water
UN	United Nations
WATSAN	Water and Sanitation
WMSF	Water Ministerial Stakeholders Forum
WSB	Water Services Board
WSP	Water Service Provider
WSP-Afric	World Bank Water and Sanitation Program- Africa Region
WSRB	Water Services Regulatory Board

Definition of Terms

Kiosks: Category for all kiosks whether supplied by the network or other independent sources.

Mains connections: all connections to the utility network, whether private in the residence or compound or shared in the compound or block of flats.

Mains kiosks: all kiosks connected to the utility network.

Poor: The Central Bureau of Statistics (CBS) maintains a National Sample Survey and Evaluation Programme (NASSEP) for obtaining household based information. The current frame (NASSEP IV) created after the 1999 housing and population census is made up of 540 urban clusters and 1,260 rural clusters. The clusters have further been categorized by CBS into 5 strata based on wealth/poverty status of the area where the clusters are located. Therefore the clusters, hence the households falling within stratum 1 are considered to be the wealthiest ones and those falling in stratum 5, the poorest. The NASSEP IV Sampling Frame was used to draw the sample clusters (poor and non-poor) for the Citizen Report Card Survey. For purposes of our study, strata 1 to 3 were considered to be 'non-poor' while strata 4 and 5 were considered to be 'poor' with strata 5 being the informal settlements.

Rising block tariff: increasing tariffs per unit of water for higher levels of consumption.

Scarcity: defined as low or lack of water supply lasting five days or longer; this is different from a short-term water cut or an advertised shortage.

Unaccounted for water (UFW): the difference between the quantity of water supplied to a city's network and the metered quantity of water used by the customers. UFW has two components: (a) physical losses due to leakage from pipes, and (b) administrative losses due to illegal connections and under registration of water meters.

Protected sources: these include sources of water such as rainwater and covered wells that are less likely to be contaminated than unprotected sources like surface water.

Unprotected sources: these include sources of water like open wells and surface water (streams and ponds) which are more likely to be contaminated than protected sources like covered wells.

Figure 1. Map of Kenya showing locacion of Nairobi

EXECUTIVE SUMMARY

In 2006, a range of locally based stakeholders in Nairobi launched a Citizen Report Card (CRC) to obtain citizen's experiences on water supply, sanitation and solid waste services. The CRC tool is used to provide feedback to public service agencies on the strengths and weaknesses of their work. CRC's facilitate prioritisation of reforms and corrective actions by drawing attention to the problems highlighted and facilitating cross fertilization of ideas and approaches by identifying good practices.

The Kenya Alliance of Residents Associations (KARA), a locally based organization coordinated the initiative on behalf of a wider, multi stakeholder forum called the 'Nairobi City Consortium.' The Consortium which was created as a platform to nurture dialogue around service, included service providers such as representatives of the Athi Water Services Board, the Nairobi Water and Sewerage Company, the Councils' environment department, resident representatives and local civil society groups. The Water and Sanitation Program -Africa and the Public Affairs Foundation in India provided technical assistance to the process.

The methodology involved both qualitative (focus group discussions) and quantitative (survey) tools. During the qualitative stage the consortium developed a broad checklist which KARA used to conduct Focus Group Discussions across different residential areas of Nairobi. Research International used this to develop a survey instrument with which they conducted a random sample survey of the households in October 2006.

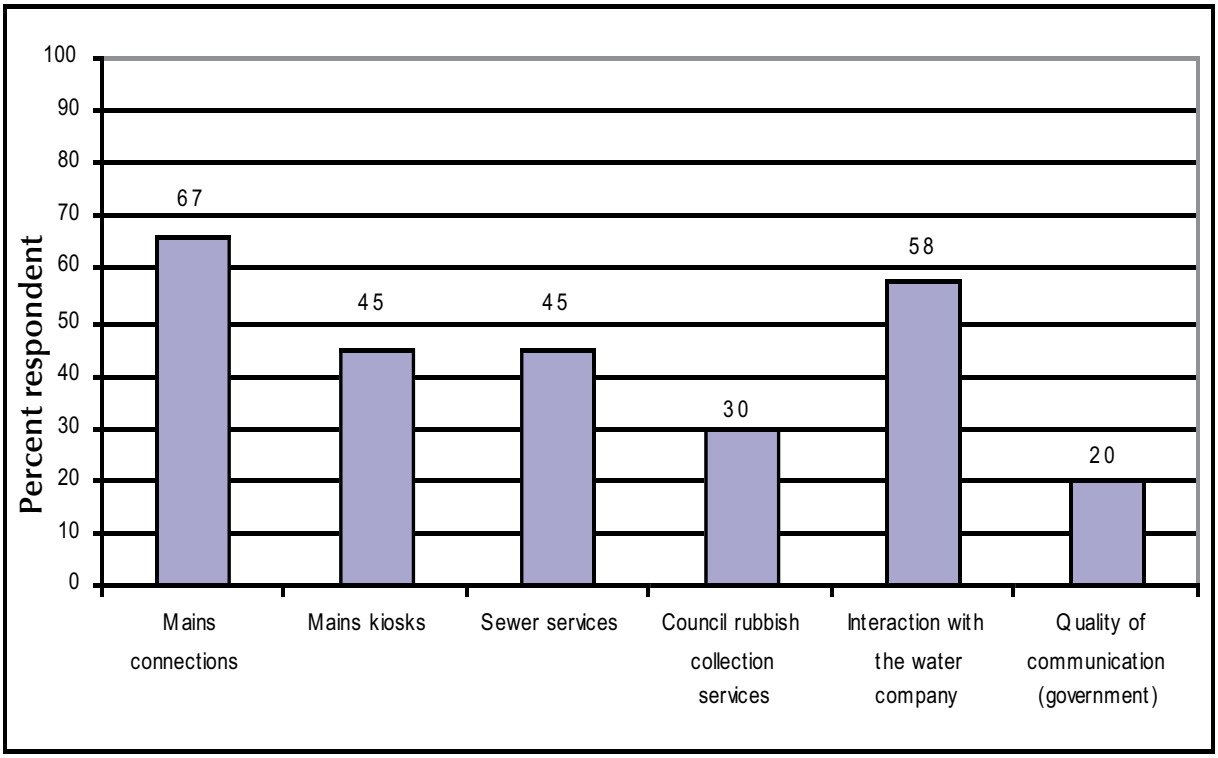
The survey sought to examine citizen satisfaction and experiences in four main sectors namely water, sanitation, solid waste management and communication. The six themes identified for data analysis and presentation are organised into; i) Availability, access and use of services; ii) Perceptions of quality and reliability; iii) Costs incurred by users; iv) Transparency of service delivery; v) Interactions with the service agencies; and vi) Information Provision

The section below presents the key findings on overall satisfaction with public services followed by satisfaction in individual sections i.e. water, sanitation, solid waste management and communication.

Key Findings: Satisfaction with services

- Satisfaction with mains supply is generally high at (67%) but satisfaction with water kiosks, used mainly by the poor is low (45%).
- Overall satisfaction with sewerage services is low (45%), with distinct differences between the poor and non poor, the former registering lower satisfaction.
- Overall, satisfaction with the availability and cleanliness of public toilets is high (66%).
- Satisfaction with rubbish collection services is low (30%).

Figure 2: Overall Satisfaction with public service in Nairobi



Priority Areas of Improvement

Mains Water supply: Cleanliness of water, regular availability
Kiosk: Cleanliness of water, bringing it closer, regular availability.
Sewers: Proper maintenance, increased access, provision of domestic waste water drainage.
Public Toilets: increased availability
Pit Latrine: support in pit latrine emptying services.
Solid Waste: More dumping and collection points, increased frequency in collection.
Interaction: improved customer care relations.
Communication: Forums for face to face communication with citizen and regular dissemination of consumer information.

Key Findings: Water services

Access and Usage

Overall, access to mains water in and around the home is 74% with more of the non-poor than the poor; only 18 % of the poor have direct access compared to 86% of the non poor. Access to mains water

combined with kiosk is 89%, with very few people using water from other sources. In the informal settlements access to mains in and around the home is 45%. Of this, only 1% is directly connected to taps inside home or individual compound; the other 44 % share with other households. Scarcity periods are still quite long lasting for at least three months with a major difference noted between the poor and the non-poor. The poor households are more than twice as likely to experience scarcity. Users of kiosks and other sources outside residential premises express low levels of satisfaction reflecting lower levels of service provision. Access to these sources is associated with problems such as time wastage and vexation resulting from long queues, quarrelling and queue jumping. These problems become even more pronounced in times of scarcity.

Figure 3. Map of Nairobi

Reliability

Citizens indicate reasonable reliability with few major stoppages, but with the poor experiencing more stoppages than the non-poor. Based on the WSRB benchmarks on hours of supply NWSC scores an 'acceptable' level of service during normal times but 'unacceptable' during scarcity times.

Quality

Consumers rate the taste, smell and colour of mains water as acceptable throughout the year. However, a large number of people still treat the mains water as they do not trust it for drinking purposes.

Transparency of Service Provision

Billing frequency for most citizens is mostly on monthly basis in line with the requirements of the performance agreements. However, only a third (33%) of the people pay their own bills, majority have their landlords pay the bill and as such, do not know the exact amount that they use on water. This has resulted in little direct contact of the citizens with NWSC.

Interactions with the service agencies

Citizens satisfaction in interaction with the company on various issues is 50-50; the highest being with regard to time taken to attend to the client.

Communication

The NWSC communication methods do not reach the majority of consumers with information on service disruptions and stoppages.

Informal Settlement

Access to mains water in and around the home at 45%. Of this, only 1% has mains water connected to tap inside home or individual compound. The other 44 % share the mains water in a compound or with other households. Overall the satisfaction with water services is low.

Key Findings: Sanitation services

Access and Usage

Access to flush toilets is high among the poor and the non poor but with the majority of the non-poor using them. The poor are more likely to use shared facilities while majority of the non-poor use private sanitary facilities, whether pit latrines or flush toilets.

However, in the informal settlements the ratio of toilets to users is far lower than the demand even as the phenomenon of 'flying toilets' remains a source of concern. Access to sanitation facilities is mainly limited to pit latrines, majority of which are shared among neighbours in block/multiple house compound. Generally, satisfaction with pit latrine emptying services was low especially among the poor.

Use of mains sewer in Nairobi is predominant (68%) for disposal of household toilet waste. However, satisfaction with sewer services is low but with a huge disparity in level of satisfaction between the poor the non poor. More than half (51%) of the poor had experienced problems with sewerage in the last year mostly overflowing and leakage from broken mains, and bad smells.

Key Findings: Solid Waste Management

The options for solid waste disposal in Nairobi are very limited, and many people resort to burning or dumping their rubbish in open areas or drains. Citizens perceive that city council appears to be providing very few solid waste services in residential areas. Poor people have even more limited options as few of them use private collection agencies. Only 4% of respondents—mostly the non poor—rely on the council for collection of garbage.

There is a high level of private sector involvement in the collection of garbage for both the poor and non poor .This contributes significantly to the indicated satisfaction of the residents (30%), and compensates for the low visibility of the City Council. Overall, this level of satisfaction is considerably lower than satisfaction with water and sewerage services.

Key Findings: Communication

Only 17% are aware of recent changes in government policy on water and sewerage companies and on how services are organised. The non poor indicated a much higher level of awareness (39%) than the poor (12%). The approach adopted to inform consumers on water and sanitation services has generally been ineffective. However, there is opportunity to exploit the preference of customers for face-to-face interaction and the use of radio, especially the vernacular channels.

The CRC is the experience of citizens as told by citizens in Nairobi and points out the inequalities in services provision to the rich and to the poor. It should be viewed as a tool to guide recommendations towards improvements and investments in water, sanitation and solid waste services. The information provided is envisaged to be helpful to utility managers in strategic planning; to policy makers in guiding the sector; to regulatory bodies in sector oversight; to investors in deciding where to channel funds; and to civil society representing an objective measure of public perception. Most importantly, CRCs are useful for citizens who generally lack the information conducive to meaningful dialogue.

Hopefully, these findings will be used by the civil society and sector players to progress in a constructive, collaborative manner that will improve water, sanitation and solid waste services for Kenya's urban population, especially the poor.

1 INTRODUCTION

This is a Citizen Report Card on water and sanitation services for the city of Nairobi, Kenya. Nairobi is Kenya's largest city in terms of area and population and is located in the central part of the county. Parallel CRCs have also been prepared by citizens of Mombasa and Kisumu.

1.1 What is the Citizen Report Card?

The Citizen Report Card (CRC) is a simple but powerful tool to provide public agencies with systematic feedback from users of public services, and enable them to identify strengths and weaknesses in their work. CRCs are compiled from data collected during a randomized sample survey of the users of public services - in our case, water, sanitation and solid waste (rubbish) management services. The responses are aggregated in order to rate the services. Just like the report cards used to rate students in school, the Citizen Report Cards give consumers an opportunity to 'score' the quality and adequacy of water and sanitation services, and express their satisfaction with them. They thus allow the concerns of consumers to come to the attention of decision-makers, and give consumers and civil society organisations a tool for bringing pressure to bear for their resolution.

1.2 Why Prepare a Citizen Report Card?

Historically, consumers of public services in Africa have not enjoyed high levels of engagement with service providers in the planning or management of services. Citizen Report Cards provide reliable, quantitative information on the aspects of service provision that users know best, and are based directly on their experience. This information can be used to generate recommendations on sector policies, program strategy and management of service delivery. Furthermore, the information can be used as a basis for policy makers, service providers and consumers to engage in dialogue; an important step towards improved public services.

CRCs can be particularly powerful in pointing out the inequalities in services provided to the rich and to the poor, and facilitate prioritization of reforms and corrective actions needed to improve quality of services by drawing attention to the main problems. They provide positive feedback to service providers by identifying good practices and can also facilitate cross-fertilization of ideas and approaches.

Features of a CRC

Diagnostic tool: CRCs can provide citizens and governments with qualitative and quantitative information about prevailing standards and gaps in service delivery. They also measure the level of public awareness about citizen's rights and responsibilities. Thus, CRCs are a powerful tool when the monitoring of services is weak. They provide a comparative picture about the quality of services and compare feedback across cities and demographic groups to identify segments where service provision is significantly weak.

Accountability tool: The CRC reveals areas where the institutions responsible for service provision have not achieved mandated or expected service standards. Findings can be used to identify and demand specific improvements in services; officials can be stimulated to work towards addressing specific issues.

Benchmarking tool: CRCs, if conducted periodically, can track changes in service quality over time. A comparison of findings across CRCs will reveal improvements or deteriorations in service delivery. CRCs can be introduced before and after a new program/policy to measure its impact.

Reveal hidden costs: Citizen feedback can expose the extra costs beyond mandated fees of using public services. The CRC may reveal information regarding the proportion of the population who pay bribes (either demanded or freely given) and the size of these payments and also estimates the amount of additional resources spent to cope with poor service provision.

1.3 Context: Urban Water and Sewerage Sector Reform in Kenya

The Citizen Report Cards for urban water, sanitation and solid waste management have been undertaken in the context of recent and on-going changes. The water sector reforms currently underway in Kenya have been a reaction to a sector in crisis—a sector overwhelmingly characterized by inefficiencies, lack of investment, poor management and a confusing array of legal and institutional frameworks. In addition, the sector has suffered from poor governance, manifested in high levels of corruption, a lack of clarity of roles and responsibilities, and a lack of transparency and accountability by service providers. In addition to these institutional and financial challenges, the exponential growth of Kenya's urban centres has put increasing pressure on utilities to extend services to new areas.

It is in this context that the Kenyan government launched a water sector reform program. Reform has been driven by a new Water Policy (1999) and a number of strategies, of which the most important legal milestone was the enactment of the Water Act 2002. The overarching philosophy of the reform has been to separate water resources management from water supply and sewerage services development. Within the water supply and sewerage development component, asset ownership, services provision, regulation and policy formulation have been further unbundled.

Although the Ministry of Water and Irrigation remains at the helm of the sector, new bodies have been created with explicit roles and responsibilities. The Government anticipated that by holding jurisdiction over smaller areas, decentralized institutions would provide more effective planning and supervision of services than the centralized institutions of the past. Within the newly-decentralized institutional and legal framework, there are now four major institutions:

- **The Ministry of Water and Irrigation (MWI)** - is responsible for policy formulation and overall sector coordination.
- **Water Services Boards** (WSBs) are 'responsible for the efficient and economical provision of water services' but may 'arrange for the exercise and performance of all or any of its powers and functions under the licence by one or more agents, to be known as water service providers.' In addition, Boards may 'purchase, lease or otherwise acquire, on such terms as the Minister may approve, premises, plant, equipment and facilities'(Water Act 2002). There are seven Water Services Boards in Kenya.
- **Water Service Providers** (WSPs) - are the utilities or water companies; they are state-owned entities but have been commercialized to improve performance and to operate like businesses with certain standards of efficiency; operational and financial autonomy; accountability; and strategic but minor investments.

- **The Water Services Regulatory Board** (WSRB) is a statutory body in charge of setting and enforcing standards within the sector and issuing licences to WSPs; advising WSPs on procedures for dealing with consumer complaints; developing guidelines for tariff setting; and developing performance agreements between WSPs and WSBs.

The Water Service Providers sign Service Provision Agreements (SPAs) with Water Services Boards. SPAs include benchmarks for minimum levels of service provision, including the percentage of the population with access to water provision; hours of service; and billing frequency. Policies have been adopted to improve the sector's performance, but many challenges remain, including the need to attract investment, coordinate stakeholders and increase the focus on sanitation, among others.

One of the reform's stated goals is to increase stakeholder and beneficiary community involvement in the planning and operations of water supply facilities. To date, there has been some progress through the transfer of rural supplies to community water service providers, the provision of licenses to small groups and the setting up of catchment advisory committees.

1.4 Context: Sanitation in Kenya

Sanitation reforms are at an earlier stage than the water and sewerage reforms, but there are still important changes taking place in the policy arena. In this context, sanitation encompasses on-site sanitation (i.e. pit latrines, septic tanks) and solid waste management. It is important to note that water borne sewerage services are covered under the Water Act 2002, whereas solid waste management and on site sanitation are managed under separate laws. Through the reforms the Nairobi Water and Sewerage Company is responsible for maintaining the sewerage network and providing the service to customers connected to the network

Within Kenya, no one act deals specifically with sanitation as there are over seven Acts of Parliament in force touching on this topic. However, the Public Health Act CAP 242, provides laws that deal with the prevention of nuisances (Sec 116) which in almost every case, arise from unsanitary conditions. Section 117 of the same Act concerns the siting, supervision and regulation of the standards of constructed dwelling houses. The Ministry responsible for Housing acts as the implementing agent on behalf of other government departments when living facilities are constructed or rented.

