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The Role of Water Vendors in the Apapa/Iganmu, Alimosho, Shomolu, Ajeromi and Ifelodun Areas of Lagos

By

Anthony Johnson Akpan

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Abbreviations

CDAs	Community Development Associations
DFID	Department for International Development
GDP	Gross Domestic Product
ILO	International Labour Organisation
LG	Local Government
LGA	Local Government Area
LWC	Lagos Water Corporation
LMDP	Lagos Metropolitan Development Programme
NGOs	Non Governmental Organisations
O & M	Operation and Maintenance
PHC	Public Health Centre
PPMC	Pipelines and Products Marketing Company
PSP	Private Sector Participation
LSWC	Lagos State Water Corporation
LWC	Lagos Water Corporation
SLGP	State and Local Government Programme
WVA	Water Vendors Association

1.0 SUMMARY

One of the major problems confronting mega cities across the world today is access to sustainable drinking water. The city of Lagos, described as the world's fastest growing city according to a recent United Nations Report (2005) has in recent times been grappling with the problem of acute water shortages to its inhabitants. The current water infrastructure in Lagos dates as far back as the 1960s when the population of Lagos was bellow one million people. Today, the same Lagos water infrastructure, which is obsolete in most parts, serves over 15 million inhabitants of the city. The immense pressure on portable drinking water has given rise to different coping mechanisms amongst the citizenry for dealing with the water problem. In response to this challenge, there has emerged from the private sector water vendors seeking to take advantage of the precarious water situation. Indeed, private water vendors fill in the gap where public water supply is lacking or found wanting. Nevertheless, this noble effort has not been without problems and controversies as most of the water supplied is sometimes contaminated and unwholesome leading to occasional outbreak of waterborne diseases such cholera, bilharzias, guinea worm infection and typhoid fever.

In the low-income neighbourhoods of the city of Lagos, one is often struck by the presence of countless artisans going about their business to perform the most basic of public services: delivery of water and removal of sanitation wastes. Whether they are operators of standpipes or public toilets, water carters, resellers of water, or latrine cleaners, these self-employed individual entrepreneurs and small businesses are the ones who distribute water for domestic use. Most of the time, they work for themselves, independent of the city water agency or concessionaire and of the modern formal sector.

In the case of sanitation, they are virtually the only providers, since piped sewerage systems are virtually nonexistent in Lagos. Mostly unregulated and untaxed, they belong rather to the informal sector[1] of the economy, which employs 55 percent of all urban workers in Nigeria[2]. In view of the relatively high unemployment rate in urban centres of Nigeria, the informal sector has become a reservoir of dynamic entrepreneurs (Ikiara, 1994). The distinctions between the informal and formal sectors are sometimes blurred because the two concepts are not mutually exclusive but often overlap (Worsley 1984). Because of their complementary roles, it is often difficult to distinguish between the two in terms of skills. Not surprisingly, in areas of Lagos were formal water distribution networks are faulty or lacking, the water vendors of the informal fill the gap by providing the requisite services to water consumers. Nevertheless, indigenous private sector participation in water privatisation is still weak in many developing countries (Harris, 2003).

[1] The most common terms for describing the African economies in recent times are the informal and formal sectors. These concepts which were popularised by Keith Hart (1971) perceive the developing and underdeveloped economies as dualist. Thus, any activity outside the domain of the public or formal sector is dubbed informal activity.

[2] See ILO 2002 Report

The provision of water and sanitation services to such low-income urban areas in Lagos State is a major focus of the State and Local Government Programme (SLGP) financed by DFID. SLGP commissioned the collection of information about the role of small independent providers in the provision of such services particularly water in four Local Government Areas of Lagos State with more emphasis on Apapa/Iganmu Local Government Area, where a pilot water supply project is being embarked upon, in order to understand who they are, the range of services they offer and the key elements of their successful operations.

Of particular importance to this study is the involvement of independent providers as partners with formal utilities, with the ultimate goal of improving the supply of water and sanitation services to low-income and informal urban settlements. This means encouraging operators who can sustain low-cost provision of these services to this clientele—not creating new enterprises, but supporting existing ones that have been catering to this market for many years.

As part of this study, surveys were carried out in four local government areas and these includes: a) Iyana Ipaja (Alimosho) b) Shomolu c) Apapa/Iganmu and d) Ajeromi and Ifelodun. With particular emphasis on Apapa/Iganmu Local Government Area.

This report consolidates the results of the studies and seeks to answer the big questions about independent water and sanitation providers:

- How do they provide water service in areas where city water authorities and concessionaires hesitate to invest?

- How important are the services they supply—how many households do they serve, how many people do they employ, and what is the volume of their business?

- How do they finance their investments in an infrastructure-intensive sector of business?

- What kinds of relationships do they have with local authorities and with large water producers, both public and private?

- What are their main advantages, what obstacles do they face in seeking to expand their activities or improve the quality of service, and what policies would be likely to improve their services and benefit the low-income urban consumers they serve?

The overall picture that emerges from the study suggests that by recognising and regularising the activities, roles, and institutional position of independent providers, and by facilitating intermediation, coordination, and partnership between city-wide operators and independent providers, municipal and national authorities can set the stage for better delivery of water and sanitation services to the urban poor.

2.0 INTRODUCTION

In the context of the burgeoning growth of the city of Lagos, neither state monopolies, their privatised successors, the concessionaires, nor non-profit or community-based organisations has been able to keep up with the pace of rising demand for water and sanitation services in the low-income urban areas. Fewer than 30 percent of households in Lagos have access to piped drinking water. Piped sewerage is but a far-distant dream for 90 percent of urban Lagosians. Yet governments have generally continued to give priority to the tried and true, standard issue solution: a citywide piped network run by a single, monopolistic operator. But this monolithic solution does not match the wide variation in demand for these services by a wide variety of households, living in very different environments and using different amounts of water that vary by the time of day and from season to season. Even the most experienced international water corporations have had to admit how hard it is to find a way to get water to poor urban households, most of whom live in unplanned or poorly planned subdivisions, often located at the city's edge, on difficult terrain (steep hillsides and valleys) and in undeveloped infill areas. These marginal locations are very difficult to serve through the usual water distribution and drainage networks.

Water vendors respond to the needs and preferences of a clientele composed primarily of low-income families. How do they manage to do this, for customers who are said to be too poor to pay for city water? How can they provide service coverage of areas where city water authorities and concessionaires hesitate to invest? One answer is that water vendor services' are demand-driven and they deliver them the way their clientele needs them: reliably, and in small quantities, which remain affordable when family funds are tight, and income irregular. The clients they serve have historically been of little interest to the large concessionaires, whose primary objective is to make a profit. Water vendors serve many functions in the provision of water services. Some manage one or more water points or sell individual buckets of water from door to door.

Such activities provide jobs for several thousands people in Lagos providing a source of income to thousands of low-income families. More flexible than the concessionaires, water vendors can respond more easily to rapid changes in demand linked to the growth of unplanned urban areas. They offer a wide variety of services close to where people live, allowing them to select the most convenient. They adapt to the limitations of their clients' needs and income, and communicate face-to-face with their clients about problems, for example, with water quality, rather than at a distance and through the time consuming bureaucratic procedures of the concessionaires.

This report assesses the role of water vendors in the Apapa/Iganmu, Alimosho, Shomolu and Ajeromi and Ifelodun Local Government areas of Lagos, based on the SLGP consultant report number x (Apapa/Iganmu water supply project pre-feasibility study, July 2005) Key tasks for the team were to:

1. Examine the institutional and cultural composition of the Water vendors in areas of 4 Local Government a) Iyana Ipaja (Alimosho) b) Shomolu; c) Apapa/Iganmu and d) Ajeromi and Ifelodun. Areas in b) and d) should correspond to upgrading areas proposed for the World Bank Lagos Metropolitan Development Project (LMDP). In Apapa the study area will coincide with the proposed SLGP/LG/LWC water project to be advised to the consultant. This should indicate any higher levels of organisation of Water Vendors beyond within local Governments.

2. Explore the long-term vision of the water vendors in the light of the Lagos State goals of providing safe and sustainable water supply to all Lagos residents in the future.
3. Evaluate consumer statistics and opinion of the water vendor services provided and the extent to which they patronise the services available (different types of consumer, how much do they pay for the water? How far do they have to go to purchase the water? What quantity do they buy in a given period etc? What do they feel about the water quality received?)
4. Analyse the economy, scale and range of the water vendors operations in the areas studied.
5. Review the current relationship of the water vendors and the Lagos Water Corporation including the nature and conditions of water supply agreements, quality controls and future proposals for LWC/water vendor relationship development.

3.0 RESEARCH METHODOLOGY

The study was carried out in four Local Government Areas in Lagos State and these includes: a) Iyana Ipaja (Alimosho) b) Shomolu; c) Apapa/Iganmu and d) Ajeromi and Ifelodun. With particular emphasis on Apapa/Iganmu Local Government Area.
Data and information were obtained through the following major sources:

i) archival records including official publications, records, reports and relevant previous studies published and unpublished;
ii) detailed interviews with officials of the various Local Government Areas, schools, hospitals, CDAs, water vendors and households;
iii) administration of questionnaires.

Three types of questionnaires were prepared for the study as follows:

i) the household water demand questionnaire which contains 22 questions, mostly recorded, arranged into six sections, namely, socio-economic characteristics of respondents, household water use and characteristics, willingness to pay for water, housing characteristics and household assets, occupation and household income, and privatisation and related issues;
ii) the household water vendor questionnaire was designed to elicit information on the characteristics of providers of water other than the Water Corporation;
iii) institutional questionnaire was designed to elicit information on water use habits and water activities of commercial, institutional and industrial establishments located in the Local Government Areas studied.

Forty-five of the domestic water demand questionnaires were administered in Apapa, while 40 were administered in the other three local government areas studied. 10 of water vendor questionnaires and 10 of the institutional questionnaires were administered in each of the four local government areas studied. Thus, overall there were 165 water demand questionnaires, 40 water vendor questionnaires and 40 institutional questionnaires. Interview was also held with the head of Media at the Lagos Water Corporation.

The technique of clustered random sampling was used in the administration of the water demand questionnaires. The real unit adopted for sampling was the ward and respondents were randomly chosen within each ward. The total number of respondents from a ward was determined by its relative population size.

In the case of the water vendors, their operational bases were visited and the respondents were mostly interviewed there. The Institutional questionnaires covered 10 selected institutions in each of the four local government areas studied. The institutions were selected from a comprehensive list of such institution to reflect the different categories of such institutions including schools and hospitals.

The administration of household water demand, water vendors and institutional questionnaires were done by trained research assistants most of who were university graduates, Four research assistants were employed for the study. The research assistants were also under the direct supervision of the consultant. The research assistants were able to speak the local language and were familiar with the geographical and socio-cultural terrain of the research environment they were dealing with.

The research assistants were trained and extensively briefed on the contents of the questionnaires and the procedures for their administration. The questionnaires were pre-tested and necessary adjustments made before they were finally administered.

The study was undertaken from September 12th to October 20th 2005. The study comprised a review of available documents; discussions /meetings with stakeholders and other key respondents and field visits to poor communities in the local government areas studied. For responses to the various questionnaires (see annexes 2, 3 and 4).

4.0 PROJECT BACKGROUND

The State and Local Government Programme is looking at the development of an issue-based project that will contribute to the development of sustainable safe water supply to Lagos through Private Sector partnership processes. The project will:

- Support the improved networking of water mains throughout a selected area in the Apapa/Iganmu LG.
- Establish a satisfactory system of sustainable water delivery and its management using mains supply and renovated and upgraded borehole/wells currently operated by the LG that will be acceptable to future PSP processes.
- Work with LSWC to establish improved relationship and participation between customers and providers through the World Bank Water NGO's component of the Second National Urban Water Programme
- Work with water vendors to establish supporting participation in sustainable and safe water delivery services at acceptable prices.

A study in 2002 (Stoveland, 2002) described the water supply in the Badia area of Apapa/Iganmu Local Government Area as follows:

Table 1: Source of Water Supply

Water Supply (% Yes)	
Vendor Seller	64
Yard well/borehole	24
Public Standpipe	1.8
Tanker Water	0
Yard shared standpipe	7.3
House connection	2.7

Source: Stoveland *et al* study 2002.

As seen above private vendors who are operating from about 150 water selling points in the area control water supplies. This is level of water supply by water vendors is typical of many similar areas throughout Lagos.

5.0 PROFILE OF STUDY AREAS

Study Area	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
Estimated Population	>250,000	>150,000	>500,000	>1,000,000
Roads	Out of 47 roads , 16 are tarred and drained roads. The Local Government is responsible for all roads except one major State road- Gaskiya College Road.	There are 35 roads. 11 are tarred and the rest are either untarred or tarred but broken	There are 23 streets, mostly very short and narrow. There are numerous alleyways, often blocked by property owners. Shops are built very close to the road constraining traffic.	There are over 120 roads, >60% un-tarred with the remaining roads partly or fully tarred. Half of the fully tarred roads are broken, needing re-construction-not rehabilitation. 74% of households are accessible by car, 32% by tarred road. The trend is worse in Ajegunle West.
Water	There are water mains in six of the streets in Badia. These are not yet connected to households and are distributed through public standpipes with very irregular supplies. About 150 water selling points and 300 water kiosks in enclosed compounds serve the communities.	There are water mains crossing the vicinity of the area with a possibility of extension into Alimonsho, but no pipelines entering the area. There are two deep wells with overhead tanks and public stand pipes in the area. Water sellers in the area have a strong network and sometimes clash with the Local Government's attempts to provide public standpipes in the area.	There are water vendors in Ilaje supplying water to various sections in the community including the people living on water. There is a borehole on Adetoke street, and a public fountain on Bari Road. There are many water sellers selling from LSWC points or from boreholes/deep wells sank privately. 73% of the residents interviewed buy water from this source and there are no house connections.	83% people in Ajegunle East buy water from vendors, 16% use yard shared well,1% public standpipes. No house connections or yard shared standpipes or tanker water. 85% of households share bathrooms. Numbers of water points have been built, consisting of over-head tanks, basic water treatment and generator sets. The community manages boreholes and fees collected through a pump caretaker for O&M costs. The current distribution system draws water from at least 2km away and is largely rusted.