At city level, the Ministry of Local Government, through the elected City Council, oversees public sanitation and on-site sanitation in urban centres. The Council's Office of Environment is responsible for the management of solid waste. The Council's Planning Department is responsible for executing decisions reached by Council resolution in relation to land allocation for public services such as public amenities, land fills and the like. Finally, the Municipal Medical Officer of Health advises the municipality on preventive and curative measures to disease incidence and supervises Public Health Officers, seconded by the Ministry of Health to the local Municipalities. Household sanitation is an individual responsibility, although Public Health Officers are responsible for overseeing adherence to standards with wider public health implications.

1.5 The Context of the Water Sector Reforms in Nairobi

The Nairobi Water and Sewerage Company was established in 2003. Nairobi has made considerable progress in implementing water sector reforms initiated by the government. Over the past few years NWSC has been receiving support from the World Bank worth US$ 15 million through an institutional restructuring project to strengthen its internal management effectiveness.

Nairobi is by far the largest city in Kenya, and its utility has the largest number of connections with a per capita connection of 26 and a production capacity of approximately 60 cubic meters of water per month for each registered connection. If the population as a whole is considered, Nairobi produces 5.3 m3 per capita per month. The utility has the largest reach and serves a large proportion of the city's population, including supply to satellite towns such as Athi River and parts of Kiambu District.

Table 1 Characteristics of Nairobi city and utility

• Date Company Established	2003
• Total Population of Service Area	2,500,000
• Number of Registered Connections	220,000
• Percent of Inactive Connections	56%
• People per Active Connection	26
• Volume of Water Produced Monthly (m3)	13,280,707
• Volume of Water Produced Monthly per capita (m3)	5.3
• Unaccounted for Water (UFW)3	40%

1.6 Citizen Report Card in Nairobi: Who Participated?

A core group of sector stakeholders were introduced to the tool in October 2005 and later came together in November 2005 to form a multi stakeholder 'Nairobi City Consortium.' A meeting was held to involve the stakeholders in the CRC process, forming a local consortium to 'drive' and 'own' the process locally. Representing 15 local organizations it included the overseeing Athi Water Services Board, Nairobi Water and Sewerage Company (NWSC), the department of environment from the Nairobi City Council, civil society, resident representatives and local media houses (see full list in table 2 below) into one forum. The Kenya Alliance of Residents Associations (KARA) was selected to act as a facilitating Lead Agency.

The Kenya Alliance of Resident Associations (KARA) is an apex body representing the voice and action of resident associations on consumers and taxpayers' rights countrywide. At an operational level, KARA focuses on the delivery of Kenya's local authorities as potential engines of the anticipated economic growth and national re-construction in terms of improved service delivery for the residents within their respective jurisdictions. KARA is keen on advocacy and is continually investing in forging working and sustainable partnerships with Government, private sector and the larger civil society.

Alongside KARA a range of institutions were invited and participated as members of the Nairobi City Consortium. These institutions are captured below;

Table 2 Membership of Nairobi City Consortium

Service Providers	•Athi (formerly Nairobi) Water Services Board •Nairobi Water and Sewerage Company (NWSC) •Nairobi City Council (planning / environment departments)
Civil Society	•Institute of Economic Affairs (IEA) •Kenya Water Partnership/ Ministry of Water and Irrigation •Kenya Water For Health Organization •Maji na Ufanisi (Water and Development) •Consumer Information Network •KARA
Professional / Private Sector	•Ivory Consult Limited
Resident Representative	•Tena Residents Association • Lavington Residents Association

The CRC process received technical assistance from WSP-Africa (World Bank) and the Public Affairs Foundation of Bangalore. The survey was undertaken by Research International.

Through the CRC, the Nairobi city consortium aimed to:

- create larger scale and more direct links between Nairobi citizens, water and sanitation policy makers and service providers;
- deepen residents understanding of the water and sanitation reforms and issues in the city;
- inform Nairobi citizens on the quality and quantity of water and sanitation services in the city, and give them a voice in the way these services are planned and managed; and
- use the results of the Report Cards to carry out informed dialogue for improved services for both the Nairobi urban poor and non-poor

The Nairobi City Consortium provided an opportunity for stakeholder consultations and engagement throughout the CRC process. For 1 year (late 2005 - to first half of 2007), members of the consortium exchanged information, met individually with KARA, and held 5 official consortium meetings as outlined below:

Table 3: Meetings of the Nairobi City Consortium

Consortium Meeting	Date	Objective /Agenda
1st Consortium Meeting	21st October 2005	• Introduction to CRC process in Nairobi • Build shared understanding of CRC objectives, expected outcomes, timelines, and the roles and responsibilities of different institutions. • Preliminary identification of issues for FGD process
2nd Consortium Meeting	3rd February 2006	• Review of Focus Group Discussion checklist and dates planned for field visits • Confirmation of Minutes and matters arising from 21st October

3rd Consortium Meeting	3rd March 2006	• Presentation of FGD`s draft summary report • Confirmation of Minutes and matters arising from 3rd February
4th Consortium Meeting	18th October 2006	• Update on CRC`s Project in Nairobi; special meeting held with management and consortium at the NWSC office. • Managing Director NWSC/CCN Presentation on coverage and challenges. • Update on ongoing Field survey. • Plenary Questions and Answer Session
5th Consortium Meeting	9th November 2006	• Presentation of preliminary survey findings. • Plenary Discussions • Next steps forward • Confirmations of minutes of the meeting of 18th October.

The consortium aims to maintain the relationships established, forge dialogue and hold reviews on a biannual basis as a way of jointly monitoring progress made by service providers.

1.7 Methodology of Preparing the Citizens Report Cards

The CRC process began by building awareness of the potential of Citizen Report Cards in 3 cities including Nairobi. This introduction, through a series of participatory workshops with stakeholders, was combined with assessments to ascertain whether local conditions were suitable for a CRC. Political receptivity, the openness of service providers to receive feedback and the vibrancy of civil society and media was taken into account. The CRC was then undertaken through an initial qualitative assessment, followed by a quantitative survey.

How was the qualitative assessment done?

The qualitative assessment provided initial insight on the issues affecting citizens and KARA as the lead agency for Nairobi conducted nine focus group discussions within the Nairobi area in the month of February 2006. Wide participation was ensured to cover special interest groups ranging from the high-income to low-income brackets, including youth, men, women and local leaders. The residential areas engaged during the qualitative assessment were divided into three strata, namely high-income, middle-income, low-income settlements. To assess experiences of the high-income group, residents of Karen, New Muthaiga and Loresho South were interviewed. To understand the experiences of low-income groups, residents from Kangemi, Kibera and Mukuru Kwa Njenga were targeted. Komarock, Tena and Imara Daima were targeted to obtain the experiences of middle-income groups.

These findings have been reported separately and were used to help design the questionnaire. The real life case studies obtained during the FGDs are inserted in this CRC to illustrate the findings. In each case the real names of individuals have been altered in order to protect the identity of the respondent. This qualitative process in the methodology enabled the Consortium to gain first-hand insight on the broad range of issues affecting citizens, and to obtain testimonials on individual experiences.

How was the quantitative assessment done?

The outcome of the qualitative assessment fed into the survey instrument for the quantitative assessment. The survey instrument was first drafted in English and then translated into Kiswahili after sufficient validation checks (including an independent re-translation into English). The questionnaires were pre-tested by Research International and minor adjustments were made to the tools following the pointers from the pre-test.

In addition to demographic and socio-economic data, six themes were identified for data analysis and presentation. These include:

(a) Availability, access and use of services
(b) Satisfaction with services and priorities for improvement
(c) Perceptions of quality and reliability of services
(d) Costs incurred by users
(e) Transparency of service delivery
(f) Interactions with the service agencies

The survey aimed to cover the area in which the water companies are mandated to provide services and was based on a structured interview with randomly-selected households who are users of water and sanitation services. An important objective was to investigate the differences in perception of services by poor and non-poor households. In order to do this, the existing Central Bureau of Statistics definitions of urban socio-economic strata were used. The major urban areas are stratified into the five categories of living standards namely: 1= Upper, 2 = Lower upper, 3 = Middle, 4 = lower middle, 5 = lower.

Of these, strata four and five are classified as 'poor' within our sample, and the first three strata are classified as 'non-poor'. The CBS notes that 'even though the categories above have been indicated to have some particular types of infrastructure associated with them, it does not imply that other kinds of dwelling facilities do not fall within their environs. It is characteristic that, close to most of the high-income areas, there is an informal settlement; our consideration is what would be the mean in terms of the facilities among all the residents of the areas in the categories. However, where a slum is neighbouring a class which is higher, the slum within that locality will be identified and placed in its appropriate category'.

Alongside the enumerators from Research International, representatives from KARA attended the training on questionnaire administration in order to be in a position to later monitor the fieldwork. Quality control comprised full checks of questionnaires in the field: 11% of back-checks (interviews checked by the supervisor at random) and 7% accompaniments (interviewers accompanied by supervisors in the field).

Fieldwork took place between 7th September and 8th October 2006. The survey was based on a sample of 1,378 interviews conducted on adults (over 18 years of age) in Nairobi whose results provide a representative sample of households within the city. The sample covers up to the municipal boundaries of Nairobi and the stratification of the poor and non poor as demarked by the Central Bureau of Statistics.

1.8 Limitations of the study

- The building blocks of any user feedback study are ordinal in nature and are based on experiential responses. Several words like 'normal', 'satisfaction', etc, have been asked in the manner that the respondent can best comprehend; thus, there is likelihood of subjectivity in the responses.
- Levels of satisfaction are highly correlated with expectations and importance that respondents assigned to services. Expectations and importance across regions vary and thus may result in variations in the satisfaction level. Such variations have not been taken into account in the design of this survey.

1.9 Structure and key features of this Report

Order of Presentation: Generally, the report presents key findings and satisfaction levels in four key sectors namely Water, Sanitation and Sewerage, Solid waste management and Communication. Under each sector the report begins by providing a quick symbolised snapshot of the key findings and satisfaction levels , followed by detailed findings of citizen experiences with issues of access, quality, reliability, costs, transparency of service provision, and interactions with NWSC using simple averages presented in tables, graphs and charts. A section on conclusions is then presented followed by the priority areas of improvement and policy implications for the specific public services. The final sections of the report provide a summary on the overall citizen satisfaction levels with public services and the key priority areas of improvement and a summary of the key findings.

Conclusions symbolised: A unique feature of this report is the use of symbols to provide an easy indication on the overall satisfaction levels of citizens with the services. For ease of reference, the symbols used indicate the following:

- Satisfaction[4] (smiley face)
- Dissatisfaction (sad face)
- Challenges of equity between different social groups require attention (weighing balance)

Reference to Benchmarks. The Water Services Regulatory Board has put in place Service Provision Agreements with the seven overseeing water services boards in the country. The benchmarks apply to the Water Service Boards and are used to monitor performance of the agents of the Boards, the water service providers, in this case the Nairobi Water and Sewerage Company. The benchmarks relate to a range of service indicators. Using the feedback of citizens, this report has made reference to the achievement of benchmarks from the perspective of citizens on a number of service dimensions.

End Notes

[1]Water Services Boards: (i) Athi (based in Nairobi and covers Nairobi City, Kiambu, Thika, Machakos, Kajiado and Makueni); (ii) Tana (based in Nyeri and covers Nyeri, Murang'a, Maragua, Nyandarua, Kirinyaga, Embu, Meru Central, Meru South, Meru North, Mbeere, Tharaka Mwingi

and Kitui); (iii) Rift Valley (based in Nakuru and serves Narok, Kiobatek, Keiyo, West Pokot, Turkana, Nakuru, Baringo and Marakwet); (iv) Northern (based in Garissa and serves Isiolo, Moyale, Laikipia, Samburu, Marsabit Garissa, Ijara, Wajir and Mandera); (v) Lake Victoria North (serves Kakamega, Vihiga, Lugari, Butere-Mumias, Busia, Teso, Bungoma, Mt. Elgon, Trans Nzoia, Uasin Gishu, Samburu); (vi) Lake Victoria South (based in Kisumu serving Nyando, Siaya, Bondo, Homabay, Migori, Suba, Kuria, Kisii, Nyamira, Gucha, Kericho, Kisumu, Bomet, Transmara, Bureti, North Nandi, South Nandi); and (vii) Coast (based in Mombasa, covering Kwale, Taita Taveta, Kilifi, Malindi, Mombasa, Lamu, Tana River).

[2]The Acts affecting delivery of sanitation include the Public Health Act, Cap 242, The Local Government Act Cap 265, The Environmental Management and Co-coordinating Act, 1999, The Food, Drugs and Chemical Substances Act, Cap 25, The Water Act 2002, The Factories Act, Cap 514 and The Education Act, Cap 211

[3]UFW has two components: (a) physical losses due to leakage from pipes, and (b) administrative losses due to illegal connections and under-registration of water meters. To a large extent, the level of ufw is an indicator of how well a utility is managed, and the reduction of ufw is a crucial step to both improve the financial health of a water utility and save scarce water resources. ufw in a well-run utility is generally in the order of 15 to 20%. Nairobi has a ufw of 40%; indicating that a large proportion of the water produced either does not reach the consumer or does not result in revenue for the company.

[4] The percentage on satisfaction are statistics of those 'completely satisfied'.

2.0 WATER SERVICES

The CRC sought to examine citizen satisfaction and experiences in four main sectors namely Water, Sanitation, Solid waste management and Communication. The six themes identified for data analysis and presentation are organised into; i) Availability, access and use of services; ii) Scarcity that Citizens experience, iii) Perceptions of quality and reliability; iv) Costs incurred by users; v) Transparency of service delivery; and vi) Interactions with the service agencies.

2.1 Availability, Access and Usage of Water Sources

Snapshot

Overall, access to mains water in and around the home is 74% with more of the non-poor than the poor; only 18% of the poor have direct access compared to 86% of the non poor. Access combining mains water and kiosks is 89%.

Although there are differences in services levels between the poor and non poor,the water company in Nairobi attains an overall WSRB score of 'acceptable' for mains supply and a 'good' score for water supply to the non-poor.

Although satisfaction among the users of mains (mainly the non-poor) is high (67%), kiosks users (mainly the poor) indicate low satisfaction (45%). This finding is significant since these are the two main sources of water for most households in Nairobi.

Overall satisfaction with water services in the informal settlements is low with the majority (58%) of the respondents expressing dissatisfaction.

Overall water availability

Overall, access to mains water in and around the home is 74% with more of the non-poor (95%) than the poor (69%). However, access to mains water combined with kiosk is 89% with very few people using water from other sources. It is important to note that of the 69% access by the poor, 54% is shared as yard taps with neighbours in their block or compound. In essence, only 18% of the poor have direct access in the home as compared to 95% of non poor. In the informal settlements access to mains in and around the home is 45%. Of this, only 1% is directly connected to tap inside home or individual compound; the other 44 % share with other households. (For more details see annex 1.0)

What sources do people have access to, utilise and use for drinking?

When asked which sources of water they have access to;, and which sources they actually use, the wide range of different water sources were described in detail but the results for both questions did not differ significantly; and it was noted that most people rely on mains water obtained in and around the home.

For drinking water, most of the non poor (88%) and majority of the poor (66%) rely on water from mains connections in and around the household with only 31% of the poor regularly relying on water kiosks as the main source of drinking water.

Figure 4: Utilisation of water sources during normal times (N= Poor- 819; Non-poor - 559)

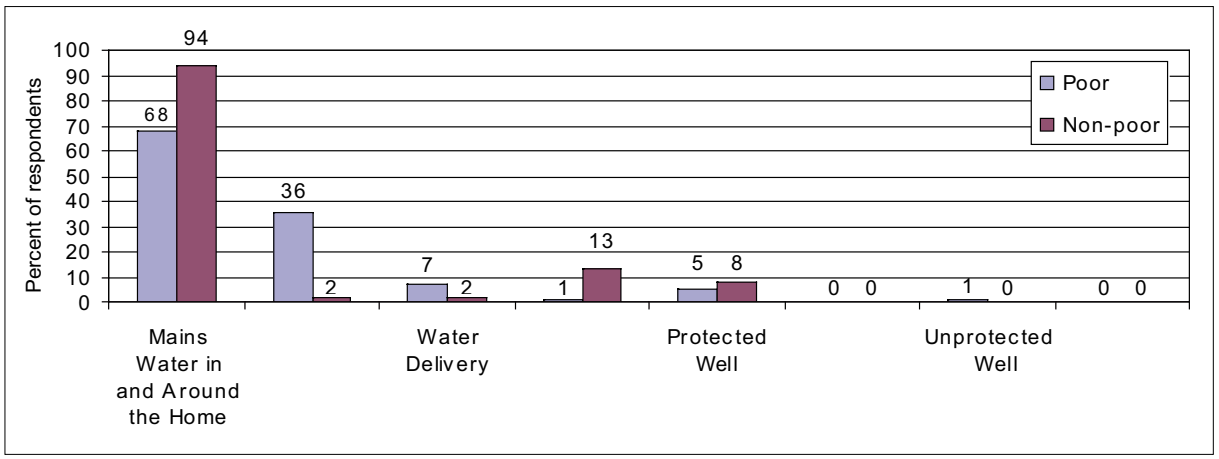
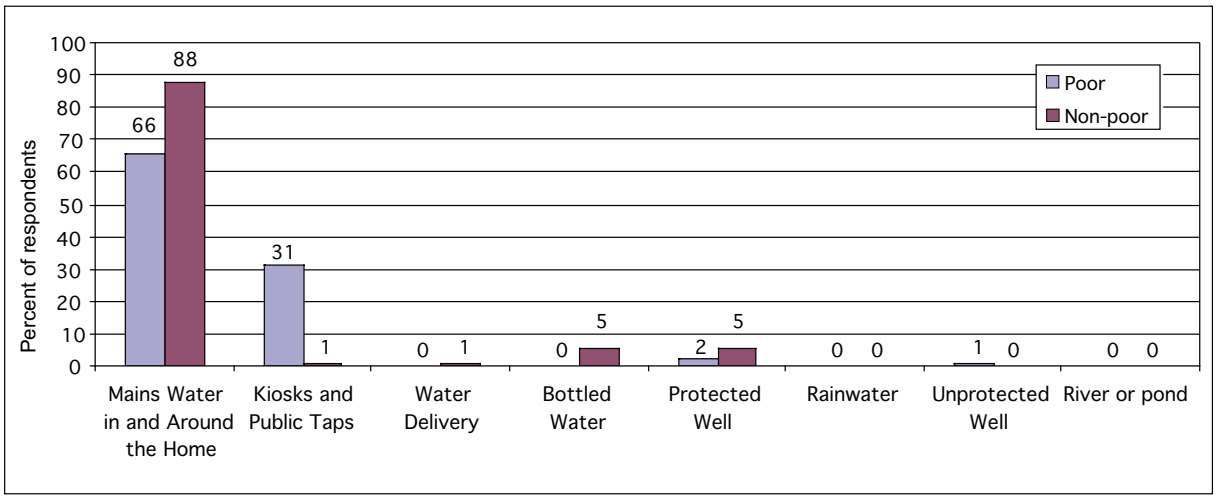
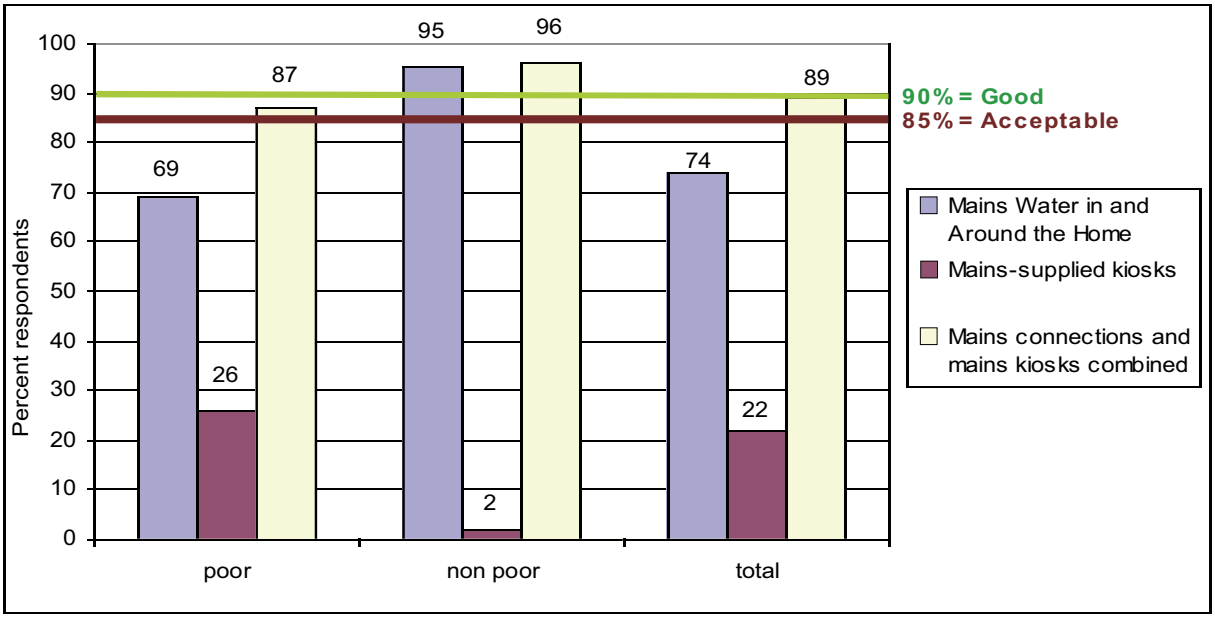