Study Area	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
Drainage	In the dry season, static water level is about 300mm above ground level in up to 40% of the area. In the rainy season the entire area is water logged. There is drainage in all tarred roads and roads under construction. Two primary drainage channels border Badia to the north and south. They are estimated to be over 15years old and are natural earth channels, of which one was dredged before 1999 but the outflow did not improve due to solid waste accumulation.	11 of the roads out of 22 are drained.	LG has carried out drainage work, but the area is still often flooded. There is a major drainage channel flowing from Buxton Cole, Ekinmogun/ Appelehin Street area through the Arobadade/ Odunsi collector drain, with outflows at two sites into the lagoon. There are three box culverts on Aiyedun street, Olorrunsogo Lane and Alh. Olaiya street. Some of the constructed drains are along Bamji Lawal and Ayoola Lawal/ Unity Streets, with full surfacing roads.	50% of households have drains in front of their houses. 69% frequently have flooding in their streets, 23% knee deep and 14% waste deep or above. Drains on all tarred roads in Ajegunle, but still flooding due to ground conditions & blocked drainage channels. 2 primary drains run along the N and S cordons of Ajegunle East (from Oyedeji St to Ayenero St) and to the N and E boundaries of Ajegunle West (next to Okorogbo St, crossing at Coca-Cola junction, and at Opaleye St). These channels form boundaries for Ajegunle, with serious flooding implications for the whole area. Approx 30% of the secondary/ tertiary drains are broken
Solid Waste	There is a private sector participation (PSP) arrangement operational in Akorede and Gaskiya College Road. LAWMA has the primary responsibility for solid waste collection and disposal, as well as management of disposal sites, but have no capacity to fulfil this role despite	Solid waste management in the area is done through PSP and LAWMA. Private sector operators cart away the refuse from houses and are paid directly by the homeowners. The disposal system for collected refuse has not worked well resulting in the accumulation of solid waste in streets and ends	Solid waste management in the area is haphazard.	Solid waste is not managed properly in the area.

Study Area	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
	out sourcing some of the solid waste collection functions to the private sector.	in the drains.		
Sanitation	There is no clearly regulated sanitation management system. 51% of households use pit latrines while about 5% have no toilet facilities at all. Informal public toilets sprout along the primary drainage channels wherever commercial ventures exist.	72% of the households use pit latrines. There is one public toilet at Ashade market, and also some public toilets owned, managed, operated and maintained by private individuals.	Solid waste is used to reclaim land from the swampy areas and on streets next to the canals. This makes the whole area very filthy in appearance, smelling rather foul due to the decomposing waste material.	The sanitation situation in the area is terrible.
Electricity and Street Lighting	The LG estimates that 60% of residents are supplied by NEPA, while the household surveys reveal that 99% of households interviewed were connected. For the street lighting this figure was 3.6% while none (0%) reported that the streetlights worked regularly.	Four streets out of twelve have street lighting	There is electricity in the area.	Electricity supply is erratic, and maximum 20 hours a week.
Schools	There are four primary schools in Badia, but inadequate for the population served.	There are three primary schools and one secondary school.	There are 14 schools in the area, 10 primary and 4 secondary.	There are at least three schools along Odunsi Street-two private and one government school. Other, privately owned facilities exist for nursery care of infants.
Health Centres	There are three existing Government Health Clinics. The Olojowon	There are no Public Health Centres or Clinics in the designated area.	There is a public health centre along Ojo Road in relatively good condition, albeit	There is a modern comprehensive primary health care centre at Ashogbon, serving

Study Area	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
	Public Health Centre, built under the demonstration project is listed as one such existing PHC.		in need of total rehabilitation. There is another disused clinic within Alaba Oro school complex, as well as several modern private hospitals along Ojo Road.	both Ilaje and Bariga residents.
Markets	There are 5 markets – one being a shopping complex and the others specialised markets e.g. Ojora Meat market etc. Since the Local Government lacks capacity. CDAs and markets women assist in O&M of these markets.	There are three markets in the area.	There are about 12 markets and the whole area is full of street markets due to the dominant occupation-petty trading. Building materials market at Suru/Alaba, an old market on Ojo Road, which appears not to be of acceptable standard to the LG and a market along Charles Avenue. Market along Ojo road needs upgrading to improve the environment. The Market along Charles avenue is partly built. There are many new illegal developments along the canal set back, which has now become a market that is progressively extending to the residential area.	There are two markets in the area.
Open Spaces, Recreational Facilities and Street Gates	There are two open spaces- the Sango Street Praying Ground, and the Dembe Sport Centre at Fadaini Street. There are some security gates in the area.	The area has one playground.	There is virtually no open space in the area.	There is little recreational space in the area.

Source: Field survey 2005.

6.0 COMPOSITION OF WATER VENDORS

The portrait of a typical water vendor in Lagos shows a versatile man, risk and publicity averse; capable of raising important sums of money when necessary, but without a logo or a front office. He seeks no loans from the bank, nor does he pay the city business tax, if he can avoid it. He can and does cover many bases, depending on what is most profitable today. His relations with other providers are opportunistic, governed by the practical advantage conferred, with little inclination (at least so far) to control or restrict the free operation of market forces. He has just joined, or is thinking about joining, a new trade association in Lagos. Few Women venture into water vending the trade are practiced mostly by men. There is no legal framework for the operations of the water vendors in the areas studied as most of them operated on their own. Some are only licensed by LSWC and receive no assistance from LSWC. Culturally, water vendors in the study areas are made up males and females, but more of men. Their ethnic origin cut across the major tribes in Nigeria, particularly in Ajeromi/Ifelodun, but mostly Yorubas in Apapa/Iganmu, Shomolu and Alimosho. They have a well-organised association in Apapa/Iganmu, but in other areas they are not well organised, they only come together when there is a major problem (e.g. a damaged water mains). The people are predominantly Yorubas, particularly in Sari/Apapa Iganmu, Alimosho and Shomolu. Other ethnic groups like Urhobos, Igbos are involved in the business of water vending in Ajeromi/Ifelodun.

7.0 LONG TERM VISION OF WATER VENDORS

The Water vendors studied in the four local government areas express intentions to contribute to the safe delivery of water in Lagos State. The express interest in partnering with government, and not for government to drive them out of business. They requested for support such as generators, pumping machines to combat the problem of erratic power supply and low pressure in the water mains. They expressed interest in partnering with government and all stakeholders in making water available to all Lagosians since they serve a large part of the population in slums and peri-urban areas where the LSWC networks do not cover. Generally, with the right policy framework, government can harness their resources and ability to reach the unserved in the sustainable delivery of water to Lagosians.

8.0 EVALUATION OF CONSUMERS STATISTICS

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun	Average
Average household size	10	10-12	8-10	10	10
Estimated population	>250,000	>150,000	>500,000	>1,000,000	
Primary drinking water source	Vendors	Vendors	Vendors	Vendors	
Alternative water sources	Seasonal wells, sachets	None-wells polluted, sachets	Seasonal wells, sachets	Seasonal wells, sachets	
Willing to pay more for better service	Yes	Yes	Yes	Yes	
Monthly expenditure on vended water	N1400	N1200	N1, 000	N1, 000	N1150
Typical monthly power bill	N1, 500	N2, 000	N2, 000	N2, 000	N1875
Typical monthly rent	N1, 000	N1, 500	N1, 000	N1, 500	N1250
Typical household income	N15, 000	N15, 000	N15, 000	N15, 000	N15, 000
Water treated before use	NO	NO	NO	NO	
How much do they pay for a bucket	N5	N5	N5	N5	N5

Source: Field survey 2005.

Relationship of Water Vendors and the community

In the course of the study, it was observed that the relationship of the water vendors and the various communities in which they operate was not cordial. The water vendors are perceived as exploiters as they hike their fees arbitrary coupled with the fact that the supply very bad quality water. In fact, in most of the stakeholders meetings convened during the cause of this study, the community residents were always attacking the water vendors. In other instances the water vendors will stay away from the meetings.

9.0 ECONOMY, SCALE AND RANGE OF OPERATIONS

In Apapa/Iganmu it was discovered that households buy a 20litres keg for N10 and N5 for a bucket of 10 litres. This implies that for an average household of 8 persons with an average daily consumption of 100 litres (10 cans). The daily cost will be N50, weekly cost will be N350, monthly cost will be N1, 400 and annual cost is about N16, 800. This averages what was obtainable in all the local Government Areas studied. Independent operators set their commercial practices to closely match the needs of their clients, especially their ability to pay. They sell water in small quantities, down to a single glass of cold or ice water. They may choose to let their neighbours buy water on short-term credit. Their prices vary with the availability of water, distance to the piped network, the season (rainwater scarce or plentiful), and willingness to pay for priority service privileges (a surcharge may advance a client to the front of a long line).

During the surveys in the four local government areas covered in the study, several hundred water vendors of all sizes were interviewed and every one of them self-financed their start-up with family funds and their expansion costs with profits. Our findings in the four local government areas of Apapa/Iganmu, Baruwa, Shomolu and Ifelodun, are in consonance with research on the sources of capital for financing new business, which shows that personal findings are most important representing 65%[3]. Next in the order of importance is financial support from family and friends, which stood at 35%[4]. Loans from banks were simply non-existent scoring 0 percent. This also shows that the role of financial institutions in supporting micro businesses in Nigeria especially among Lagos water vendors is less than satisfactory. At every level, profits are reinvested in the business.

Table 2: Sources of Capital for Financing New Business

Source of Capital	Percentage (%)
Personal savings	65
Family savings	35
Loans from banks	0
	Total 100 %

Source: Field survey, 2005.

Table 3: Water Tariffs Comparison

	Price per unit	Price/m^3	Price Index
LSWC Tariff	₦50/m^3	₦ 50	1
Water Vendor	₦10/20l	₦500	10
Satchet	₦5/500ml	₦10,000	200
Bottled Water	₦80/1000ml	₦ 80,000	1600
Tanker	₦2,500/4000l	₦625	12.5
Pushcarts	₦400/250l	₦1600	32

Source: Field survey, 2005.

[3] See for instance (Thorne and Ball, 1981; Vesper, 1980).
[4] For further reading on family support in new business see Litvac and Maule, (1973)

Take pure water for instance, sold most commonly as our dear sachet water friend on the highway which costs N5 per 500ml sachet (equivalent to Naira 80,000/m^3) yet the quality of the so called 'Pure' water is questionable. Comparatively, LSWC supplies costs N50/ m^3 and it is safe for drinking because it is well treated. Additionally Lagos is facing an enormous environmental challenge and cost from the discarded plastic sachets which are thrown away wherever they are consumed and find their way into drains, water courses and ultimately Lagos Lagoon. The sachets are responsible for a significant percentage of the non biodegradable solid waste produced by the city. In particular they find their way into drains causing blocking and contributing to flooding. The quality of the sachets is of such low quality plastic that they have virtually no recyclable potential. At best they can be collected, bundled and land-filled.

The pushcarts are unexpectedly the costliest bulk suppliers for domestic use. Consumer's pay as high as N1600/m^3 or more for supplies. And surprisingly this is a common source of supply to the poor.

Tank supplies are cheaper than the cart suppliers but still more than 12 times the cost of the LSWC mains tariff. The average cost of 4000litre Tanker is N2,500 an equivalent of Naira 625/m^3 in most accessible areas and possibly more in less accessible areas.

Whilst wells and bore holes are probably cheaper their cost of maintenance is high and is becoming prohibitive. Additionally the ground water aquifers might not be able to sustain the rate of use for long especially with ever increasing resort to unregulated new boreholes**.** Cases of ground water pollution also exist to compound the issue particularly with respect to shallow wells. The issue of saline intrusion into overstretched aquifers has also been documented and is likely to be an increasing issue in coming years.

The clear issue with the public in these areas is the necessity for water for which residents are obliged to pay for from private suppliers in the absence of institutionalised supply. According to the World Bank Development Report 1994, the same trend also exists in Brazil where the people are willing to pay for new water connections that were four times the cost of the actual service provision. The poor are therefore not only willing to pay in theory, the report went further, they also pay in practice. According to the report during the mid-1970's to the early 1980's people in seventeen cities surveyed were paying private water vendors an average of twenty five times the prices charged by the State owned utility,

Despite these glaring disparities between the cost of private supplies (informal markets) and the LSWC supplies, the consumer is prepared to pay for the more expensive and obviously low quality supply but always reluctant to pay for the Government supplies. This it is assumed to be as a result of perceived lack of value for money for a service that is most commonly absent rather than providing water. Thus purchase of readily available supplies at higher rates is considered preferable.

10.0 RELATIONSHIP WITH WATER CORPORATION

In the project area, water vendors are easily identified by their 2,000 litre, usually blue, plastic tanks with an LSWC identification number boldly written on the body of the tank. This suggests that the vendors are accredited partners of the Corporation. The tanks are either single or double stationed at residential locations, with some streets having few or more locations presumably according to demand. The vendors have made their own individual connections to the LSWC supply, resulting in a chaotic mass of 1.5 inch diameter plastic pipelines running through open drains along the roadsides. These drains are usually filled with foul, stagnant, rubbish filled, sewage contaminated water. Each vendor has a pump to suck water from the LSWC main due to the low mains pressure and the long distances between mains take-off and water vendor location carrying water through narrow diameter pipes with high friction losses. The pumps are located either beside the drains or beside their tanks. Water is sucked through the pipes in the drains with frequent leakage from the pipe joints resulting in contaminated water being sucked into the mains water being passed down the vendors pipeline and to be sold as clean water.

Despite the water vendors being licensed by LSWC there is no subsequent water quality control imposed or monitored on the water vendors by LSWC. Consequently water sold by the vendors to the public can be contaminated to any level.

Water Vendors pay LSWC for a licence to operate. In the early 1990s the charge was ₦2,000.00 but now stands at about ₦5,000.00. (Period of payment unclear). Vendors also pay a monthly charge, which LSWC recently raised from N1,000 to N3,000. Some of the vendors pay this amount but the majority still pay the old rate. After payment of the license fee a vendor is authorised to effect connection with the LSWC mains, at his/her own cost. To this end, the vendor buys pipes and a pump and pays a plumber to make the connection.

The vendors are strongly organised under the aegis of the local Water Vendors Association (WVA). In Sari, for example, the vendors meet once a week every Thursday at their chairman's residence. In a meeting with the consultants the chairman stated that the vendors make an average of N3,500.00 per month from water sales, but this figure seems credible only if it represents profit after all expenditures. Even then, it seems too low to make the business viable. Profits of up to N15,000 appear to be possible and the high number of vendors suggests that there is money to be made. In Sari, for example, there are approximately 50 vendors operating 150 selling points, according to the Sari Water Vendors' Association chairman. It was observed during the study that some of the selling points are located at shops, suggesting that some vendors (or their sales persons) run more than one business.

There are also a number of other service providers who drill private boreholes and sell water to people. This is a common practice in Lagos and it is presumed that the same kind of service is available in the project area although no data was collected to confirm this.

11.0 RECOMMENDATIONS

11.1 Formalisation of LSWC and water vendor relationships

It is unlikely in the immediate future that LSWC will succeed in providing adequate and safe water supply to many of the areas currently provided for by water vendors. It is likely therefore that supply of water to many people within Lagos will continue to be through the water vendor outlets and therefore LSWC and other institutions need to recognise the role of the water vendors and accordingly work to ensure and support this arm of the water supply sector in the immediate future.