Figure 5: Water sources used for drinking during normal times(N= Poor- 819; Non-poor- 559)



In order to meet the benchmark for 'coverage of the service area' specified in the performance agreements by the Water Services Regulatory Board, a certain percentage of the population has to have 'adequate drinking water' through the public distribution network. Two levels of service are included in the definition of the distribution network: connections to mains water and kiosks served by mains with 90% or more being 'good' while 85-90% being 'acceptable'. The Company falls short of attaining the 'good' benchmark for water service provision but falls into the 'acceptable' category. It is important to note that the yard tap and kiosk level of service is not monitored through this benchmark. In the chart below this benchmark has been used to distinguished direct mains and kiosk and could even be distinguished further to show access using yard taps.

Figure 6: Access using benchmarks - water kiosks and direct mains in Nairobi



The data on the use of kiosks1shows a strongly correlated usage pattern among the poor and non-poor. Over a quarter (26%) of the poor respondents in Nairobi indicate using water kiosks as the main source of water.

Situation in the Informal settlements

The informal settlements category falls within the lowest strata in the 'poor' category and has characteristics that distinguish it clearly from the rest of the categories. These are poor infrastructure and structures that are largely temporary, made of mud-wall or timber-wall with cheap roofing materials, which may be iron sheets, makuti, grass or even nylon paper or cartons. Given the demography and settlement patterns within the city, and from the FGD's, it cleared emerged that the informal settlement areas are most affected by problems of access to water services. Hence, although the findings earlier discussed were largely on the formal planned settlements and included the informal settlements, a special focus on this category presents a slice of the situation in Nairobi's informal settlements and reveals the following.

Access

Water supply in the informal settlements is achieved by a combination of NWSC water (chambers) points; illegal connections; bicycle water vendors and open dams. Access to mains water in and around the home is 42%. Of this, only 1% has mains water connected to tap inside home or individual compound. The other 41 % share the mains water in a compound or with other households. Majority (66%) of the residents' access water from kiosks operated by private seller/ community member. Of the 66% accessing water from the kiosks, 26% access water from kiosks not connected to the mains. Water is collected by everyone but mostly women who walk distances of up to 1km to secure water.

2.2 Scarcity that citizens experience

Snapshot

Scarcity periods are still quite long lasting for at least three months with a major difference noted between the poor and the non-poor. The poor households reported to be more than twice as likely to experience scarcity. The shortage of water during scarcity demands storage and forces some consumers to use less safe sources for drinking purposes, which puts them at risk of diseases.

What proportion of households experienced water scarcity during the last year?

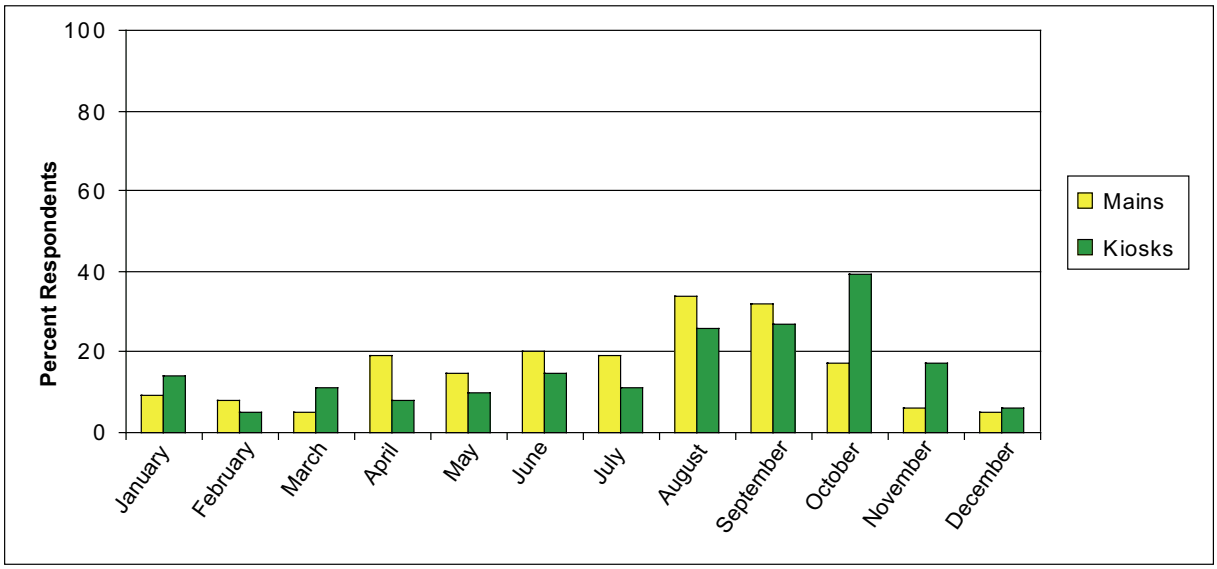
Respondents were asked about times of scarcity, which were defined as low or lack of water supply lasting five days or longer within 12 months preceding the study. About a third (31%) of the residents using the mains and 19% of those using water kiosks reported having experienced scarcity. The numbers of responses relating to people using other types of water sources was below the minimum of 30 and was therefore statistically unreliable to be reported.

Which are the months in which scarcity is experienced?

Scarcity periods are still quite long; the graph below show the months in which scarcity is experienced by users of mains connections and kiosks. Mains shortages were most widely experienced by the poor in August and September. Those using water kiosks were most likely to cite October as the month of scarcity, followed by August and September.

For the non-poor, data is only reliable for those using mains in or around the home. Users of the other sources who experience scarcity are too few for reliable analysis. August and September are the main months during which the largest proportions of non-poor mains users experience scarcity. This could partly be due to the long dry season since a similar shortage is not visible in January and February.

Figure 7: Months in which scarcity is experienced

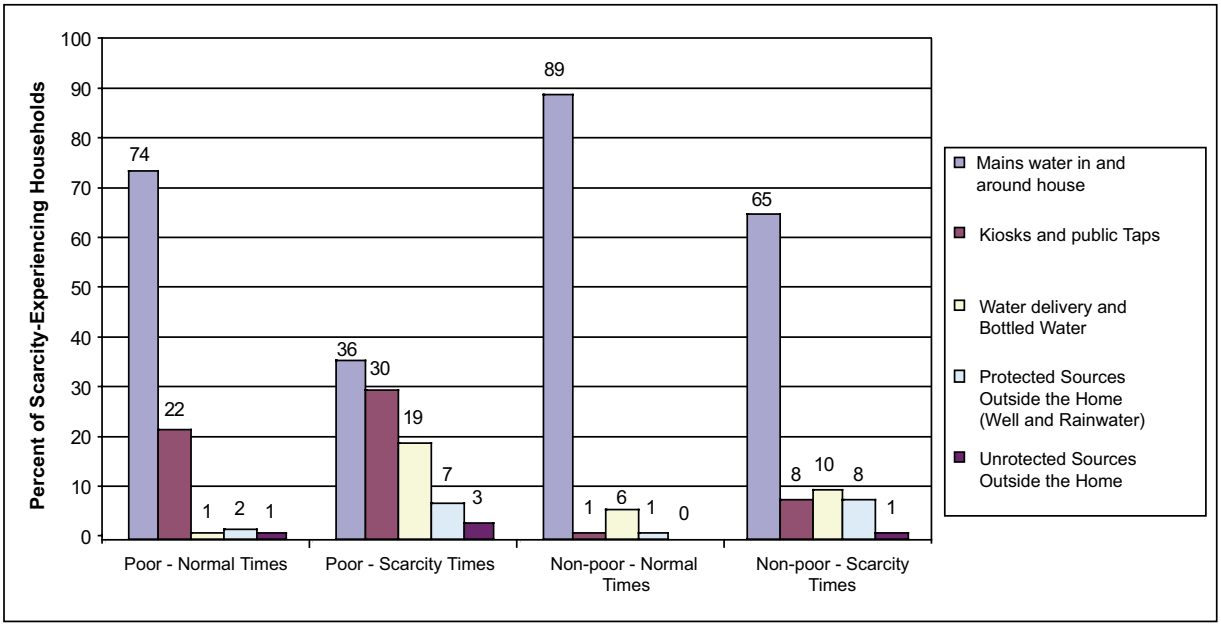


How do water usage patterns change during scarcity?

Data was analysed on water use for drinking for the respondents who stated that during scarcity their usage and access patterns change. It emerged that the there is an increase in usage of alternative, non utility sources. Responses from households revealed that the poor and non-poor differ in their reaction to scarcity.

A comparison between the poor and the non poor reaction during scarcity revealed that the use of purchased water and protected sources outside the home among the poor increases significantly in times of scarcity (see the graph below). The use of unprotected sources also rises from 1% to 3%. Among the non-poor, 65% continue to use the mains, and the others increase their use of kiosks and protected source outside the home. Interestingly though, even among the non-poor, 1% indicate using unprotected sources during this periods.

Figure 8: Primary source of drinking water in normal and scarcity times
(N= Poor- 237; Non Poor– 76)



Case Study 1- Frustration of a young couple

Emmanuel Choge has been living in Tena Estate for the last 3 years, with a family of 2, he tells how water scarcity has nearly sacrificed his social life. "Since I bought this house and moved in, nearly 3 years ago, I have not known the luxury of using a shower in this house. How can I when every neighbour seems to directly pump water into their houses from the main distributor pipes? Every household seems to silently compete on which power of a generator; to deny other consumers water through resultant low pressure. As for me my wife has to stay past midnight waiting for drops of water. She has to be up again as early as three in the morning to get a little more. You can imagine what such a routine could do to a young couple such as ours. I am almost a married bachelor!"

2.3 Reliability

Snapshot

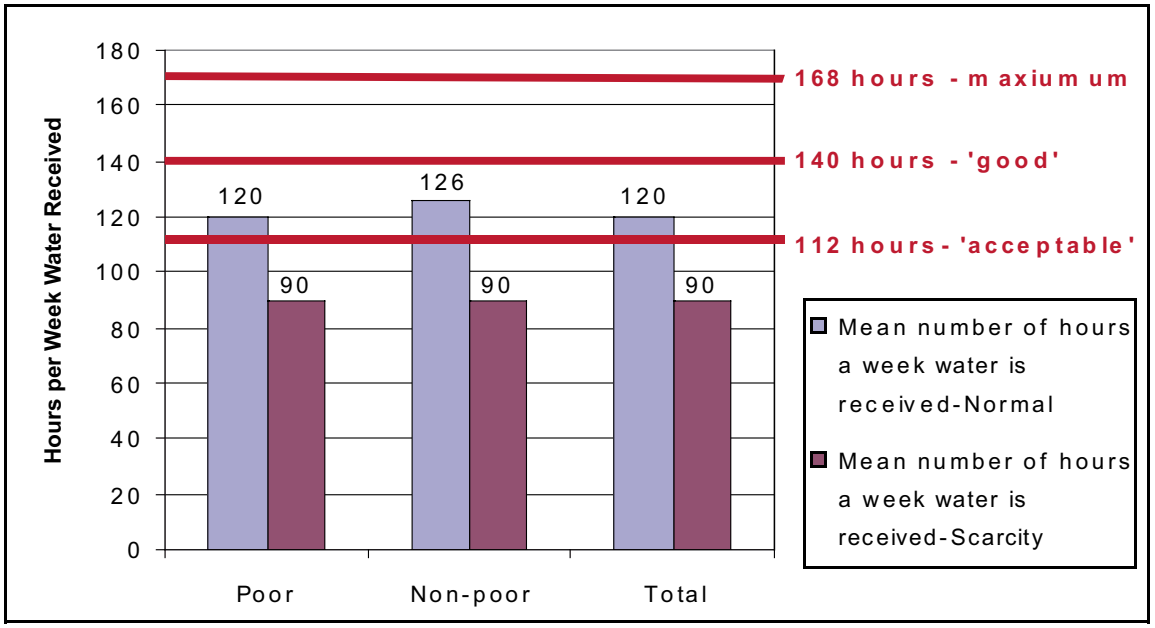
- **Citizens directly connected to mains have an average of 120 / 168 hours of supply during normal times and 90 / 168 hours during times of scarcity. Based on the WSRB benchmarks this rate is 'acceptable' during normal times but 'unacceptable' during scarcity times.**
- **19% of the respondents had experienced major interruption in supply lasting more than 24 hours from the mains, with the poor reporting more (21%) stoppages than the non-poor (13%).**
- **The system depicts reasonable reliability with few major stoppages, but with the poor experiencing more stoppages than the non-poor.**
- **In the informal settlements, water unreliability is a major issue and often results in cost increases by vendors.**

How regular is the supply of water from the mains?

In normal times a large proportion (68%) of mains users in or around the home reported that they have mains water seven days in a week. The average number of days that mains water comes for a respondent in the sample is 6. In times of water scarcity, 44% of those have mains water 7 days a week. The average household experiencing scarcity gets water 5 days a week during that time.

Combining the figures for days per week and hours per day results in an aggregate measure of the reliability of mains service. The maximum combination is 24 hours of water seven days a week, or 168 hours a week. The benchmarks for service require provision of a minimum of 20 hours a day, or 140 hours a week, to be scored as 'good', and a minimum of 16 hours a day, or 112 hours a week, to be scored as 'acceptable'. Nairobi has an 'acceptable' score, but drops to being 'unacceptable' during scarcity times.

Figure 9: Hours per week of service

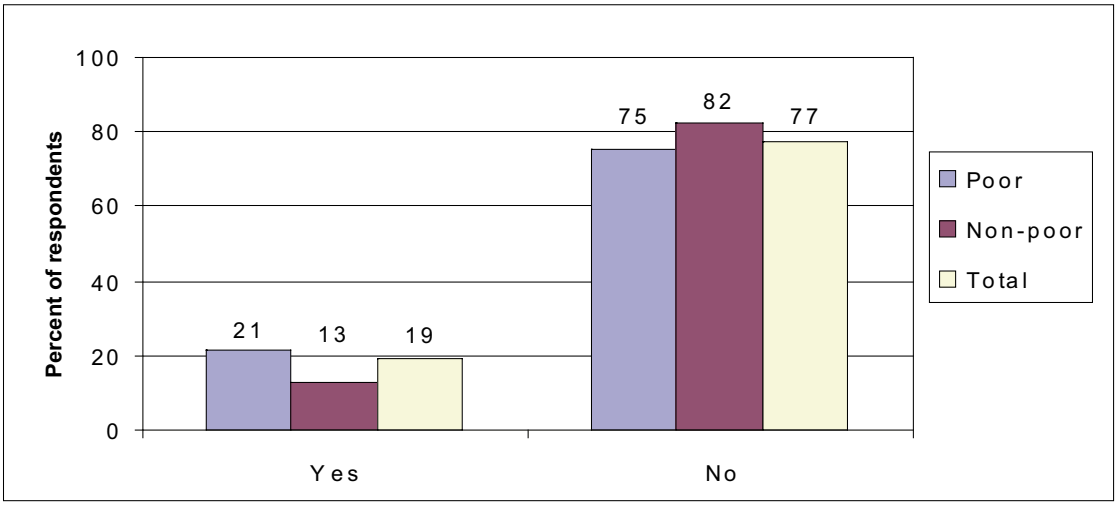


During normal times, the poor and non-poor have water for about 71% of the total number of possible hours of supply (168 hrs), with the non poor getting 6 hours per week more than the poor. This compares with 53% of total possible hours during times of scarcity, which is constant for both the poor and non poor.

How frequent are stoppages?

Stoppage is defined as an interruption in supply lasting more than 24 hours that was not related to disconnection for non-payment. Only 19 % of mains using households reported experiencing major stoppages, with the poor reporting more (21%) stoppages than the non-poor (13%). A third (33%) of the poor respondents had a stoppage as recent as 15 days to the survey period. This compares to less (13%) of the non-poor who had experienced a very recent stoppage.

Figure 10: Experience of major stoppages (N = Poor –545; Non poor - 439)



The case study below exemplifies this position.

Case Study 2 - Continuous interruptions

James Kimani, a resident of Tena wondered why we were asking him about water interruptions.

"Even electricity has blackouts and rain is not continuous either. We do not expect water to be available everyday but it should not go beyond a week's period. Here we have had a permanent rationing. Indeed we would have loved to talk of interruptions. But here there is, if you like, permanent interruption."