Water Vendors interviewed for this study often complain about the lack of recognition from municipal and water company officials for the value of the services they perform. Coordination among public and private actors would clarify the points of mutual interest and the obstacles to better service delivery. Users would benefit from better coordination through a reduction in costs and better service coverage.

The first step to improving service offered by water vendors is for public authorities to recognise their role. The water vendors themselves must recognise their own responsibilities with respect to the service they are providing. Cost and quality of water provided should be regulated through some mechanism without removing the viability of their livelihood. Additionally LSWC needs to take the responsibility for its licensing of the water vendors to provide a public service. Connections to water vendor outlets therefore should not be left in the hands of the vendors but provided and maintained by LSWC to acceptable standards to ensure delivery of water of suitable quality to the vendor outlets. A specific code of practice for water vendors should be established governing their methods of operations and supply of water to the public that would require the monitoring of water quality by LSWC.

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Once they are recognised, water vendors could also work out contractual relations (this could be an improvement on their current licensing) with public authorities (LSWC) that would make it easier for the expansion of their services to match the pace of urban development in the context of the ongoing reform in the sector. In Apapa/Iganmu local government area, private operators have established a growing number of professional and trade associations through which they can address common problems and advocate common interests. As long as these associations remain genuinely representative of the group, meaning that membership is open to anyone practicing the trade, they can play a key role in improving professional practices and the quality of service delivery, promoting technical innovation, and integrating private and public service systems. Municipal authorities can support such associations by recognising their legitimacy and negotiating with them to establish fair conditions for doing business. But they should take care not to confer any sort of exclusive status that would tend to encourage cartel-like, price-fixing business practices. When this happens, in the context of implementation of a specific project or because of close ties to a particular political party or municipal government, the natural tendency of interest groups to seek to control their market niche quickly solidifies into a mini-monopoly. In recognition of the risk of cauterisation, municipal authorities and project managers should support the creation of professional and trade associations, deal only with those whose membership requirements are legitimate, and also be ready to work with two or more competing associations.

11.2 LSWC in development of operators and vendors role

Over the last ten years, decentralisation has been at the heart of political debate, and the practice of delegation of responsibility for public services has been spreading. The water and sanitation sectors have been opened to private financing, and central authorities have transferred much responsibility for water and sanitation services to local authorities. Supporting water vendors is thus perfectly in tune with current institutional and economic trends in Lagos, and it does not imply a choice between citywide entities and independent operators. The central and municipal governments' roles are rather to see that these two kinds of providers complement each other in the marketplace and that fair competition is encouraged. Given the choice, users can be trusted to judge for themselves where to take their business. For those who choose to look beyond standard leasing or licensing formulas and who are willing to give water vendors an incentive to invest in all forms of facilities – drainage, standpipes, pumps, generators – constraints that limit the flexibility of operations need to be removed, including cumbersome administrative procedures, expropriation without compensation, punitive fines and harassment. An effort should be made to limit the extent of unfair competition from subsidised public enterprises. This does not mean a reduction in the public sector's role, but rather a refocusing of public authorities' attention on regulatory functions that protect consumer interests, such as:

- requiring regular financial audit of independent providers' accounts and technical inspection of equipment and infrastructure;
- establishing a regulatory framework, which is based on a supporting and consultative;
- relationship between providers and local authorities responsible for water and sanitation;
- oversight;
- creating coordination mechanisms at the municipal level, where elected local officials and community leaders can discuss and debate how basic urban services should be developed and at what standards, without unduly interfering with ongoing provision of service;
- adapting regulations to reflect conditions in the unplanned peri-urban areas;
- encourage professional development among independent operators by recognising their associations as representative interlocutors.

Including professional organisations in the dialog would enhance their authority to negotiate with public authorities and the concessionaires. From a technical perspective, better partnerships between public and private actors would facilitate the emergence of appropriate service standards that would reflect the independent providers' experience in the day-to-day, face-to-face delivery of water and sanitation services.

11.3 Preparing water vendors for the future

The vision of every Lagosian is of a day when every house has unlimited pure water flowing from taps inside their houses. This vision is equally shared by water vendors from their own personal standpoint and with respect to their wishes for their families. Whilst in the immediate future this remains only a distant vision the water vendors themselves must realise that every step towards this vision is a step further towards their businesses disappearing. Appreciation of this fact by the water vendors is necessary. Some may move towards becoming private operators that may supply some of that unlimited pure water but certainly many others will leave the water supply sector. Current reaction by water vendors to improved water supplies is natural as it is seen as a direct challenge to their businesses. The next period of years should recognise and harness their activities to contribute to the long term vision. They should be helped to appreciate this and be significant players in the achievement of safe water supply for all in Lagos.

11.4 The relationship between vendors and communities

The current relationship between water vendors and their clients is one that is based on necessity for the product sold by the vendor. Customers are aware that the water that they buy is of poor quality and purchase only the minimum required. Equally their own budget limits the amount of water purchased. It is likely that in the knowledge of improved water quality they would purchase more. The quantity that they buy would also increase if the vendor's prices were lower. The customers view the vendors as cartel operators as a result of the uniform prices charged in their area. There is a clear need for water vendors to improve their relationship with their customers

Where they do not exist Water Vendors Associations should be set up linked to Local Government Areas or Development Council Areas. These associations should develop communication methods to outreach to the communities that they supply to inform them of their business strategies and to seek views on ways to improve their service.

12.0 NEXT STEPS

12.1 Development of platforms between vendors and customers

It is imperative to support the development of platforms to smoothen communications between water vendors and their various customers. In the course of the study it was observed that the relationship between the water vendors and the customers was not cordial. Many of the customers perceived the water vendors as exploiters, who arbitrarily hike their fees coupled with the bad quality of water supplied.

12.2 Creation of a platform between water sectors

It is necessary to create platforms between formal and informal water sectors because currently there is no platform between these water sectors. There is great need for a platform that will bring the Lagos Water Corporation and the informal water sector together so as to enhance the sustainable delivery of water to Lagosians in a coordinated manner.

12.3 Development of Sari Water Project

Existing water vendors in the Sari Water Project area should be utilised under a regulated agreement. Appropriate agreements will be reached that will enhance their participation in the project. This will allay their fears of being driven out of business.

12.4 Incorporation of recommendations

The recommendations of this study should be incorporated into the proposed water supply projects under the Lagos Metropolitan Development and Governance Programme (LMDGP) as it will impact positively on the water supply component of the programme. Detailed study of Boreholes in Lagos should be embarked upon as no data on this currently exist.

12.5 Take forward recommendations

The large scale World Bank assisted Lagos Water Sector reforms which is currently standing alone will benefit greatly from the recommendations of this study.

13.0 CONCLUSION

The study has revealed a lot of inadequacies in the informal water sector and appropriate steps should be taken to remedy these for sustainable water delivery in Lagos.

Annex 1

Terms of Reference

The Role of Water Vendors in the Apapa/Iganmu area of Lagos.

Background

The State and Local Government Programme is looking at the development of an issue based project that will contribute to the development of sustainable safe water supply to Lagos through Private Sector partnership processes.

The project will:

- Support the improved networking of water mains throughout a selected area in the Apapa/Iganmu LG.
- Establish a satisfactory system of sustainable water delivery and its management using mains supply and renovated and upgraded borehole/wells currently operated by the LG that will be acceptable to future PSP processes.
- Work with LSWC to establish improved relationship and participation between customers and providers through the World Bank Water NGO's component of the second National Urban water programme
- Work with water vendors to establish supporting participation in sustainable and safe water delivery services at acceptable prices.

A study in 2002 (Stoveland 2002) described the water supply in the Badia area of Apapa/ Iganmu Local Government Area as follows:

Water Supply (% Yes)	
Vendor Seller	64
Yard well/borehole	24
Public Standpipe	1.8
Tanker Water	0
Yard shared standpipe	7.3
House connection	2.7

As seen above water supplies are controlled by private vendors who are operating from about 150 water selling points in the area. This is level of water supply by water vendors is typical of many similar areas throughout Lagos.

In the project area, water vendors are easily identified by their 2,000 litre plastic tanks with an LSWC identification number boldly written on the body of the tank. This suggests that the vendors are accredited partners of the Corporation. The tanks are either single or double stationed at residential locations, with some streets having fie or more. The vendors have made their own connections to the LSWC supply, resulting in a chaotic mass of pipelines running through open drains along the roadsides. Each vendor has a pump to suck water from the LSWC main. The pumps are located either beside the drains or beside their tanks. There are two levels of water vendors:

Primary vendors pay LSWC for some form of licence to operate. In the early 1990s the charge was ₦2,000.00 but now stands at about ₦5,000.00. (Period of payment unclear). Vendors also pay a monthly charge, which LSWC recently raised from N1,000 to N3,000. Some of the vendors pay this amount but the majority still pay the old rate.

After payment of the license fee a vendor is authorised to effect connection with the LSWC mains, at his/her own cost. To this end, the vendor buys pipes and a pump and pays a plumber to make the connection.

The vendors are strongly organised under the aegis of the local Water Vendors Association (WVA). In Sari, for example, the vendors meet once a week every Thursday at their chairman's residence. In a meeting with the consultants the chairman stated that the vendors make an average of N3,500.00 per month from water sales, but this figure seems credible only if it represents profit after all expenditures. Even then, it seems too low to make the business viable. Profits of up to N15,000 appear to be possible and the high number of vendors suggests that there is money to be made. In Sari, for example, there are approximately 50 vendors operating 150 selling points, according to the Sari Water Vendors' Association chairman. It was observed during the study that some of the selling points are located at shops, suggesting that some vendors (or their sales persons) run more than one business.

Secondary vendors offer a home delivery service, using primary vendors as their source. The water is carried in tins, one suspended from each end of a pole borne on the shoulders. These vendors charge a little more than the primary vendors but clearly have very small startup costs in terms of hardware. In the course this study, secondary vendors were seen in Marine Beach.

There are a number of other service providers who drill private boreholes and sell water to people. This is a common practice in Lagos and it is presumed that the same kind of service is available in the project area.

Objectives

1. To examine the institutional and cultural composition of the Water vendors in 4 areas of Apapa LG that formed the former newly created LG of Apapa/Iganmu. These areas are Badia, Sari east, Sari West and OkeOja.
2. To explore the long term vision of the water vendors in the light of the Lagos State goals of providing safe and sustainable water supply to all Lagos residents in the future.
3. Evaluate consumer opinion of the water vendor services provided and the extent to which they patronise the services available (how much do they pay for the water? how far do they have to go to purchase the water?, what quantity do they buy in a given period etc. what do they feel about the water quality received?
4. To analyse the economy and scale of the water vendor operations in the areas studied.
5. Review the current relationship of the water vendors and the Lagos Water Corporation including the nature and conditions of water supply agreements, quality controls and future proposals for LWSC/ water vendor relationship development.

Outputs
A detailed report addressing the above issues that will provide a full and comparative presentation of the water vendor industry in the areas selected.

The report will present:

- Details of the approaches taken, sources consulted and information gathered and referred to.
- An assessment of the information collected.
- An economic analysis of the water vendor operations that will quantify individual economy of operations and also the general scale of water vendor operations.
- Conclusions and recommendations emanating from the information collected that should be acted upon during implementation of the proposed water supply project in order to ensure that water vendor activities can be harnessed in the most positive manner.

Methodology

- The consultant will design sample areas within the assigned LGs.
- Establish relationships with local stakeholders that will permit and enable interview techniques to be acceptable.
- Using questionnaire formats for both water vendors and identified stakeholder groups collect statistically valid data for required analyses and reporting.
- Using this information and through continuous reference to the clients evolve the information, analyses and recommendations to be included in the Final Report.

Inputs
Total Consultant time;

	Man/days
Preparation Days	4
Input days	16
Report writing days	3
Total Contract Days	23

It is expected that a small team of assistants will be required to help with the interviewing process. These will be costed as non consultant support inputs.

Timing of input
There is considerable urgency to move this work forwards and it is aimed that the outputs from this study should be available by the end of September 2005.

Available documents:
SLGP IBP proposal for the Delivery of safe water to Badia, Lagos. Bergstan Sept 2004.

Apapa/Iganmu Water Supply Project – Prefeasability Study , SLGP Report July 2005

Annex 2

Responses of Institutions to Questionnaires

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
No of Questionnaires	10	10	10	10
Q1 Where does your water supply come from?	LWC(6/10) Borehole(1/10) Water Vendor(3/10)	LWC(2/10) Borehole(2/10) Water Vendor(6/10)	LWC(6/10) Borehole(4/10) Water Vendor (0/10)	LWC(4/10) Borehole(3/10) Water Vendor (3/10)
Q.2 What type of sanitation facilities do you have?	Pour flush toilet(10/10)	Pour flush toilet(10/10)	Pour flush toilet(10/10)	Pour flush toilet(10/10)
Q.3 What is your relationship with the water vendors?	Buy water from them(2/10) No relationship (8/10)	Buy water from them(6/10) No relationship (4/10)	Buy water from them(6/10) No relationship (4/10)	Buy water from them(3/10) No relationship (7/10)
Q.4 Do you pay for your water?	Yes(9/10) No(1/10)	Yes(9/10) No(1/10)	Yes(5/10) No(5/10)	Yes(6/10) No(4/10)
Q5 How much do you pay in a month ?	N1,800(N200-3,000)	N1,500(N200-3,000)	N1,400(N200-3,000)	N1,000(N200-3,000)
Q.6 Do you treat your water before use?	Yes(2/10) No(8/10)	Yes(1/10) No(9/10)	Yes(7/10) No(3/10)	Yes(4/10) No(6/10)
Q.7. How do you see water supply in the future?	Every Stakeholder should be involved(10/10)	Every Stakeholder should be involved(10/10)	Every Stakeholder should be involved(10/10)	Every Stakeholder should be involved(10/10)
Q.8. In the past 3 years do you think water service provision has improved?	Yes(3/10) No(7/10)	Yes(4/10) No(6/10)	Yes(9/10) No(1/10)	Yes(8/10) No(2/10)
Q.9. Are you aware of the ongoing water sector reforms, particularly its PSP processes?	Yes(6/10) No(4/10)	Yes(6/10) No(4/10)	Yes(6/10) No(4/10)	Yes(6/10) No(4/10)