"What do you call it if you have the piping systems in the house yet they end up simply rusting because water hardly passes through them? It is terrible. Tell the water company people that we are suffering in Tena. Why have they forsaken us?"

Situation in Informal Settlements

Overall, water points are inadequate for the population in these settlements with unscrupulous operators reportedly by-passing meters to defraud the NWSC. The residents indicate that vendors increase the cost of water during rationing periods. Those with illegal connections also express worry over the rationing program.

2.4 Quality

Snapshot

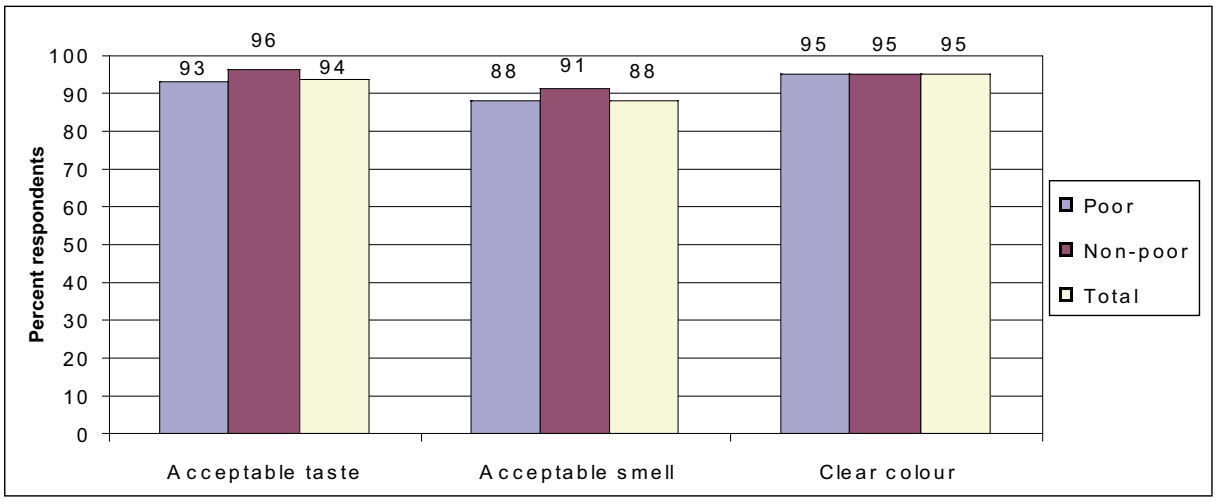
Consumers rate the taste, smell and colour of mains water as acceptable throughout the year.

Many residents in the informal settlement are not sure of the water quality.

What do users think of the taste, colour and smell of mains water?

There is an overwhelming endorsement (over 90%) of the water quality from the mains in terms of taste, smell and clarity. There was little variation in the responses for poor and non-poor and between normal and scarcity times. Thus only data for normal periods has been presented.

Figure 11: Consumer perceptions of taste, smell and colour of mains water – Normal periods. (N = Poor- 545; Non Poor –439)



Situation in the Informal settlements

The experiences from the focus group discussions and case studies done in the informal settlements indicate that many residents are neither sure of the water they use nor of the cleanliness of the containers (jerricans) used to carry the same. This does not seem to bother residents who judge the quality of water on presence or absence of any major water-related outbreak, such cases of cholera reported at Kaptagat area in Kangemi. They believe that what is sold by bicycle vendors is clean and that is what they use for drinking simply because they are told and expect it to be that way. However, those who get water from water chambers (points) complain that they sometimes find faecal matter and sewer wastes and blame it on ethnic-based unfair competition.

2.5 Costs incurred in accessing water

Snapshot

The cost of accessing water is considered to be high particularly for the poor; the additional cost of having to provide storage is a burden given their social economic situation. Households are finding it necessary to invest significant amounts of money in storage tanks to compensate for unreliability of supply with the non-poor investing more than the poor.

How much are the households paying for water?

Generally, the cost of accessing water was rather high. The average amount that a household using the mains during normal times spent was Kshs. 916 per month, with the poor spending Kshs. 476 and the non-poor spending Kshs. 1,331.

In the informal settlements the cost of water ranges between Ksh. 3 – 5. However, during acute shortage the residents report that the cost of a 20 litre jerrican rises up to Ksh.15 besides the hidden costs on transport (by bicycles and 'Mkokoteni')

How much are households spending on storage tanks?

The average cost of storage tanks is Kshs. 2,100 with the poor spending Kshs. 1,890 and the non-poor Kshs. 3,460. This is a reflection of the average capacity of the storage tanks with the poor households having 1,479 litres compared to 5,421 litres for the non-poor. This implies that households are spending significant amounts on storage to compensate for unreliability of supply, with the non-poor investing more than the poor.

When we take the average amount our respondent households reported spending and extrapolate it over the entire city, it becomes apparent that very large amounts of money have been invested in storage tanks. If each of the estimated 655,000 households using the mains in Nairobi has invested Kshs 2100, this means an astonishing total of approximately 1.3 billion shillings has been invested so far city-wide to overcome shortcomings in utility supply. This calculation for Nairobi is shown in the table below.

Table 4: Extrapolation of amounts invested in storage tanks (Kshs) Base (N)= Poor 545; Non Poor 439

Total number of households in the city	886,154
Percentage of households using mains connections	74%
Number of households using mains connections	655,754
Average amount spent on storage tanks by each household using mains connection	Kshs 2100
Total estimated investment in storage tanks	**Kshs 1,377 million**

2.6 Coping Mechanisms

Snapshot

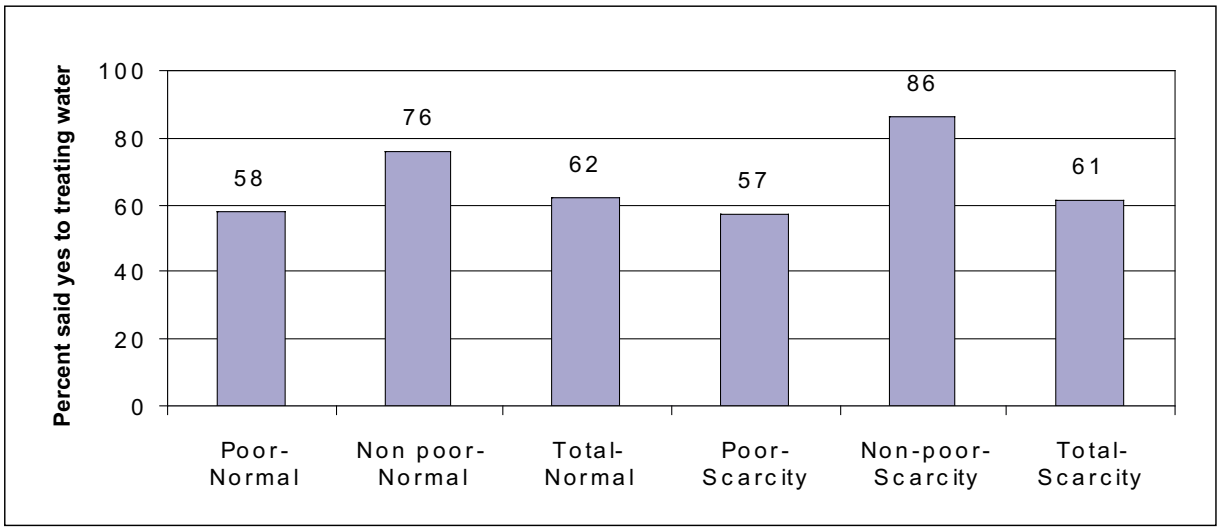
The main coping mechanism against water shortages and interruptions is purchase or construction of water storage tanks. However this is considered expensive and the poor, who often rely on kiosks, are not always able to acquire it and remain vulnerable. Other costs are also incurred in terms of water treatment methods in order to cope with problems of water quality.

Despite the good impression of taste, smell and colour, a large number of respondents still treat the mains water as they do not trust it for drinking purposes and do not want to take chances.

What are the coping measures adopted by consumers to meet issues of quantity and quality of water?

A large percentage (62% and 61% in normal and scarcity times respectively) of respondents treat the water before drinking with the non-poor more likely to treat water before drinking (76% and 86% in normal and scarcity times respectively) than the poor (58% and 57% in normal and scarcity times respectively).

Figure 12: Percent of mains users who treat water. (N = 192)



Although a high percentage of respondents rated the water quality as acceptable, most of them (77% - 80%) boil the water, while a considerable number (25% - 31%) use chemicals, such as 'water guard' to treat it. A small percentage (2% - 3%) also uses water filters for water treatment.

Case Study 3 – Woman recounts loss of child due to contaminated water

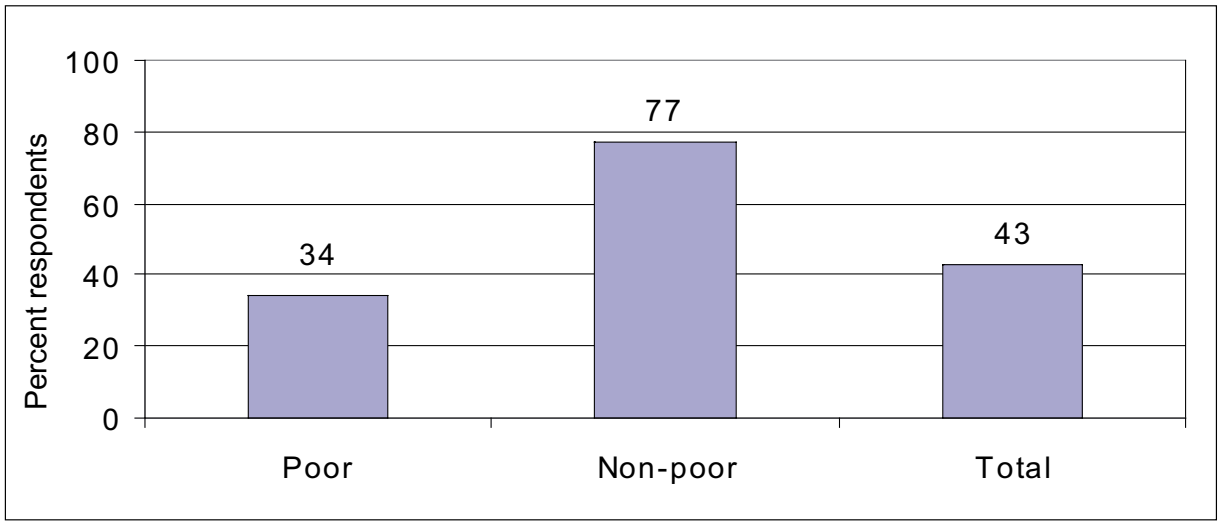
Wilskster Ameyo has been living in Dam area of the expansive Kangemi informal settlement for the last 20 years. She gives her emotional account of why she must boil drinking water from the kiosk, virtually every day.

"Around 10 years or so ago, my only son, Aluda, developed a terrible condition. It happened very fast for my comprehension. He became very dehydrated and had difficulty in breathing and could not eat.

I got very worried and nervous. It was almost too late when he was sent to hospital. A number of tests were carried out. He never came back alive. The doctors informed me later that he had succumbed to the killer cholera. When I realized it had been caused by contaminated water, I swore never to take chances. I have only my 10-year old daughter. I can't afford to lose her too, to cholera. For this reason, I always boil water even if I must do that at the expense of lighting my house at night, with my kerosene lamp. I'll never trust drinking water, which is not boiled or treated with modern medicine. I paid a very high price, already. I tell other women the story many times in a day than I can count".

A considerable number of the households using mains have storage tanks (43%), with the non poor being much higher (77%) than the poor (34%).

Figure 13: Percent of households with storage tanks. (N= 545-Poor; 439-Non Poor)



2.7 Users of Sources outside Residential Premises

Snapshot

There is a low level of satisfaction among users of these types of sources reflecting the lower levels of service provided. Fetching water from kiosks and other outside sources is time consuming and vexatious with the top three problems identified as long queues, quarrelling and queue jumping. This imposes a heavy social economic cost with the women as the main losers (spending long duration of 1.5—2.0 hours per day fetching water); when translated into potential loss in wage earnings, this is a significant opportunity cost, in addition to other latent losses related to education, care of family members and suffering from exhaustion. The problems become even more pronounced in times of scarcity.

How accessible and convenient are sources outside residential premises?

In Nairobi, households using sources outside the residential premises (all those who use all types of kiosks, boreholes, wells, rivers etc) reported that they were open a mean of seven days a week. Only

4% of households in Nairobi reported that they were open 24 hours a day. Despite this, the majority of these households said that the opening hours were convenient.

How long does it take users of water sources outside the home to fetch water?

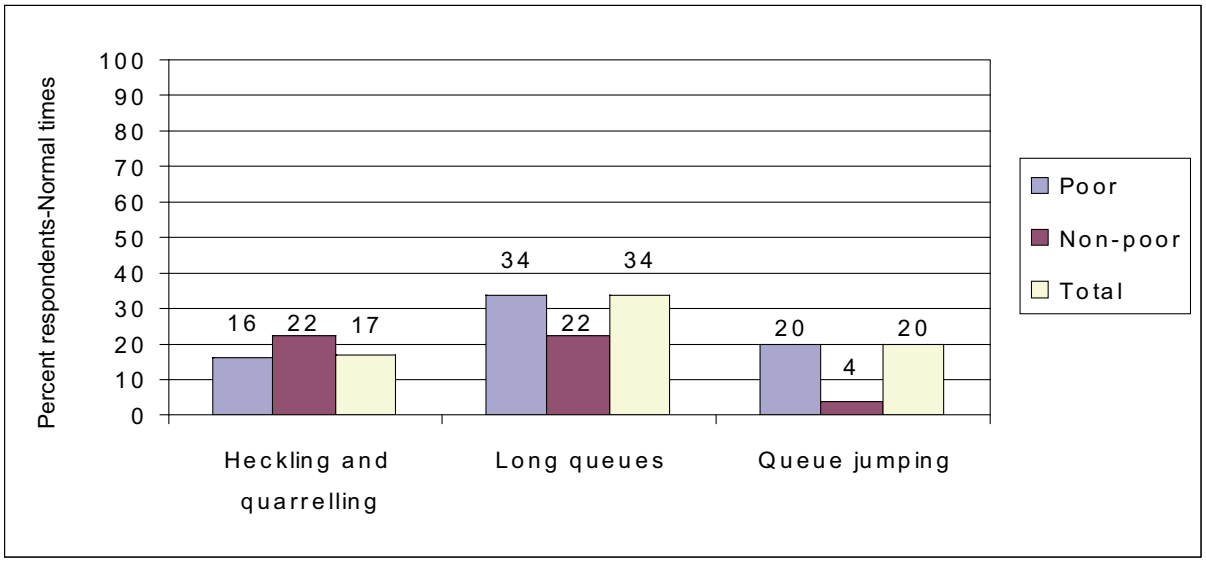
Household respondents who used sources outside the residential premises noted how many minutes they spent fetching water every day. Small sample sizes made the data from non-poor households unsuitable for analysis; hence only the data from the poor are presented here. It is also notable that the vast majority of the households fetching water from outside the household premises are poor.

The total number of minutes a day was taken as the average number of minutes spent fetching water multiplied by the average number of times households fetched water each day. Poor families spend at between 90 and 120 minutes a day in water collection. Majority (68%) reported that adult women were the ones who fetched water indicating that the burden falls more on women than on men; although data shows that the participation of men in water collection increases in scarcity times, with adult males becoming slightly more involved. It can be assumed that this also has an impact on the wage-earning potential of households.

What kinds of problems do people encounter while fetching water?

Households who reported using water sources outside their residential premises, such as kiosks, were asked if they faced problems when they fetched water - 42% said yes. The top three problems reported related to inconvenience and conflict, namely, long queues, quarrelling and heckling as well as queue jumping.

Figure 14: Problems encountered when fetching water in normal times. (N = 268)



2.8 Transparency of Service Provision

Snapshot

- **Billing frequency for most users is mostly on monthly basis in line with the requirements of the performance agreements.**
- **The NWSC communication methods do not reach the majority of consumers with information on service disruptions and stoppages.**
- **Corruption in provision of water services between those directly connected to mains and utility staff was reported as low at only 5% in this survey.**

Users of mains connections were asked on how 'transparent' service provision was in terms of billing practices, information on stoppages, and petty corruption.

Who pays the water bills?

When households who reported using mains connections were asked who pays the bills, only a third (33%) of households reported paying their own bills, with a much lower proportion of the poor (26%) than the non-poor (54%). The majority of them reported that the bills were being paid by their landlord, and the cost of water either included in the rent, or passed on to them as a variable monthly cost. As such, many households do not know the exact amount that they use on water and have little direct contact with NWSC. The case study below illustrates this position:

Case Study 4 - Never seen a water bill

James Barasa, a resident of Tena estate has been staying on a 5-storey flat for the last 10 years. When asked of his knowledge of water bills and payment, he replied "Don't ask me that! I have never seen how the water bill looks like. I don't even know if the landlord actually pays for the water. All I know is that whether or not I have water in my house, my water bill is always in-built in the rent to the tune of Ksh. 550 per month. You are better off asking him."

How often do customers get water bills?

The majority (72%) of the mains consumers had received the water bill in the last month, while 10% received their bill in the last 2 months. Only 1% had never received a bill though eligible, while the rest are either not eligible or do not received the bill in time.

Table 5: Frequency of billing (N= 155-Poor; 247- Non poor)

Received bill in the last month	72%
Received bill in the last two months	10%
Never had a bill though eligible	1%

How prevalent is the presence of water meters and how frequently are they read?

The data showed that most people who paid their own bills reported having a meter, and most of them reported that it had been read in the last month. However, a significant percentage said they did not know if the meter had been read or not.

Do consumers report getting advance announcements on service provisions such as stoppages?

It is interesting that despite the number of announcements, especially in the print media, a very small number of respondents (19%) reported having seen advance announcements on service provisions such as stoppages.

Are the households who pay water bills being asked for bribes, or offering them?

Data collected on bribes paid and received was inconclusive. One reason was that the question was only asked of those who pay their own bills, leaving out a large number of people who also interact with the water company, such as kiosk operators and landlords, or people who pay bribes not associated with billing. The exact question asked to respondents was "have you ever had to offer any incentives outside official payments (this is a bribe including money, gifts, incentives or other assistance) in order to get a service or sort out a problem?" Only a very small percentage (5%), of the households who pay their own bills report paying any incentives outside the official payments.

At the Focus Group Discussions held prior to the survey, many participants reported that petty corruption was occurring. Where payments were made by landlords, this opens the possibility that bribery is occurring at the interface between landlords and water company staff. Examining this was beyond the scope of a household survey. Likewise, the survey did not examine whether bribery occurred between kiosk operators and water company staff.

2.9 Interactions with NWSC and Responsiveness

Snapshot

Whilst there are low billing problems, the few cases of inflated bills alienate the company from the consumers.