Annex 3

Responses of Water Vendors to Questionnaires

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
No of Questionnaires	10	10	10	10
Q1 Where do your water supply come from?	LWC(6/10) Borehole(3/10) Water Tanker(1/10)	LWC(5/10) Borehole(2/10) Water Tanker(3/10)	LWC(6/10) Borehole(4/10) Water Tanker(0/10)	LWC(4/10) Borehole(3/10) Water Tanker(3/10)
Q.2 What is your relationship with the Lagos Water Corporation?	Licence(6/10) No relationship (4/10)	Licence(5/10) No relationship (5/10)	Licence(5/10) No relationship (5/10)	Licence(4/10) No relationship (6/10)
Q.3 Do you treat your water?	Yes(4/10) No(6/10)	Yes(3/10) No(7/10)	Yes(5/10) No(5/10)	Yes(4/10) No(6/10)
Q.4 Do you have a water Vendor Association?	Yes(4/10) No(6/10)	Yes(6/10) No(4/10)	Yes(8/10) No(2/10)	Yes(5/10) No(5/10)
Q5 How often do you meet?	Very rare(5/10) Weekly(3/10) Whenever there is a problem(2/10)	Very rare(5/10) Weekly(4/10) Whenever there is a problem(1/10	Very rare(7/10) Weekly(1/10) Whenever there is a problem(2/10	Very rare(5/10) Weekly(3/10) Whenever there is a problem(2/10
Q.6 What are the issues at your meetings?	No Issues(5/10) General Operational issues(4/10) The problems(2/10)	No Issues(4/10) General Operational issues(5/10) The problems(1/10)	No Issues(5/10) General Operational issues(3/10) The problems (2/10)	No Issues(4/10) General Operational issues(4/10) The problems(2/10)
Q.7. How are your water rates fixed?	Arbitrary(7/10) Consensus (3/10)	Arbitrary(6/10) Consensus (4/10)	Arbitrary(7/10) Consensus (3/10)	Arbitrary(7/10) Consensus (3/10)
Q.8. How much money do you make in a month?	N3,500(3/10) N4,000(3/10) N4,500(2/10) N5,000(2/10)	N3,500(0/10) N4,000(4/10) N4,500(2/10) N5,000(4/10)	N3,500(5/10) N4,000(2/10) N4,500(2/10) N5,000(1/10)	N3,500(3/10) N4,000(2/10) N4,500(1/10) N5,000(4/10)
Q.9. Do you have other sources of income?	Yes(6/10) No(4/10)	Yes(5/10) No(5/10)	Yes(7/10) No(3/10)	Yes(6/10) No(4/10)
Q.10 How much do you pay to get a licence?	N3,000(6/10) N/A(4/10)	N3,000(5/10) N/A(5/10)	N3,000(7/10) N/A(3/10)	N3,000(4/10) N/A(6/10)
Q.11 Do you pay a monthly charge after the licence fee?	Yes(6/10) N/A(4/10)	Yes(5/10) N/A(5/10)	Yes(6/10) N/A(4/10)	Yes(5/10) N/A(5/10)
Q.12.How often do you repair your pipes?	Very Often(9/10) No repair(1/10)	Very Often(7/10) No repair(3/10)	Very Often(10/10) No repair(0/10)	Very Often(6/10) No repair(4/10)

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
Q.13. Do you have to pump the water?	Yes(9/10) No(1/10)	Yes(7/10) No(3/10)	Yes(8/10) No(2/10)	Yes(7/10) No(3/10)
Q.14 Do you collect cash only?	Yes	Yes	Yes	Yes
Q.15. How do you see water supply in the future?	Ready to partner with government and not be driven out of business(9/10) Made free (1/10)	Ready to partner with government and not be driven out of business(9/10) Made free (1/10)	Ready to partner with government and not be driven out of business(10/10) Made free (0/10)	Ready to partner with government and not be driven out of business(10/10) Made free (0/10)
Q16. What are the constraints you have?	Low pressure, illegal connection of water, irregular supply of electricity(7/10) Others(3/10)	Low pressure, illegal connection of water, irregular supply of electricity(6/10) Others(4/10)	Low pressure, illegal connection of water, irregular supply of electricity (9/10) Others(1/10)	Low pressure, illegal connection of water, irregular supply of electricity(7/10) Others(3/10)
Q17. Are you aware of the ongoing water sector reforms in Lagos particularly the PSP processes?	Yes(4/10) No(6/10)	Yes(6/10) No(4/10)	Yes(9/10) No(1/10)	Yes(5/10) No(5/10)
Q18. How do you think these constraints could be overcome?	High pressure, legal connection of water, regular supply of electricity(8/10) Others(2/10)	High pressure, legal connection of water, regular supply of electricity(6/10) Others(4/10)	High pressure, legal connection of water, regular supply of electricity (9/10) Others(1/10)	High pressure, legal connection of water, regular supply of electricity(6/10) Others(4/10)
Q19 How best do you think the government can support you?	By recognising our role(10/10) Running mains to our area (0/10)	By recognising our role(9/10) Running mains to our area (1/10)	By recognising our role(10/10) Running mains to our area (0/10)	By recognising our role(10/10) Running mains to our area (0/10)
Q20 Do you entice your customers?	Yes(5/10) No(5/10)	Yes(8/10) No(2/10)	Yes(8/10) No(2/10)	Yes(8/10) No(2/10)
Q.21 What are the external factors affecting your service?	Financial resources and power supply (9/10) Others (1/10)	Financial resources and power supply (8/10) Others (2/10)	Financial resources and power supply (10/10) Others (0/10)	Financial resources and power supply (9/10) Others (1/10)
Q.22 What is the nature and conditions of water supply agreement with the Lagos Water Corporation?	License (7/10) N/A(3/10)	License (5/10) N/A(5/10)	License (6/10) N/A(4/10)	License (4/10) N/A(6/10)

Annex 4

Responses to Household Questionnaires

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
No of Questionnaires	45	40	40	40
Q1 How high is the population of the district you live in?	>250,000	>150,000	>500,000	>1,000,000
Q.2 How many adults (aged 18years and above) living in an average household in your district?	5.71(3-12)	5.17(3-8)	4.87(4-7)	5.12(3-8)
Q.3 How many children live in an average household?	6.42(3-12)	9.45(2-15)	6.35(5-8)	5.12(3-8)
Q.4 Does an average household have access to water supply 24 hours a day?	Yes(5/45) No(40/45)	Yes(15/40) No(25/40)	Yes(39/40) No (1/40)	Yes(5/40) No(35/40)
Q5 Between what hours and seasons do you usually not have access to water supply by a water vendor or different?	Have water all the time(25/45) Others(20/45)	Have water all the time(26/40) Others(14/40)	Have water all the time (32/40) Others(8/40)	Have water all the time(5/40) Others(35/40)
Q.6 How would you rate the quality of the following aspects of your water supply on a scale of 1 very poor to 5 very good?				
Q.6.1 Sediment in the water	Very poor(3/45) Poor (5/45) Neither(0/45) Good(9/45) Very good(28/45)	Very poor(1/40) Poor (2/40) Neither(3/40) Good(5/40) Very good(29/40)	Very poor(1/40) Poor (9/40) Neither(1/40) Good(11/40) Very good(18/40)	Very poor(3/40) Poor (3/40) Neither(3/40) Good(25/40) Very good(6/40)
Q.6.2 Smell	Very poor(0/45) Poor (2/45) Neither(4/45) Good(36/45) Very good(3/45)	Very poor(0/40) Poor (3/40) Neither(0/40) Good(32/40) Very good(5/40)	Very poor(0/40) Poor (1/40) Neither(2/40) Good(31/40) Very good(6/40)	Very poor(3/40) Poor (4/40) Neither(5/40) Good(20/40) Very good(8/40)
Q.6.3 Colour	Very poor(0/45) Poor (1/45) Neither(2/45) Good(41/45)	Very poor(1/40) Poor (1/40) Neither(2/40)	Very poor(0/40) Poor (1/40) Neither(2/40)	Very poor(2/40) Poor (6/40) Neither(8/40) Good(16/40)

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
	Very good(1/45)	Good(33/40) Very good(3/40)	Good(32/40) Very good(5/40)	Very good(8/40)
Q.6.4 Taste	Very poor(2/45) Poor (4/45) Neither(2/45) Good(35/45) Very good(2/45)	Very poor(0/40) Poor (4/40) Neither(2/40) Good(31/40) V. good(3/40)	Very poor(0/40) Poor (5/40) Neither(2/40) Good(29/40) V. good(4/40)	Very poor(4/40) Poor (15/40) Neither(15/40) Good(5/40) Very good(1/40)
Q.6.5 Healthiness in water	Very poor(4/45) Poor (31/45) Neither(3/45) Good(4/45) Very good(3/45)	Very poor(1/40) Poor (27/40) Neither(1/40) Good(9/40) Very good(2/40)	Very poor(1/40) Poor (27/40) Neither(3/40) Good(7/40) Very good(2/40)	Very poor(8/40) Poor (20/40) Neither(4/40) Good(6/40) Very good(2/40)
Q.7.How many water vendor selling points are in your area?	117.87(3-200)	31.97(2-200)	80.27(3-200)	78.5(3-200)
Q.8. What kind of relationship do you have with water vendors?	Buy Water from them(26/45) Various(19/45)	Buy Water from them(5/40) Various(35/40)	Buy Water from them(17/40) Various(23/40)	Buy Water from them(6/40) Various(34/40)
Q.9. How much is the water vendor charging you for water services?	N5 per 10 Litres(31/45) Various(14/45)	N5 per 10 Litres(28/40) Various(12/40)	N5 per 10 Litres (26/40) Various(14/40)	N20 per per bucket(33/40) Various(7/40)
Q.10. Do you drink the water you receive from the vendors straight?				
Q10.I No, never	(9/45)	(6/40)	(4/40)	(15/40)
Q10.2 Yes, rarely	(9/45)	(6/40)	(6/40)	(4/40)
Q10.3 Yes, sometimes	(8/45)	(4/40)	(8/40)	(9/40)
Q10.4 Yes, often	(9/45)	(5/40)	(11/40)	(1/40)
Q10.5 Yes, always	(10/45)	(19/40)	(11/40)	(11/40)
Q.11. Do you think that the water you receive could be polluted? Yes/No	Yes(41/45) No(4/45)	Yes(25/40) No(15/40)	Yes(39/40) No(1/40)	Yes(35/40) No(5/40)
Q.12. Why do you say that?	Pipes runs through gutter (24/45) Others(21/45)	Pipes runs through gutter (29/40) Others(11/40)	Pipes runs through gutter (27/40) Others(13/45)	Pipes runs through gutter (10/40) Others(30/40)
Q.13. If the LSWC has to choose between the following options, which do you think they should choose?				

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
Q13.1 Keep charges the same and maintain current water service	(7/45)	(7/40)	(4/40)	(0/40)
Q13.2 Reduce charge and maintain current service	(10/45)	(8/40)	(14/40)	(10/40)
Q13.3 Increase charge and improve quality of water service	(11/45)	(5/40)	(5/40)	(6/40)
Q13.4 Increase quality and reduce charges	(18/45)	(20/40)	(17/40)	(24/40)
Q14 Why do you think that charge for water service should not be increased?				
Q14.1 I cannot afford to pay more	(2/45)	(3/40)	(6/40)	(2/40)
Q14.2 Further investments in water services are not necessary	(3/45)	(3/40)	(4/40)	(0/40)
Q14.3 Other district have lower charges	(3/45)	(1/40)	(4/40)	(0/40)
Q14.4 As a general principle water charges should not be increased	(7/45)	(10/40)	(4/40)	(14/40)
Q14.5 It will result in social hardship for the poorest section of society	(13/45)	(11/40)	(12/40)	(19/40)
Q14.6 Increase charges will simply add to profits	(5/45)	(2/40)	(5/40)	(2/40)
Q14.7 Water charge are too high now	(7/45)	(4/40)	(3/40)	(3/40)
Q14.8 Others	(5/45)	(6/40)	(2/40)	(0/40)
Q15. Where do you get information about water services from?				
Q15.1 I get no information	(8/45)	(16/40)	(9/40)	(15/40)
Q15.2 Local newspapers	(7/45)	(1/40)	(4/40)	(2/40)
Q15.3 From my water vendors in the district	(5/45)	(3/40)	(2/40)	(3/40)

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
Q15.4 Radio	(7/45)	(5/40)	(5/40)	(6/40)
Q15.5 Television	(2/45)	(3/40)	(6/40)	(7/40)
Q15.6 By phoning LSWC	(6/45)	(1/40)	(6/40)	(1/40)
Q15.7 LSWC Offices	(6/45)	(2/40)	(4/40)	(0/40)
Q15.8 Leaflets of LSWC	(2/45)	(1/40)	(4/40)	(2/40)
Q15.9 Local Government Offices	(2/45)	(3/40)	(5/40)	(4/40)
Q16. What are the charges of average household for each of the services below? **See Evaluation of Consumer Statistics**				
Q17. Does any household receive privileges which reduce the amount they pay for some of the above services?	Yes(5/45) No(40/45)	Yes(3/40) No(37/40)	Yes(2/40) No(38/40)	Yes(4/40) No(36/40)
Q18. Does any household receive a subsidy because the amount of household bills is more than 20% of the income? Yes/No	Yes(5/45) No(40/45)	Yes(12/40) No(28/40)	Yes(4/40) No(36/40)	Yes(5/40) No(35/40)
Q19. Does an average household buy bottled/sachet water? Yes/No	Yes(38/45) No(7/45)	Yes(18/40) No(22/40)	Yes(39/40) No(1/40)	Yes(29/40) No(11/40)
Q20. Does an average household have a water filter?	Yes(12/45) No(33/45)	Yes(13/40) No(27/40)	Yes(2/40) No(38/40)	Yes(5/40) No(35/40)
Q21. Does an average household use water directly from a well or river? Yes /No	Yes(17/45) No(28/45)	Yes(22/40) No(18/40)	Yes(5/40) No(35/40)	Yes(30/40) No(10/40)
Q22. What is the typical distance to a water vendor in your district?				
Q22.1. Home delivery	(3/45)	(6/40)	(4/40)	(3/40)
Q22.2. Less than 50m	(12/45)	(12/40)	(9/40)	(23/40)
Q22.3. 50-100m	(9/45)	(10/40)	(9/40)	(5/40)

	Apapa/Iganmu	Alimosho	Shomolu	Ajeromi/Ifelodun
Q22.4. 100-200m	(9/45)	(4/40)	(9/40)	(4/40)
Q22.5. 200-300m	(10/45)	(6/40)	(6/40)	(13/40)
Q22.6. More than 300m	(2/45)	(2/40)	(3/40)	(12/40)
Q23. How often does an average household go to a water vendor per day?	4.51(3-5)	3.55(2-5)	4.62(3-5)	3.47(2-6)
Q24. How many litres does an average household buy from a water vendor per day?	57.11(40-100)	70(30-200)	60.28(30-200)	65.75(30-200)

Source: Field Survey 2005

Annex 5

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