The satisfaction of clients in their interaction with the company is just above 50%; the highest being with regard to time taken to attend to the client.

On average, the Nairobi City Water Sewerage Company (NWSC) scored between 56 – 63% satisfaction on various aspects of interaction. The dimensions reported included such as time taken to attend to you, the time taken to address your issue, behaviour of staff, information provided, helpfulness and ability of staff to address your issue.

How many households reported billing problems, and what problems did they have?

A relatively small (28%) number of people paying their own bills experienced billing problems, especially the non poor (38%). The figure below shows the percentage of people who had experienced problems with billing in the past 12 months. The case study below highlights why the common problem with billing will most certainly be an inflated amount.

Case Study 5 – Inflated water bills

Mary Otieno, a resident of 12 years in Komarock Estate, believes that any time she has to complain about the NWSC services it will be about wrong bills. According to her, all she can complain about the company are inflated bills. She hopes even to dream one day of ever going to the company to complain about her bill being too low than expected.

"These people", she says of the water company," seem to exist only to fleece me through such huge bills even on occasions that I do not have water. I can't imagine if they will ever make an error in their billing by reducing my bill to read a credit on my part rather than this very serious bill amounting to hundreds of thousands when I have consumed to the upwards of three hundred Kenya shillings. Every wrong bill on my part is always to their advantage. They must stop this bad business!"

Did people who had a problem complain?

Based on the people who said they had a billing problems, 75% lodged a complaint with the company—69% of the poor and 88% of the non poor. Out of those who complained, the highest number had problems with wrong or too high bills (84%), while a few received the bills too late to be able to pay on time.

Table 6: Most common types of billing problems. (N = Poor- 58; Non Poor –63)

Percent of Households Experiencing Billing Problems in the Last 12 Months	34
Percent who complained	75
Problems reported:	
Bill amount was wrong-too high	84
Bill came too late to pay on time	14
Bill did not/has not come	3
Disconnected even though paid the bill	0
Bill amount was wrong-too low	3

Despite the high level of complaints on billing problems, actual interaction with the company was fairly low at 17% for the poor and 35% for the non-poor both averaging at only 21% of consumers using mains that actually interact with the company. It is notable that 79% of the respondents have not interacted with the company. Of those consumers, 37% are satisfied with the services, 29% do not even think of interacting with the company, 19% do not know where or with whom to interact with, while 7% did not think it would make any difference to interact, indicating a lack of faith in the company to hear and address their concerns.

Table 7: Interactions with the water company in the last 5 years (N= Poor -445; Non Poor- 287)

Have not interacted with Water Company	79
Of those that did not interact:	
Satisfied with services	37
Did not think of interacting	29
Did not know where or with whom to interact	19
Did not think it would make any difference	7

How satisfied are consumers with interaction with the water company?

The data reveal that satisfaction with the way complaints and other interactions with the water company are handled is not high. Citizens were asked to describe their experience during their last interaction with the water company. Most of the interactions (70%) were occasioned by a complaint with more by the poor (79%). An average of 57 % was satisfied with the NWSC responses to their complaints. Most of the consumers (63%) were satisfied with time taken to attend to them, while 59% were satisfied with the time taken to address their particular issues of complaints. Majority (60%) were satisfied with the behaviour of staff they dealt with and a similar number were satisfied with the information given by staff, while 56% found the staff they interacted with helpful.

Figure 15: Percent of citizens' satisfaction with interaction with NWSC (N= Poor -99; Non Poor-147)

Although the satisfaction of clients in their interaction with the company is not high the case study below captures the observed improvement in customer care with NWSC services.

Case Study 6 – Improvement in NWSC

Alfred Otieno, a resident of Imara Daima Estate says of improvements in handling consumer complaints at the NWSC. "The NWSC services have improved a lot. Unlike in the past, you do not need to know or pass through anyone. When you have a billing problem, all you have to do is to visit the next business centre or its Kampala Road headquarters and one will get a very long, long, really long print out of your billing statement. You can even carry it away in a carton! You will then go through bit by bit with an officer. You will thereafter leave satisfied on whether an error existed or not. They must be commended for this."

Informal settlements

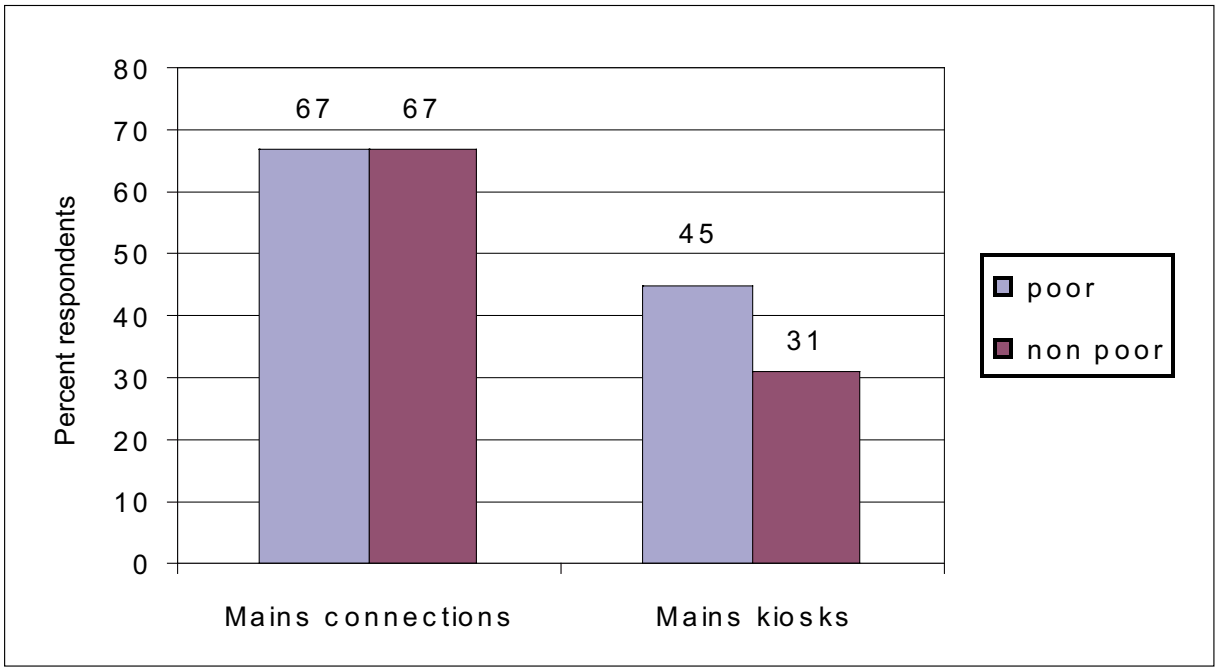
In all the informal settlements that the FGDs were conducted, no collective approach has been taken by residents in complaining about water service. Residents indicated that they do not know who to turn to or where to channel complains except to the chief and the entire provincial administration as they feel NWSC does not care for them. The residents say that "since they do not have titles to where they live NWSC cannot serve them".

Overall Satisfaction with water provision

How satisfied are households with the overall provision of water?

For households that obtain their water from mains connected in and around the house, over half the respondents (67%) were satisfied with the water service. Satisfaction with kiosks supplied from the company was low with only 45% of the poor and 31% of the non poor satisfied. Only 24% of the respondents were satisfied with the regularity of water supply during scarcity times.

Figure 16: Satisfaction for mains connections and kiosks



How satisfied are households with specific indicators of service delivery?

Regularity of supply, staff behaviour and billing were the least satisfying to consumers. The same applied for water availability during times of scarcity. At such times, satisfaction in terms of regularity of water supply dropped from an average of 70% in normal times to only 24% during periods of scarcity. Although satisfaction with the cleanliness of water remained largely the same during normal and scarcity times the findings show that the non-poor treated water more (76% to 86%). This is probably because the non-poor are more likely than the poor to treat their water as they move from

safe to unsafe sources and can afford the treatment. In terms of customer care, an average of 28% was satisfied with the behaviour of the staff, while 31% expressed satisfaction with the billing system. Satisfaction was highest with cleanliness aspects of the water.

Satisfaction is higher with the level of service for those directly connected to the mains, but lower among those using kiosks. Dissatisfaction with mains connections is associated with irregularity of water (scarcity times), staff behaviour and billing.

Table 8: Satisfaction of mains connections2 users (N= Poor -575; Non Poor -504)

Nairobi	**Poor**		**Non-poor**	
Completely satisfied with:	%		%	
Distance to source of water for drinking	61		71	
Time it takes to get water	57		66	
Regularity of water supply during normal periods	68		73	
Regularity of water supply during periods of scarcity	25		23	
Adequacy of water supply during normal times	67		74	
Water pressure	61		72	
Cleanliness	77		73	
Other aspects of water quality	66		75	
Behaviour of staff	24		32	
Maintenance	51		64	
Billing system	30		32	

Conclusion

Overall access to mains water in and around the home is generally high but with more of the non-poor than the poor; majority of the poor have shared yard taps with neighbours in their block or in a compound. Only a small percentage (15 %) of the poor has direct access compared to 95% of the non poor.

Access for both the poor and the non poor is severely affected by inconsistent and unreliable water supply; with a third of the poor being served through kiosks and third parties. There are two types of access situations in Nairobi; those who face severe interruptions of water and those who experience regularity in supply.

Either way, it emerges that access for both the poor and the non-poor households in Nairobi comes at a cost. The situation becomes grimmer during periods of scarcity evidenced by serious dissatisfaction with a number of parameters of water services in particular regularity of supply.

Although the costs are experienced by the poor and the non- poor, the burden weighs more on the poor who remain vulnerable given their social and economic circumstances. This is demonstrated in the time spent fetching water from outside, and vexations resulting form long queues, quarrelling and queue jumping; in the purchase of storage tanks to compensate for unreliability of supply; in amounts spent on delivered water and in costs incurred for water treatment in order to cope with issues of quality. These if translated into potential loss in wage earnings, is a significant opportunity cost, over and above other latent losses related to education, care of family members and suffering from exhaustion.

Although there are differences in services levels between the poor and non poor, WSRB benchmarks for service require provision of a minimum of 20 hours a day, or 140 hours a week, indicate that the hours of supply for the NWSC is 'acceptable' during normal periods. However, more effort is still needed to increase the hours per week of service to the performance agreement benchmarks of 'good' particularly to the poor.

The water company seems to be in line with the requirements of the performance agreements where issues of billing are concerned. However, only a third (33%) of the people pay their own bills, majority have their landlords pay the bill and as such, do not know the exact amount that they use on water. Citizens' appear to be satisfied with the billing frequency although the few billing problems need to be addressed for the company to better its performance and improve the citizens' confidence.

Given that the satisfaction of clients in their interaction with the company is 50 -50, there is room for improvement in the communication methods used to reach majority of consumers with information on service disruptions and stoppages.

Priority Areas for Improvement and Policy Implications.

The main priority areas of improvement identified by the citizens using mains water are cleanliness of water and regularity in supply. Users of Kiosks also prioritised cleanliness of water, regular availability and asked that the water be brought closer.

The WSRB benchmarks need to be disaggregated for a clearer understanding of the access levels that the citizens are receiving. The benchmarks not only need to be defined in access level but also in time/period of the year. To attain this, the WSRB service provision benchmarks should be discussed with Nairobi residents and reviewed to better target access, quality and reliability of services. They should reorient services towards becoming customer focused, sensitive to poverty profiles, gender, spatial gaps and scarcity periods in service provision.

The WSRB, AWSB and NWSC should assure governance of kiosks and Small Scale redistributors who play a dominant role in service provision in Nairobi. (e.g. codes of conduct, licenses, partnerships, incentives for investment).

NWSC should put strong emphasis on overall improvement of customer care, with special attention to billing and handling of complaints related to billing.

Even in the face of a high consumer endorsement on satisfaction, the company needs to address the incidents of frequent interruptions and overall inadequate supply during a number of months of shortages.

In order to enhance outreach to the poor, attention needs to be given to the management of water kiosks even as NWSC embarks on 'building bridges' with residents in informal settlements to curb water pilferages

END NOTES

[1] This includes all kiosks and stand posts, whether supplied by the water company or by private wells.

[2] This includes users of shared taps around the home.

3.0 SANITATION SERVICES

Snapshot

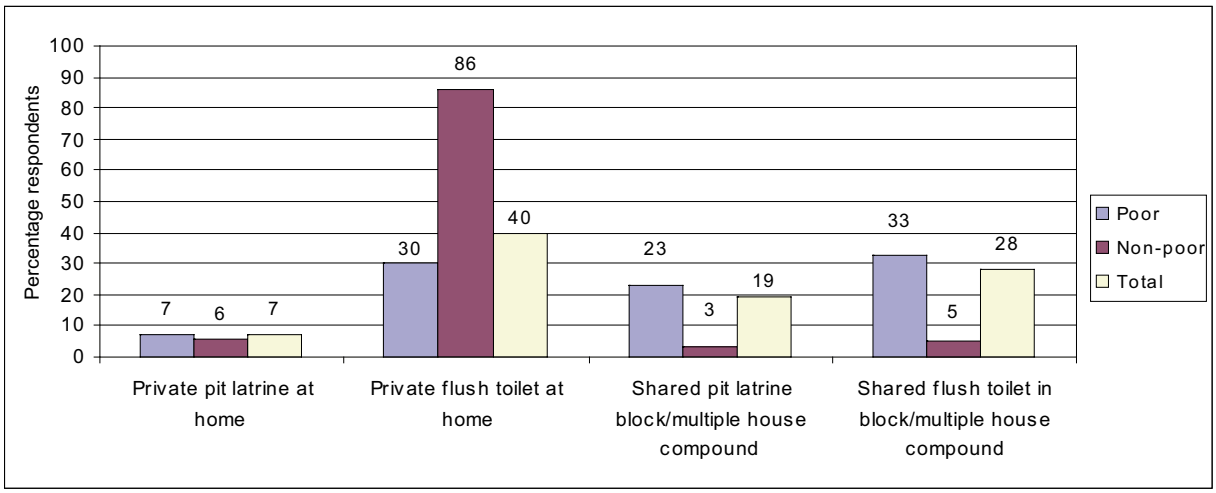
- **Access to flush toilets is high among the poor and the non poor but with the majority of the non-poor using them than the poor.**
- **Poor households are much more likely than non-poor ones to be relying on pit latrines and shared (rather than private) sanitation facilities.**
- **The use of private and shared latrines is in equal proportions (47%) with the flushing units being more predominant (68%). However, the phenomenon of 'flying toilets' mentioned in the FGDs is still a source of concern.**
- **The ratio of toilets to users in informal settlements is far lower than the demand; access to sanitation facilities is mainly limited to pit latrines (67%).**
- **Use of mains sewer in Nairobi is predominant (68%) for disposal of household toilet waste. However, satisfaction with sewer services is generally low (45%) but with a huge difference in level of satisfaction between the poor (39%) and the non poor (74%). More than half (51%) of the poor had experienced problems with sewerage in the last year mostly overflowing and leakage from broken mains, and bad smells.**

3.1 Availability, Access and Usage of Sanitation Options

What types of sanitation are people using?

Citizens were asked the main place where they relieve themselves. The findings demonstrate a high discrepancy of service levels between the poor and non poor. Amongst the majority poor 23% use a shared pit latrine, a further 33% use a shared flush toilet, 30% reported using a private flush toilet and 7% reported using a private pit latrine at home. In contrast to this 86% of the non poor overwhelmingly

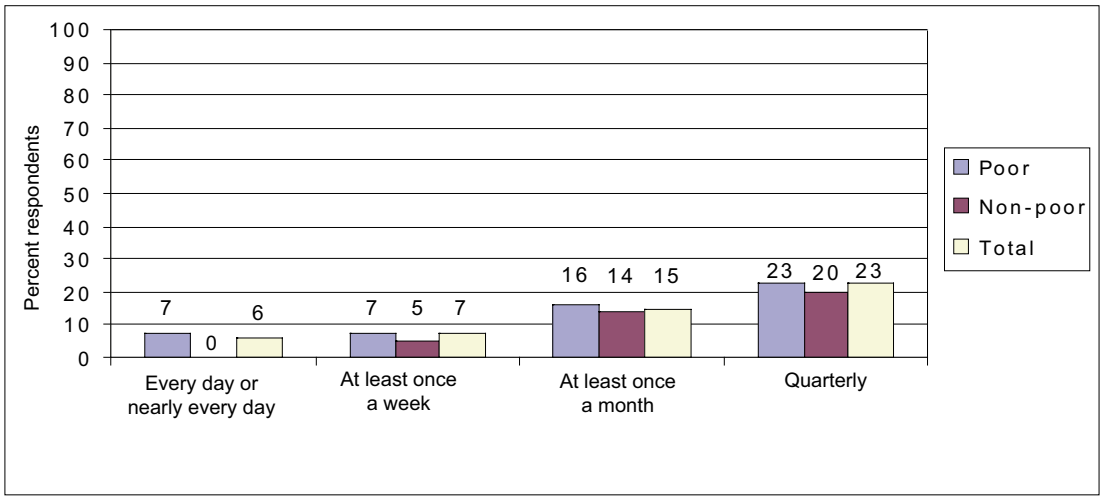
Figure 17: Main place where family members relieve themselves. (N = Poor – 819; Non Poor –559)



reported using a private flush toilet at home. None admitted using the open ground as their primary place of relieving themselves.

Use of public toilets is low (6%) with predominantly the poor (7%) using them daily. The average cost for public toilets reported in Nairobi is Kshs.10 per visit. 7% of respondents said they used public toilets at least once a week. Even the use of public toilets at least once a month or quarterly is only 15% and 23% respectively.

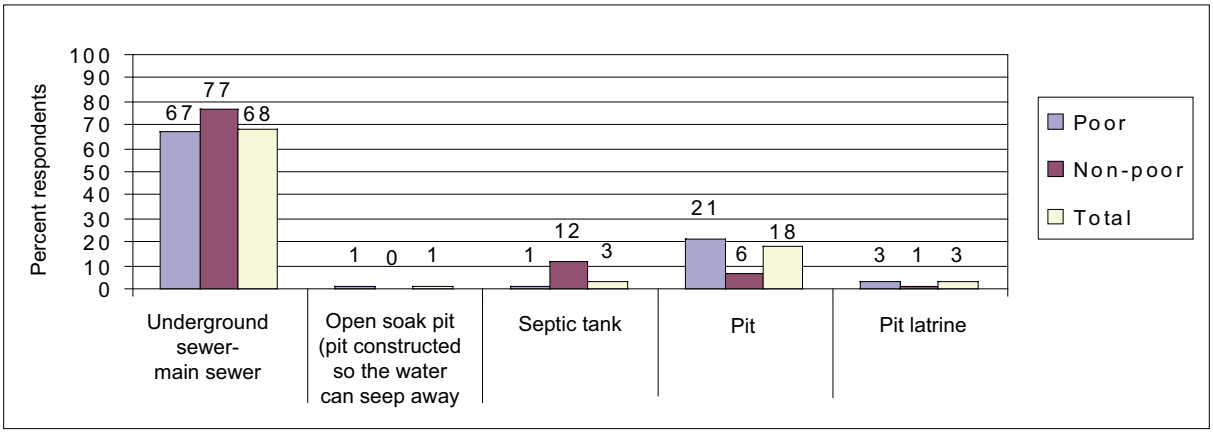
Figure 18: Frequency of public toilet use by poor and non-poor in Nairobi (N = Poor –819; Non Poor –559)



Where does the waste from toilets go?

Respondents indicated that most of the toilet waste in Nairobi goes into the sewerage mains (68%) with 77% being the non poor and 67% being the poor. Use of the pit for the toilet waste was low (21%) with the poor being 24% and the non poor 7%. Use of the toilets and septic tanks was reported to be 3% for each and 1% for open soak pits.

Figure 19: Where waste from the toilet goes for poor and non-poor households (N = Poor- 819; Non Poor- 559)

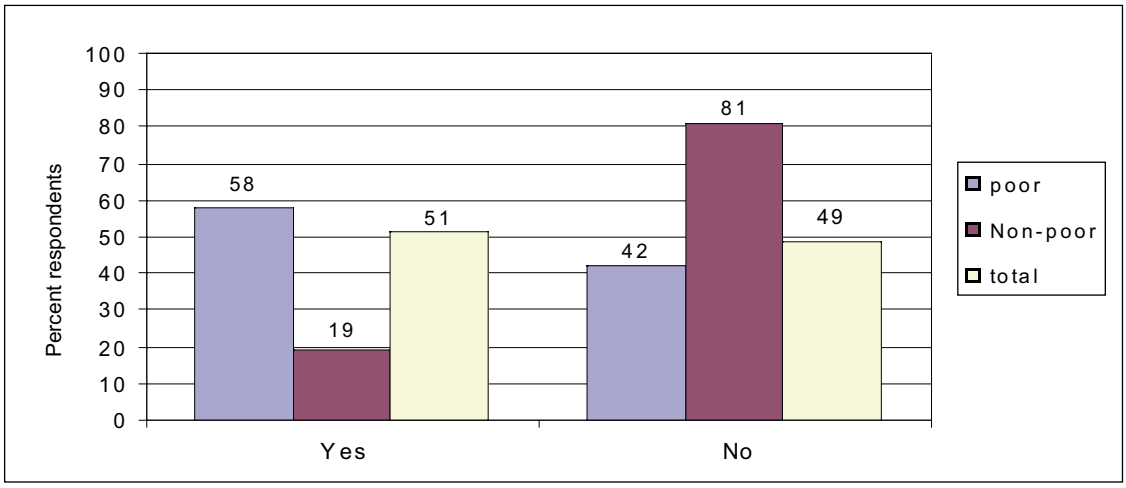


3.2 Problems Faced with Sewerage

How many people said they had problems with the sewerage system?

More than half (51%) of the respondents said they had experienced problems with sewerage in the last year. The figure is particularly high (58%) for the poor, while 81% of the non poor said they had no problems.

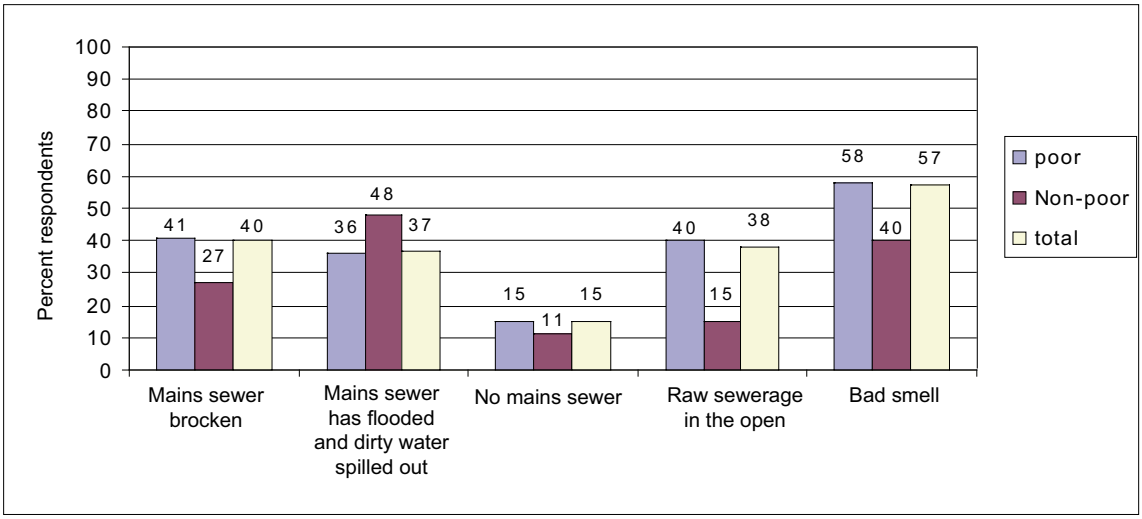
Figure 20: Percent of respondents who have experienced problems with sewerage (N = Poor –819; Non Poor- 559)



What types of problems with sewerage did people face?

The most prevalent problems were bad smells (57%), broken sewer mains (40%), raw sewage in the open (38%), and absence of sewer mains (15%). Apart from the flooding which majority of the non poor reported, the poor experience more of the all the other problems.

Figure 21: Problems experienced with sewerage. (N = Poor-819; Non Poor- 559)



3.3 Overall Satisfaction with Sanitation and sewerage Services

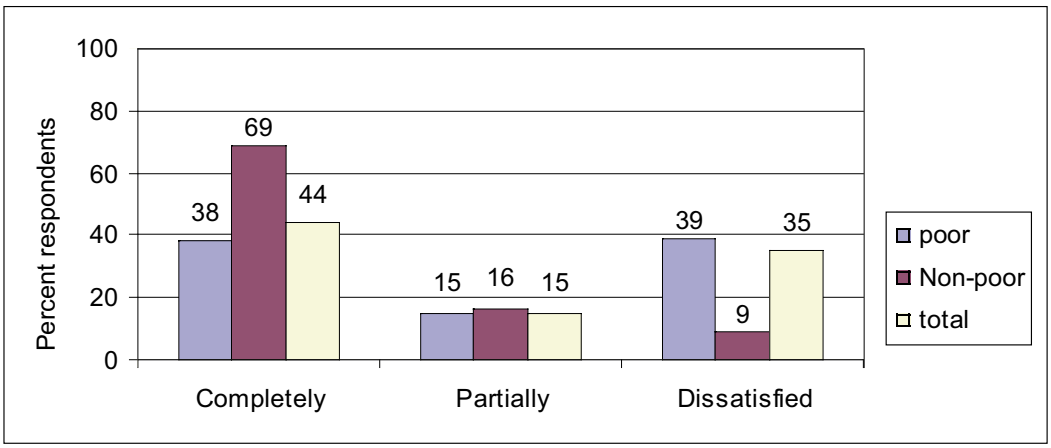
Snapshot

Satisfaction with sewerage is low at 38% amongst the poor but higher at 68% amongst the non poor. Dissatisfaction with pit latrine emptying services is at 50% among the poor, showing particular needs by this target group. Finally, satisfaction with the availability and maintenance of public toilets in Nairobi is at 66%.

How satisfied are people with the sewerage system?

Overall satisfaction with sewerage services was slightly below half (44%) with the non poor being more satisfied (69%) than the poor (38%). A third of residents were dissatisfied (35%) mostly the poor (39%).

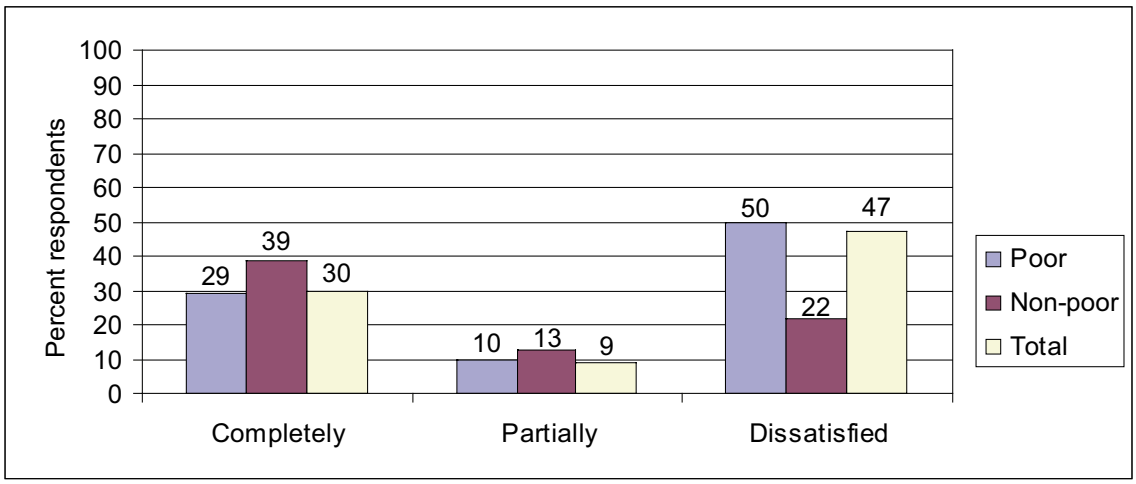
Figure 22: Satisfaction with Sewer. (N=-Poor- 819; Non Poor- 559)



How satisfied are people with pit latrine emptying services?

Nearly a third (30%) of respondents who gave an opinion on pit latrine emptying services expressed satisfaction, mostly among the non poor (39%). However, a considerable 47% were dissatisfied, especially among the poor.

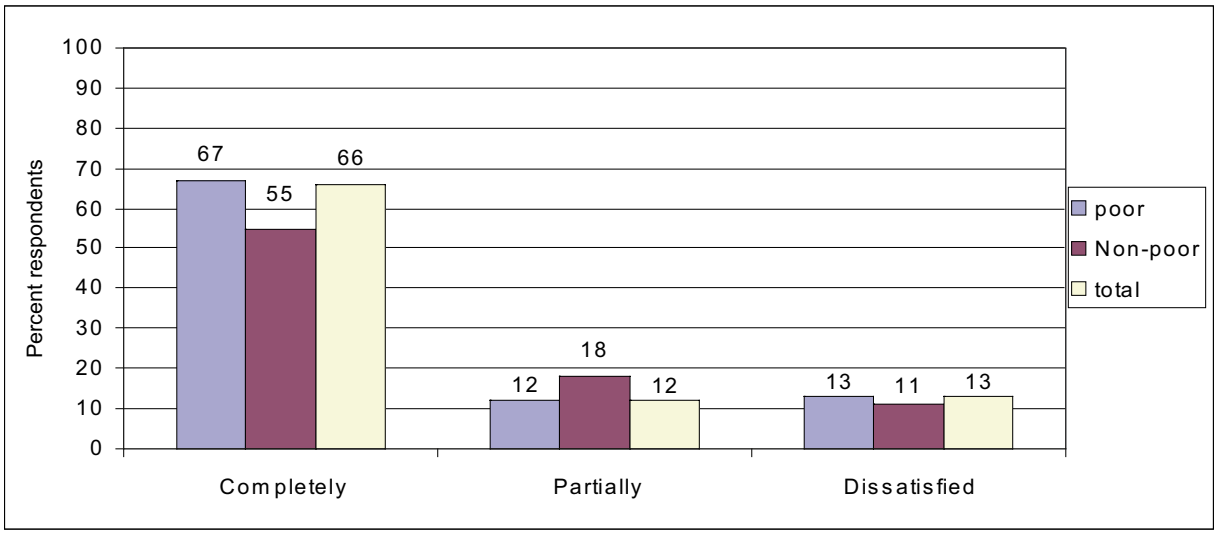
Figure 23: Satisfaction with Pit latrine emptying. (N= Poor- 819; Non Poor- 559)



How satisfied are people with public toilets?

A considerable two thirds (66%) of Nairobi residents were satisfied with the availability of and cleanliness of public toilets with the poor being more satisfied (67%) than the non poor (55%). Only 13% expressed dissatisfaction.

Figure 24: Satisfaction with public toilets. (N= Poor-819; Non Poor- 559)



Situation in Informal Settlements

In all informal settlement that FGD's were conducted, it clearly emerged that these areas are most affected by problems of access to sanitation services.

Availability, Access and Usage of Sanitation Options

A special focus on this stratum 5 presents a slice of the situation in Nairobi's informal settlements and reveals that, within informal settlements the ratio of toilets to users is far lower than the demand. Access to sanitation facilities is mainly limited to pit latrines (62%), flush toilets 37% and 'flying toilets'(1%). Of the 62% using pit latrines, 48% share with neighbours in block/ multiple house compound. Even of the 37% using flush toilets, 25 % also share with neighbours in block/multiple house compound.

The quality of these facilities particularly of the pit latrines is wanting and described as 'scary' in outlook; Some of the residents expressed fear that they could collapse due to structural weaknesses; faecal matter is littered all over the floor hence poor hygiene especially considering that a number of residents visit the facilities without shoes. The stench is unbearable to those adjacent to such facilities. When it rains, waste from the pit latrines comes out to flow into people's houses, resulting in pressure and overfilling of latrines. The responsibility of maintaining such facilities is the landlords but in many cases they are absent or unavailable for help until the Chief is asked to intervene.

Coping mechanisms

To cope with these situations, residents dig up another pit latrine when the other is full although some residents empty their toilets to feed into the sewer line. Where they use exhausters – individuals are hired to use their hands to fill into drums that are later emptied into the storm water drainages and other places. Given the unfavourable geology of such settlements e.g. in Mukuru Kwa Njenga, where residents indicated that the underground is too rocky, a coping mechanism is to 'build up' the pit latrines to elongate and hence develop climbing 'stairs'. Some of the residents also build their 'pit latrines' by puncturing existing sewers that pass within their areas or digging up temporary small channels that lead sewer waste away from their houses. The experience of one resident is captured in case study 7:

The unfortunate thing however is that those "downstream" keep complaining about their upstream neighbours – since the sewer gets inside their houses. Normally the chairman of the zone is consulted in such conflicts though the area Chief is the ultimate authority. Residents indicate that frequent conflicts arise as a result of the practice to build makeshift sewage drainage, especially when it rains and water mixes into the latrines. People living downstream suffer the most. Usually, the popularly elected local chairman of the zone is called upon to settle this conflict, and if not resolved, the area chief, whose word is the ultimate authority in the settlement decides the action to be taken. Residents living amidst this environmental pollution express fear that their children are being exposed to sources of disease outbreaks.

A small number (1%) of respondents in the sample said that their family use 'flying toilets' or use the open ground as their main sanitation option. It appears that the main reason given for using flying toilets or open defecation is the refusal of the landlords to construct latrines and the lack of space to construct toilets. The following table lists the reasons given ranked in order greatest to least:

Table 9: Reason given for using flying toilets (N= 86)

Base: (weighted)	63
Base (un-weighted)	11
Reasons	%
Landlord refuses to construct toilet	43
No toilet at home because - no space	20
The toilets are full and often overflow	16
Cannot construct toilet because does not own the land or property	8
Public toilet too dirty / disgusting / smelly	8
Doesn't mind it or prefers it	8
No toilet at home because - no money to build	2
NR/Refused	14

Case study 8 captures the experience of many of the poor within informal settlements and how they resort to their own devices to cope with challenges in access.

Case Study 7: Emptying the latrine

James Mwangi Kimani, a 24-year old unskilled construction labourer is hired on a daily rate of between Kshs. 150 - 200 per day when he finds work. He lives in Mukuru, a low-income, informal settlement in Eastlands and narrated his experience. "Once in the morning as I was leaving for work I saw two people working very hard at the bottom of the hill digging a channel this way, upwards. I wondered what they were digging, but I was in a hurry to go to site, so I did not ask and forgot about it. That night, just after I had gone to sleep there was a sound '...bubbb bbup bubb bub bub bbb pa!' and then a loud smell, it was unbearable, filling everywhere. When I checked outside through the dark I could see some people emptying the latrine near us, pushing the contents onto the ground. Everything in the latrine was flowing downwards from the toilet. I realized now that the channel that was being dug from the bottom of the hill since morning had reached the latrine near our house and everything was being carried down like a heavy stream making this strange sound and with a terrible smell, causing everyone to wake up! The channel was used to push everything from the toilet into the stream which leads to Nairobi River at the bottom of the village."

Case Study 8: Insecurity and 'Flying toilet'

Martha Mwangangi a single mother of three, lives in a one room structure made of mud and sticks in Soweto village of Kibera. Like many of her neighbours, her landlord has not provided a toilet. She works as a house help in a nearby middle income neighbourhood, Woodley Estate, earning Kshs. 4,000 a month. Her family strains to access the public toilet services in the village, especially after nightfall. "It's not safe for me and my children to go out at night as the toilets are far, so often we are forced to use a paper bag or small Kasuku plastic to relieve ourselves and throw them outside in the morning."

3.4 Conclusion

Findings on the use of any sanitary facilities indicate that the poor are more likely to use shared facilities while majority of the non-poor use private sanitary facilities, whether pit latrines or flush toilets. In general, those people who expressed an opinion on pit latrine emptying services were not satisfied with them especially among the poor. The findings also reveal that in the use of public toilets, more people use public toilets once a month or more frequently, with the poor using them much more than the non-poor. Two thirds of those who expressed an opinion on the availability of and cleanliness of public toilets indicated that they were satisfied.

Information from the FGDs indicate that ratio of toilets to users in the informal settlement areas is far too low than the demand and the public toilets are hardly sufficient. 'Flying toilets' are still in use in the informal settlements and pose serious health risk. The 1% using flying toilets is not necessarily small considering the number of people living in the informal settlements; even a small number of people using flying toilets can cause an unbearably unhygienic situation.

Satisfaction with the sewers is low among the poor but high among the non poor. Sewerage services present problems particularly for the poor as the network is sparse and where present, it negatively impacts residents with frequent bursts, resulting in smells and polluting seepages. In contrast, the non-poor enjoy a high level of individual household toilet facilities and access to sewer. Still, a large number of both the poor and the non poor were not satisfied with either the maintenance or the presence of the sewers. Dissatisfaction with sewer services is triggered by low coverage/access and poor maintenance of the network. Considerable effort is needed to improve the management of the sewer system in order to eliminate nuisance and hazard to the general public.

FGDs information indicates that pressure on sewer is intensifying at an alarming rate. Upmarket areas that were designed with the concept of septic tanks are now reeling under the option to have to introduce sewers, on account of the mushrooming and uncontrolled developments. Blockages of sewers are common and often storm water drainages seem to have been inter-twined with sewer lines.

The FGD's revealed that the informal settlements are most affected by problems on access to sanitation services mainly attributed to the demography and settlement patterns of these areas. A very small number of respondents have access to the sewer line; in order to cope with the situation, residents have learnt to dig up temporary small channels that lead away sewer waste from their houses. The unfortunate thing however is that those 'downstream' bear the brunt since the sewer gets inside their houses.

3.5 Priority Areas for Improvement and Policy Implications

Pit latrines commonly in use in the most settlements are legally unrecognised structures, lacking support on their construction, operation and maintenance within Council by laws or at policy level. A clear institutional mandate is called for to ensure support to citizens in this respect. There is need to promote investments in public toilets especially in residential areas with high population concentrations. In view of the large numbers using pit latrines, safe methods of latrine exhauster services should also be promoted. This should be linked particularly to the promotion of private sector latrine exhauster services. City authorities should also provide guidelines for the construction of safe latrines within designated areas of the city and support in their management and promotion.

Priority investment planning for increased access to sewer needs to be done - special attention should be paid to the improvement of the sewerage system, especially in terms of expansion of access and management among the poor.

4.0 SOLID WASTE MANAGEMENT

Snapshot

The options for solid waste disposal are very limited, and many people resort to burning or dumping their rubbish in open areas or drains. City councils are providing very few solid waste services. Poor people have even more limited options as few of them use private collection agencies.

There is a high level of private sector involvement in the collection of garbage for both the poor and non poor (80%). This contributes significantly to the higher satisfaction of the residents, and compensates for the inadequate capacity of the City Council. Only 4% of respondents - mostly the non poor - relied on the council for collection of garbage

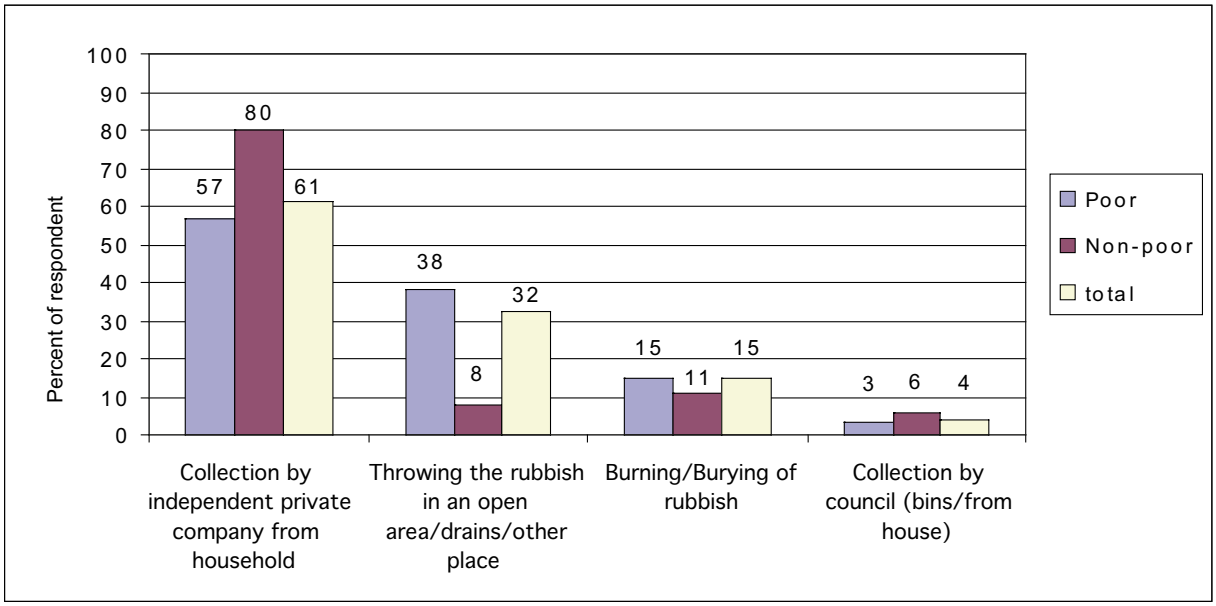
Overall, satisfaction with solid waste management services is extremely low (30%), particularly among the poor.

4.1 Methods of garbage disposal

We asked the residents the 'options for getting rid of rubbish available to the household' and 'what the household actually do to get rid of rubbish'. The responses were largely the same. This section therefore presents the methods that the household use to dispose of rubbish.

Most respondents (61%) in Nairobi recorded that independent private companies are the most widely used, especially by the non poor (80%). Nearly a third (32%) of respondents throw the rubbish in the open or in drains—especially the poor (38%), while 15% burn or bury the rubbish. Only 4% of respondents—mostly the non poor—relied on the council for collection of garbage.

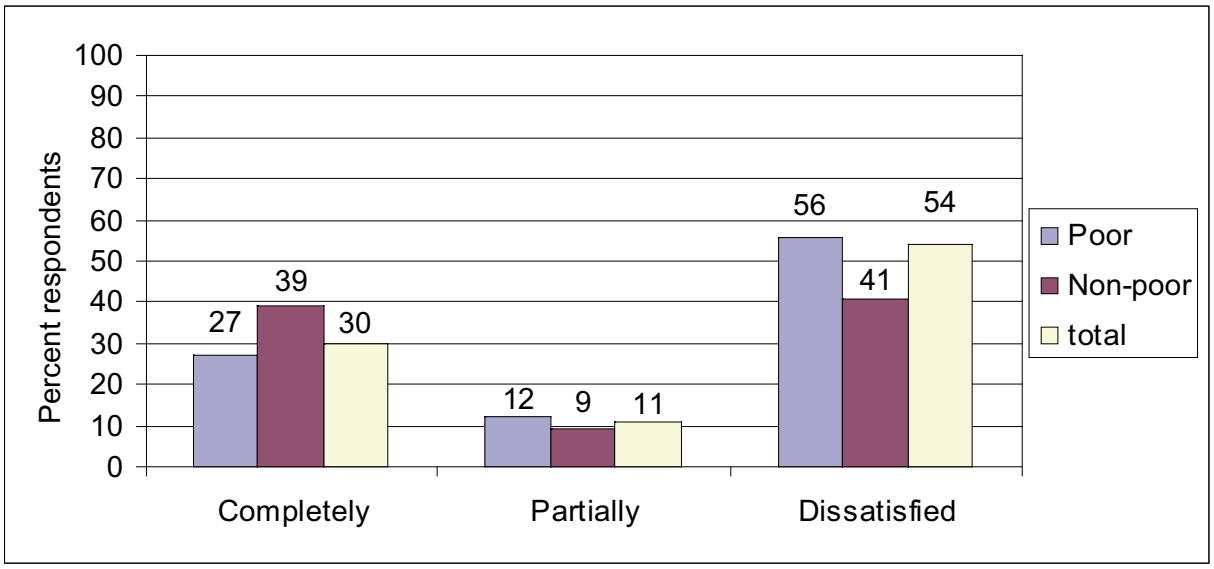
Figure 25: What households do to get rid of rubbish. (N= Poor- 819; Non Poor-559)



4.2 Overall Satisfaction with solid waste management

Only 30% of those interviewed expressed satisfaction Council solid waste collection service. However, 54% were dissatisfied with the management of solid waste.

Figure 26: Satisfaction with solid waste management. (N= Poor- 819; Non Poor- 559)



4.3 Conclusion

Council rubbish collection services is low (30%) with the non poor being slightly more satisfied at 39% satisfaction; overall, this is considerably lower than satisfaction with water and sewerage services.

Although solid waste management services are supposed to be provided by the city council of Nairobi (CCN), private sector operators have dominated it, often charging much higher than CCN would have charged were it to have a capacity to offer the same service. It is also apparent that few residents monitor how their waste is handled by the time it leaves their respective homes. In middle income to lower income, the situation is almost getting out of hand.

The high level of private sector involvement in the collection of garbage in Nairobi for both the poor and non poor contributes significantly to the level satisfaction expressed by the residents, and compensates for the low visibility of the council.

4.4 Priority Areas for Improvement and Policy Implications

The municipality in collaboration with the business community should design ways of tapping the excellent opportunity for job creation and income generation through commercialization of solid waste management in Nairobi. Disposal of garbage by burning should be strongly discouraged.

Towards this end;

- a policy framework needs to be put in place that generates and attracts resources for this critical component;
- a solid waste management strategy for Nairobi is required;
- institutional infrastructure investments are required e.g. land fills, dumping areas, and waste transportation facilities.
- by laws for enforcement by the council are critical for regulation of private service providers

A special strategy should be designed to ensure effective collection of solid waste from informal settlements and peri-urban areas inhabited by the poor. This is critical since approximately two thirds of the population of Nairobi live in such areas.

5.0 COMMUNICATION

Snapshot

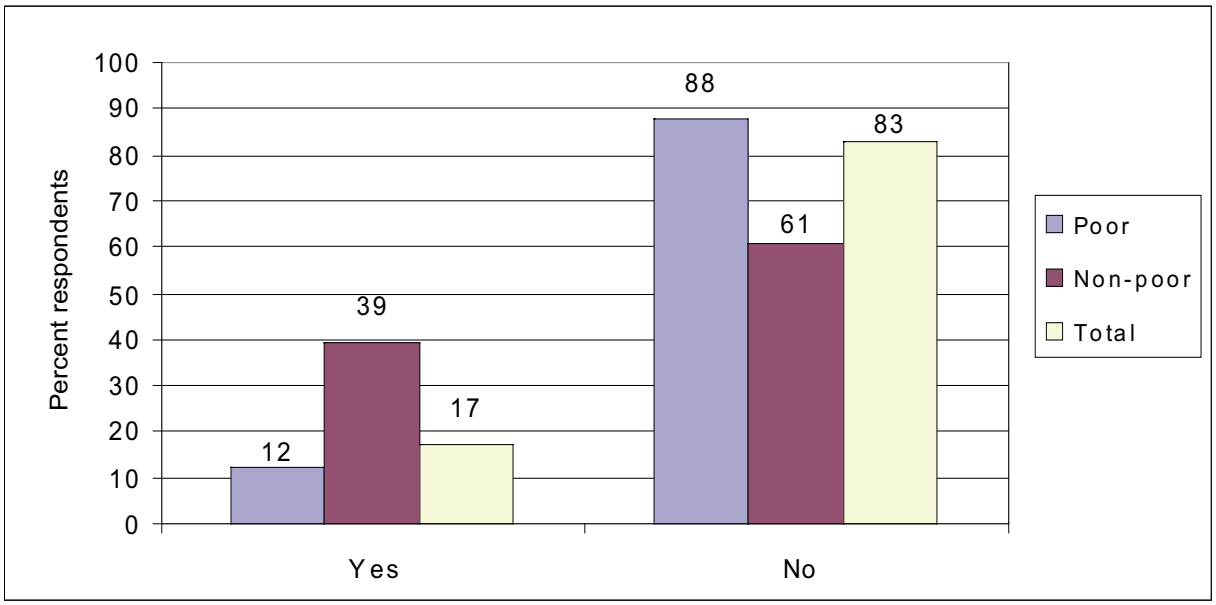
The approach adopted to inform consumers on water and sanitation services has generally been ineffective. However, there is opportunity to exploit the preference of customers for face-to-face interaction and the use the radio, especially the vernacular channels.

Information to the residents in the informal settlements was deemed irregular and unreliable since formal channels of communication between NWSC and residents do not exist.

Are people aware of recent changes in policy?

Respondents were asked whether they were aware of recent changes in government policy on the way the water and sewerage companies and services are organised in Kenya. Only 17% of the respondents were aware with the non poor indicating a much higher level of awareness (39%) than the poor (12%).

Figure 27: Awareness of recent changes in policy. (N= Poor- 819; Non Poor- 559)



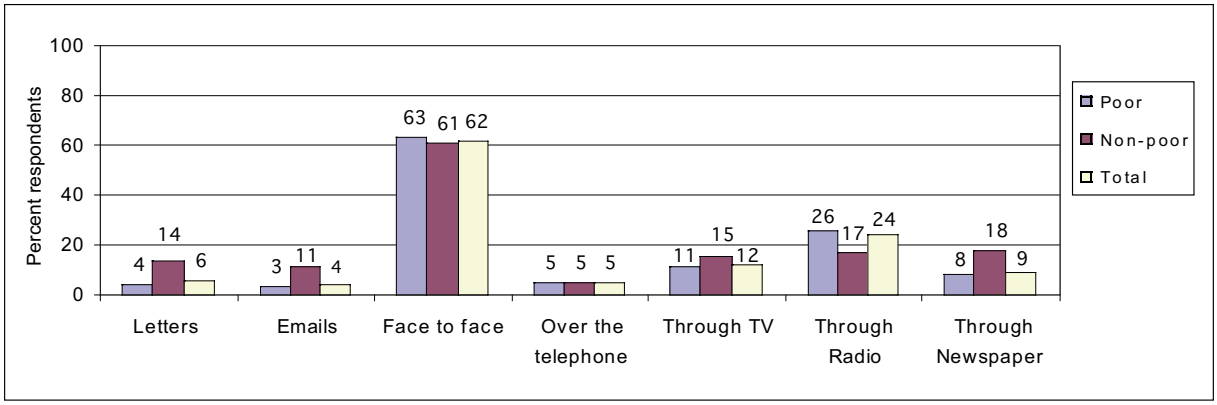
Do people feel communication is adequate?

When asked if they felt the communication is adequate, one fifth (20%) of the people, especially the non poor (22%) felt that the government was providing adequate information on water services.

Preferred medium in sharing views and experiences

When they were asked what medium they would prefer to use for interacting with the water company and sharing views, 62% preferred face to face interaction, 9% were likely to interact with the newspaper while the rest would interact through letters, telephones and e-mails.

Figure 28: Preferred medium for sharing views. (N= Poor- 819; Non Poor- 559)



Situation in the Informal settlements

In the informal settlements, nearly 98% of residents were not aware of recent changes in government policy on the way the water and sewerage companies and services are organised in Kenya and even for those who know about existence of NSWC, perceive it to be an extension of City Council of Nairobi – which they blame for all their problems.

5.1 Conclusion

Only 17% of the respondents were aware of recent changes in government policy on the way the water and sewerage companies and services are organised in Kenya. The non poor indicated a much higher level of awareness (39%) than the poor (12%).

Respondents overwhelmingly indicated that they preferred face-to-face interaction (62%) as their preferred means of obtaining information. About quarter (24%) preferred to use the radio, followed by 12% through TV.

5.2 Priority Areas of Improvement and policy implications

Communication strategies adopted by the Athi Water Services Board and the Nairobi Water and Sewerage Company should consider citizen feedback; in particular forums for face to face communication between service provider and citizen should be instituted, with special attention to the communication needs of the lower income groups. Consumer information on policy issues should be disseminated on regular basis through the customer care desk, billing clerks, meter readers and cashiers, and occasionally through local radio, TV stations and print media. This should also include the standards and targets of water services expected.

5.3 Public Health Services Awareness

The interactions of the Public health officers with the residents is low.

Are people aware of the public health officers and know what they do?

Households were asked whether they were aware of public health officers assigned to their residential area. An overwhelming majority said no. Of the few who said yes, the majority said that they did not know what the role of public health officers was and expressed dissatisfaction with their performance.

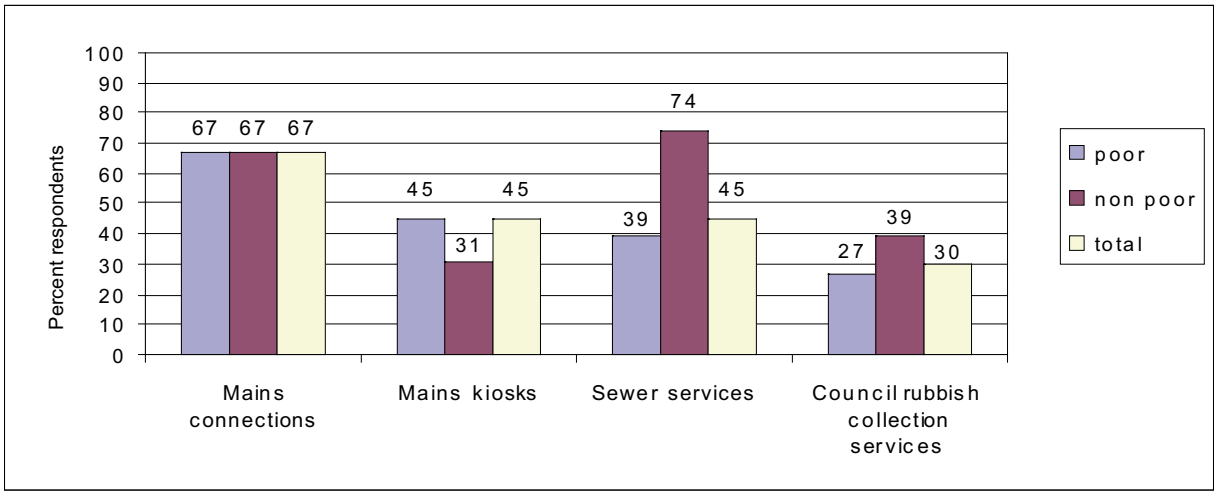
5.4 Conclusion, Area of Improvement and policy implication

The municipality needs to develop a more action oriented, accountable and performance based engagement of public health officials. This will make them more visible and have increased impact on the population. In view of the obvious challenges with public health as regards toilet, drainage and solid waste management the government role in regulation needs to be stepped up to have impact and support citizens.

6.0 SUMMARY OF SATISFACTION AND HIGHEST PRIORITY AREAS FOR PUBLIC SERVICE PROVISION.

This section summarises consumer satisfaction with the state company providing services and the priority areas for improvement. The graph below summarises the satisfaction of users with public service provision.

Figure 29: Satisfaction of users with services provided by public agencies



a) Water

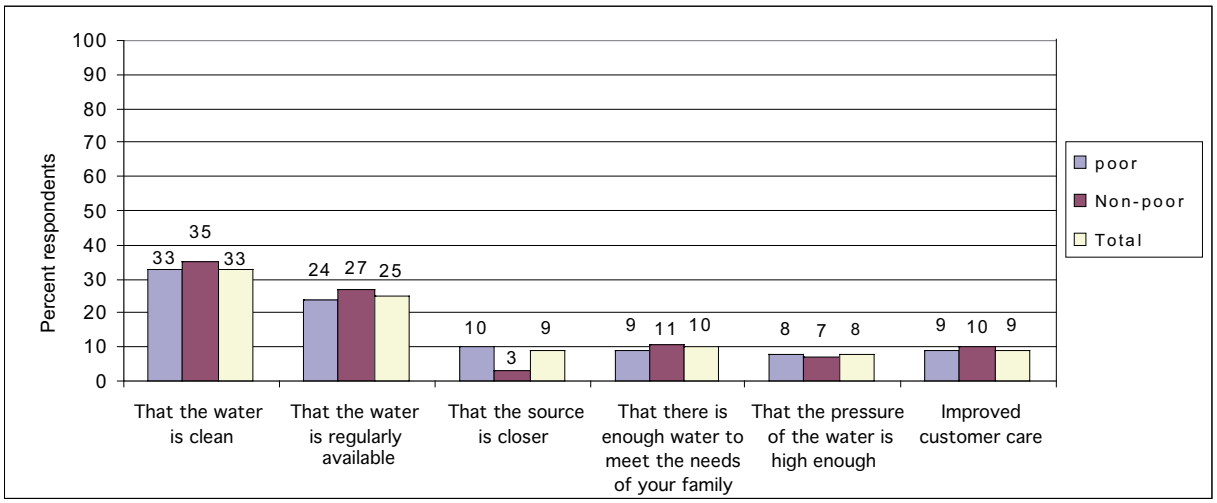
Satisfaction

In general, satisfaction with direct household mains supply is high (67%), but lower with water kiosks at 45% which is the service mainly used by the poor.

Highest priority area for improvement

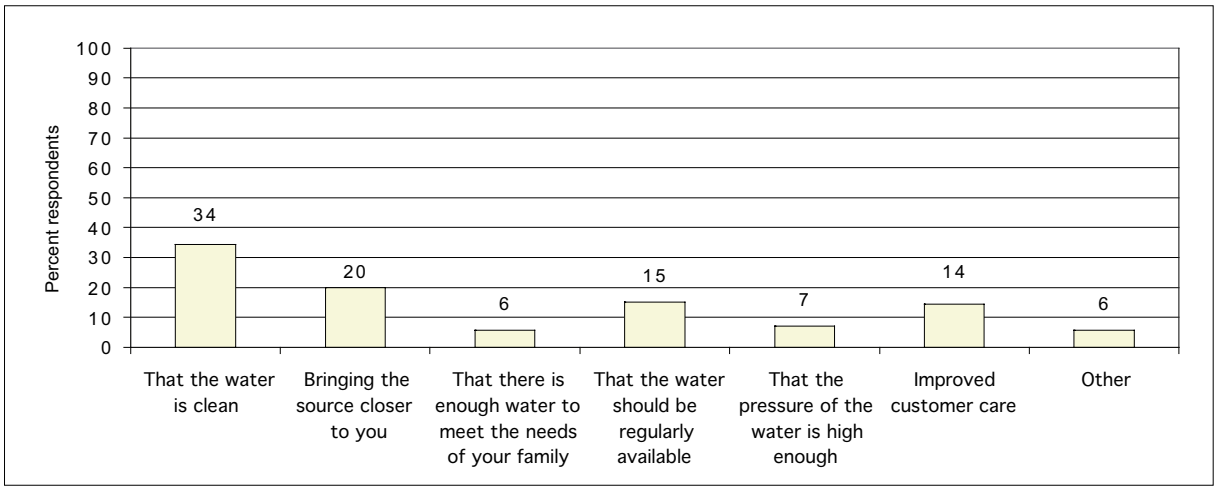
Mains Water supply: The highest priority area for improvement was cleanliness of water (33%) and regularity of water availability (25%).

Figure 30: First priority area for improvement in water services - mains connections users (N= Poor- 819; Non Poor- 559)



Kiosk Users: The main priority for kiosk users is clean water, bringing it closer and that water would be regularly available.

Figure 31: First priority area for improvement in water services - mains kiosk users (N= Poor- 819; Non Poor- 559)



b) Sanitation Services

Satisfaction with Sewerage

Overall, satisfaction with sewerage is at 45% consisting of higher satisfaction for the non poor (74%), but overall being lower than water supply services.

Highest priority area for improvement

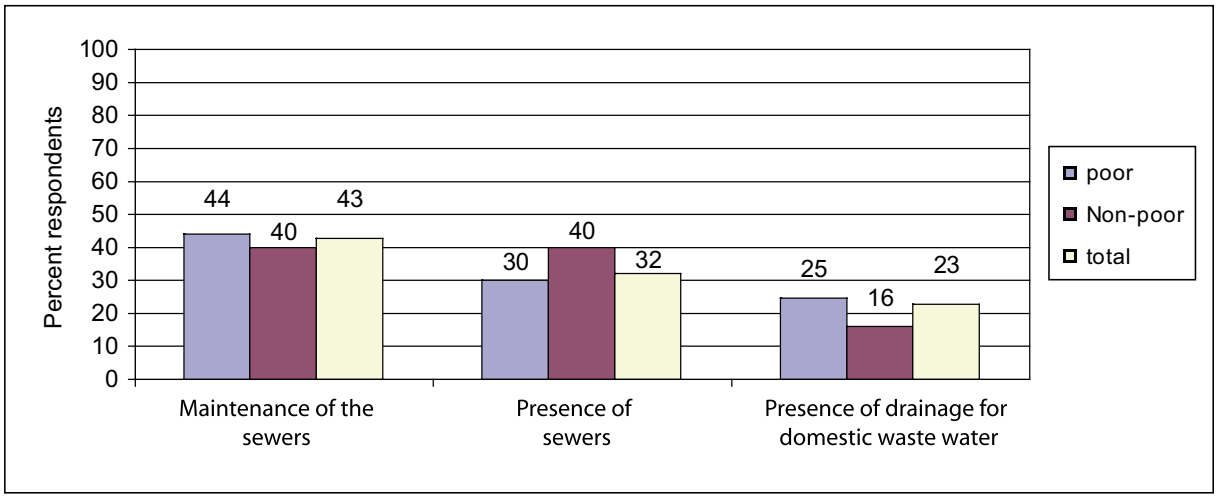
Most residents (43%) want sewers well maintained, followed by 33% that prioritise actual access of sewer; 23% prioritise presence of drainage for domestic waste water.

Satisfaction with Toilets
Overall, satisfaction with the availability and cleanliness of public toilets is high (66%).

Highest priority area for improvement

A considerable number of respondents want increased availability of public toilets (49%), whilst a significant number also requested support to pit latrine emptying (29%).

Figure 32: First priority for improvement in sewerage services. (N= Poor-819; Non Poor-559)



c) Solid Waste Management

Council garbage collection services is low (30%) with the non poor being slightly more satisfied at 39% satisfaction; overall, this is considerably lower than satisfaction with water and sewerage services.

7.0 Summary of Key findings

Access to Water Services

- Overall, access to mains water in and around the home is 74% with more of the non-poor (95%) than the poor (69%).
- Access to mains water combined with kiosk is 89% with very few people using water from other sources.
- Only 18% of the poor have direct access in the home as compared to 86% of non poor.
- In the informal settlements access to mains in and around the home is 45%. Of this, only 1% is directly connected to tap inside home or individual compound; the other 44 % share with other households.
- For drinking water, most of the non poor (88%) and majority of the poor (66%) rely on water from mains connections in and around the household. 31% of the poor regularly rely on water kiosks as the main source of drinking water.
- 67% of Nairobi mains users (those with direct household access in and around the home), reported complete satisfaction with services. Satisfaction with kiosks supplied from the company was lower with 45% of the poor and 31% of the non poor satisfied.

Reliability

- 19% had experienced an interruption in supply lasting more than 24 hours from the mains, with the poor reporting more (21%) stoppages than the non-poor (13%).
- Citizens directly connected to mains report an average of 120 / 168 hours of supply during normal times and 90 / 168 hours during times of scarcity. Based on the WSRB benchmarks this rate is 'acceptable' during normal times but unacceptable during scarcity times.
- About a third (31%) of Nairobi residents using the mains reported having experienced scarcity, while 19% of those facing scarcity rely on water kiosks
- The shortage of water during scarcity forces a few consumers to use less safe sources for drinking purposes, which puts them at risk of diseases.
- A considerable number of the households using mains reported having storage tanks (43%), with the non poor reporting much higher investment in storage at 77% than the poor at 34%.

Quality

- Although, consumers rate the taste (94%), smell (88%) and colour (95%) of mains water as acceptable throughout the year. A high percentage at 61 -62% of Nairobi respondents treat the water before drinking, mainly by boiling it. The non-poor are more likely to treat water before drinking (76% and 86% in normal and scarcity times respectively) than the poor (58% and 57% in normal and scarcity times respectively).

Users of Sources outside home

- Poor families spend between 90 and 120 minutes a day in water collection. Majority of the households (68%) reported that adult women were the ones who fetched water.
- 42% reported problems associated with fetching water from outside home related to heckling and quarrelling, long queues, and queue jumping.

Billing, metering

- Only a third (33%) of households reported paying their own bills. The majority reported that their bills were being paid by their landlord, and the cost of water either included in the rent,

or passed on to them as a variable monthly cost.

- Of the 33% who had received their own bill, 72% reported receiving their bill in the last month which is a sign of efficiency on the side of NWSC.
- 28% of the people paying their own bills experienced billing problems, the highest number reporting problem being that the bill was wrong and too high common problem with billing will most certainly be an inflated amount
- The majority of those paying their own bills reported not knowing whether their meter had been read or not in the past month

Transparency of Services

- The Nairobi Water and Sewerage Company (NWSC) scored between 56–63% satisfaction regarding various aspects of customer care.
- Corruption in provision of water services between those directly connected to mains and utility staff was reported at 5% in this survey.
- The minority of respondents (19%) reported having seen advance announcements on service provisions such as stoppages or interruptions in supply

Policy Pointers on Water Services

- The WSRB service provision benchmarks should be discussed with Nairobi residents and reviewed to better target access, quality and reliability of services. The benchmarks should reorient services towards becoming customer focused, sensitive to poverty profiles, gender, spatial gaps and scarcity periods in service provision
- The WSRB, AWSB and NAWASCO should assure governance of kiosks and Small Scale redistributors who play a dominant role in service provision in Nairobi. (e.g. codes of conduct, licenses, partnerships, incentives for investment)

Sewerage

- Satisfaction with sewer services was reported at 45%. The poor are less satisfied (39%) than the non poor (74%).
- 68% report that they use the mains sewer to dispose of toilet waste.
- More than half (51%) of the respondents said they had experienced problems with sewerage in the last year. The most prevalent problems were bad smells (57%), broken sewer mains (40%), raw sewage in the open (38%), and basic non access or absence of sewer mains (15%).

Policy Pointers

- Pit latrines commonly in use in the most settlements are legally unrecognised structures, lacking support on their construction, operation and maintenance within Council by laws or at policy level. A clear institutional mandate is called for to ensure support to citizens in this respect.
- In view of the large numbers using pit latrines, safe methods of latrine exhauster services should be promoted. City authorities should also provide guidelines for the construction of safe latrines within designated areas of the city.
- Priority investment planning for increased access to sewer in Nairobi needs to be done

Solid Waste Management

- Most respondents (61%) in Nairobi recorded that independent private companies are the most widely used, especially by the non poor (80%). Nearly a third (32%) of respondents throws

their rubbish in the open or in drains—especially the poor (38%), while 15% burn or bury the rubbish. Only 4% of respondents—mostly the non poor—relied on the council for collection of garbage.

- Interactions of the Public health officers with the residents is low

Policy Pointers

- The municipality in collaboration with the business community should design ways of tapping the excellent opportunity for job creation and income generation through commercialization of solid waste management in Nairobi. Disposal of garbage by burning should be strongly discouraged. Towards this end a policy framework needs to be put in place, a solid waste management strategy for Nairobi is required and infrastructure is required with by laws for enforcement
- The municipality needs to develop a more action oriented, accountable and performance based engagement of public health officials. This will make them more visible and have increased impact in the population. In view of the obvious challenges with public health as regards toilet, drainage and solid waste management the government role in regulation needs to be stepped up to have impact and support citizens

Knowledge of Policy Reforms

- Only 17% of the respondents were aware of recent changes in government policy on the way the water and sewerage companies and services are organised in Kenya. The non poor indicated a much higher level of awareness (39%) than the poor (12%).
- Respondents overwhelmingly indicated that they preferred face-to-face interaction (62%) as their preferred means of obtaining information. About quarter (24%) preferred to use the radio, followed by 12% through TV.

Policy Pointers

- Communication strategies adopted by the Athi Water Services Board and the Nairobi Water and Sewerage Company should consider citizen feedback; in particular forums for face to face communication between service provider and citizen should be instituted, with special attention to the communication needs of the lower income groups.

Priorities for Improvement

- Direct water on mains: The highest priority area for improvement of direct mains was cleanliness of water followed by regularity of supply
- Kiosk users: The main priority for kiosk users is cleanliness of water, bringing it closer for citizens to access and thirdly ensuring that water would be regularly available
- Sewerage: The highest priority for most residents (43%) are well maintained sewers, the second highest priority is actual access to the sewer network; the third highest priority is the presence of drainage for domestic waste water.

Annex 1.0: Sources of water for the Non Poor, Poor and the Informal settlements (Strata 5)

N= Non Poor - 559 **N = Poor - 819** **N = Strata 5 /Informal settlements- 215**	Available sources of water to the hh	Sources of water used in the hh	Most often used source for drinking	Available sources of water to the hh	Sources of water used in the hh	Most often used source for drinking	Available sources of water to the hh	Sources of water used in the hh	Most often used source for drinking
Sources of water	**Non-Poor (%)**			**Poor (%)**			**Strata 5(%)**		
Mains in and around the home at all	95	94	88	69	68	66	43	42	37
Mains water in shared compound or block of flats where the tap is shared with other households	18	14	12	47	46	44	32	30	27
Mains water connected to home-tap inside home or individual compound	71	70	65	17	16	16	6	6	5
Mains water connected to home i.e. tap inside home or compound but shared with another household and connection is in the name of that other household	5	5	4	7	6	6	6	5	5
Mains water connected to home- tap inside home or individual compound but stored in a water tank and pumped during scarcity times	15	14	7	1	1	0	1	1	0
Non-mains sources at the household	6	7	3	3	2	1	3	2	1
Borehole dug using a drill/machinery (put in by and used only by the individual household)	6	7	3	0	0	0	0	0	0
Borehole dug using a drill/machinery (put in by another household and shared with other households)	1	0	0	1	1	0	2	2	1
Protected well or spring covered by concrete with a pump / bucket (shared with another household and put in by that other household)	0	0	0	1	1	1	0	0	0
Rainwater collected in a container i.e. open container or tank (used only by the individual household)	0	0	0	1	0	0	1	0	0
Kiosk at all	2	1	1	36	34	29	67	66	61
Water kiosk or tap operated by private seller/ community member who sells water from home that is connected to the mains	1	1	1	24	22	19	41	40	37
Water kiosk or tap operated by private seller/community member who sells water from home that is not connected to the mains	1	0	0	12	12	10	26	26	24
Other Protected sources away from home	4	3	2	6	5	3	5	4	2
Protected well or spring covered by concrete with a pump / bucket	0	0	1	1	1	0	2	2	0
Public stand post / tap connected to the mains – managed by an NGO or Community Based Organization or Community Group	1	1	1	2	2	2	2	2	2
Borehole dug using a drill/machinery	1	1	0	2	2	1	1	0	0
Free tap connected to the mains and not managed by anyone	0	0	0	1	0	0	0	0	0
Free tap not connected to the mains and not managed by anyone	2	1	0	0	0	0	0	0	
Unprotected sources away from home	0	0	0	2	1	1	1	1	0
Unprotected open well dug by hand and not covered by concrete	0	0	0	1	1	1	0	0	0
River/unprotected spring	0	0	0	1	0	0	1	1	0
Others	21	15	6	13	8	1	1	1	0
Water seller delivering water at home - carried water / handcart / bicycle etc	1	0	0	11	7	1	0	0	0
Purchased bottled water	19	13	5	2	1	0	0	0	0
Water delivered by bowsers (lorries)	3	2	1	0	0	0	0	0	0

Annex 2.0: Central Bureau of Statistics stratification of the poor and non poor

CBS major urban stratifications

1 =Upper: This category embraces the most affluent segment of the population in the major urban areas. It generally comprises areas with homes occupying own compounds and generally having well maintained roads around them. In most cases, the homes will be having large compounds and one observable feature will be that many of them are manned by security either hired by the owners of the homes or provided by employers. The fences are well cared for and even sometimes reinforced with electrical protection. Alarm systems are evident on some of the houses and in some cases you have to drive along a drive to enter the homes. Examples of these are provided below. These will serve as models of the areas that will constitute this category of residential areas in Nairobi and other major urban. (Runda, Muthaiga, Lavington, Kitisuru, Loresho, Spring Valley, Westlands (Residential), Karen, Kileleshwa)

2 = Lower Upper Sub-stratum: It was found necessary to create this category to differentiate from the former because these areas will have slightly different facilities around them. Even though they will be accommodating equally wealthy members of the population, the compounds will be generally smaller and will be lacking some of the facilities evident in the first category. (South B, South C, Southlands, Lang'ata, Donholm, Fedha, Ngumo, Adams Arcade, Woodley)

3 = Middle Sub-stratum: The middle class covers areas where there are no large compounds and luxurious amenities as observed in the first two categories. Generally, this category will have most of the population located in the Eastlands of Nairobi. They will have relatively higher density of population in comparison to the first two and in most cases it will be observed that the structures have not maintained the design that was developed when they were built. (Buruburu, South Kariobangi, Pioneer, Outer Ring Estate, Zimmerman, Umoja 1, Ngara, Komarock, Huruma Flats, Ushirika Estate. Juja Road, Eastleigh, Pangani, Park Road, Kariokor Flats, Kahawa West (Old), Kimathi Estate, Harambee)

4 = Lower Middle Sub-stratum: This category is largely composed of the areas that may be termed as the 'old Nairobi'. Most of them were built during pre-independence days and can be seen to have aged, generally. Most of the facilities are now worn out due to age. Most of the members of the young elite population do not prefer to live there, due to their diminished face. However, there are also quite a number of estates that were built after independence that fall in this category. Most of the houses in these areas have provision for one sleeping room; otherwise bed-sitters are not an uncommon feature. The following are some of the estates that comprise this category. (Huruma, Kariobangi, Muthurwa, Dandora, Mathare North, Kayole, Kaloleni, Shauri Moyo, Ziwani, Staree, Ofafa (Kunguni, Maringo), Jericho, Jerusalem, Hamza, Mbotela, Githurai)

5 = Lower Sub-stratum: It should be noted that the categories listed earlier were largely formal planned settlements. There is the last category, which is largely composed of the informal settlements. This is also largely located in the Eastlands of Nairobi for the case of the city. It has characteristics that distinguish it clearly from the rest of the categories. The structures are largely temporary, made of mud-wall or timber-wall with cheap roofing materials, which may be iron sheets, makuti, grass or even nylon paper or cartons. The infrastructure in these areas is relatively poor as there is no proper sanitation, no clear roads for entry and even water is not connected to the dwelling structures. The areas listed below fall in this category. (Mkuru Kwa Njenga, Korogocho, Laini Saba, Silanga, Soweto, Kamuthii, Mathare Valley)

Ministry of Water and Irrigation

Kara
The Kenya Alliance of Resident Associations Network

SANA
SANA International Kisumu

Ilishe Trust Mombasa

wsp
water and sanitation program

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