



Role of technology in promoting transparency with Local Stakeholders in the Water Governance Sector

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***iHub**Research
INTEGRATING INNOVATION RESEARCH

KIKUMINI BOREHOLE
WATER SUPPLY
CENTRAL POINT

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QUESTIONNAIRE USED IN FIELDWORK	
Good morning/afternoon/evening. My name is _____	
Would you be willing to answer some questions?	
Participant Number: _____	
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Abbreviations

BoP:	Base of Pyramid
CAACs:	Catchment Area Advisory Committees
CBO:	Community Based Organization
CDF:	Constituency Development Fund
FAO:	Food Agriculture Organization
GDP:	Gross Domestic Product
G.O.K:	Government of Kenya
GSM:	Global System for Mobile
ICT:	Information Communication Technology
MWI:	Ministry of Water and Irrigation
NGOs:	Non-Governmental Organizations
NOAA:	National Oceanic and Atmospheric Administration
SMS:	Short Messaging Service
SPA:	Service Provision Agreement
WAG:	Water Action groups
WASPA:	Water Services Providers Association
WASREB:	Water Services Regulatory board
MDG:	Millennium Development Goal
MNP:	Mobile Network Provider
WSB:	Water Supply Board
WSP:	Water Service Provider
WSTF:	Water Services Trust Fund
UNDP:	United Nations Development Programme
UNICEF:	United Nations Child Fund
USSD:	Unstructured Supplementary Service Data

Executive Summary

There have been a number of reforms that have taken place in the water sector in Kenya ever since the Water Reforms Act No. 8 was passed by Parliament in 2002. Prior to the enactment of this act, there existed unorthodox ways of managing the country's water resources. The management was unprofessional and most of the decisions were made from a centralized point, which resulted in a constant state of deterioration of water standards. There was also a low level of citizen involvement and participation implying poor accountability and governance in the sector. The Water Act resulted in commercialization of water services, which led to improved access to water and sewerage services by citizens across the country, improved service delivery in the water sector, and better management of water resources by the departments that were created. (Milgo, 2011). A study conducted by Infotrack Harris in 2011 also indicated that the reforms are working, gaining speed and having positive results on the ground.

IHub Research has been conducting an mGovernance study since September 2011 that aimed to understand the potential of mobile technology to enhance transparency in the Kenyan governance sector, particularly in the thematic area of water. In this report, interviews were conducted between the period of September to October 2012 with various water service providers and civil society organizations in the country. The objectives of the study were to understand the roles played by the various stakeholders in the water sector; the current gaps experienced and how mobile technology can be used to improve water governance and thus take it to a different level. This report targets mobile developers, water sector specialists, key stakeholders involved in policy-making, regulation and water service development and provision in Kenya drawn from the government sector, civil society organizations, academia and the media.

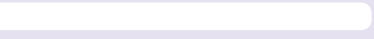
Key findings from the report are:

- i. Huge information gaps exist between the citizens and the water stakeholders. The number of citizens who manage to access water information is very low despite the efforts put by the government of Kenya to make public government data accessible and transparent to the citizens.
- ii. Finding a preferred channel to use to transmit and receive information between the citizens and the stakeholders still remains a challenge. Majority of the stakeholders interviewed maintain that face-to-face communication still remains the dominant channel they use to communicate with citizens. 5 out of the 9 stakeholder organizations interviewed were said to be using word of mouth to communicate with the citizens, 3 organizations use print media while 1 uses either radio or website
- iii. Majority of the challenges faced by local stakeholders revolve around the communication means they use to interact with citizens. Key challenges faced by the stakeholders that were identified in the research include: Getting citizens to participate in discussion forums and events, providing them with up-to-date information and complaints management. When the organizations were asked on their method of engagement with citizens, 6 organizations affirmed that they use meetings and special forums as the most common way to engage citizens. A key finding reported was that citizens rarely attend meetings or forums called by the organizations yet this is the most commonly used approach of conveying information to the citizens.

- iv. There is a strong belief by the organizations interviewed that use of mobile applications can greatly improve service delivery and access to water information in the water sector. A key difference in this finding from the views we collected from the citizen's research is that the platform stakeholders' use is not necessarily the one the citizens would prefer to receive water information from. Use of SMS for information dissemination is the most preferred platform followed closely by use of traditional media (TV, Radio, Newspapers). Although USSD was preferred by two of the organizations interviewed, when compared to citizens report, only 6% (of n=896) of the citizens responded that they would prefer USSD.

This report highlights the roles played by various stakeholders in the water sector in dealing with governance issues, the gaps faced in providing services and how mobile technology can be integrated to improve the governance processes in the water sector. Key challenges the stakeholders face when trying to disseminate information using ICTs include: high costs of deploying technologies to send water information, high illiteracy levels where majority do not know how to browse the internet or read SMS messages and finally despite use of traditional media like radio, TV or postal services, there is a deficit in access to information by the citizens from the stakeholders in the water sector. Poor attendance by the citizens to the scheduled water meetings and unwillingness by some individuals in some instances to give out the required information is a key reason why citizen participation is poor. These challenges can be dealt with. It will however take time, resources and strict dedication among the concerned parties.





Stakeholders Perspective

Role of technology in the Water Sector

CHAPTER ONE

INTRODUCTION

Water is a critical element for sustaining life. 71% of the earth's surface is covered by water yet many people across the continents still face challenges in accessing this vital commodity. (NOAA) Poor and unprofessional management of these resources is believed to be the major root cause of problems currently experienced in many parts of the world especially the sub-Saharan region. Improved service delivery (e.g. in the water sector) matters to any economy since; without provision of clean and improved water supply and appropriate sanitation to the citizens; the doors are open for poverty to penetrate. No economy can grow when majority of its citizens are wallowing in poverty.

The Government of Kenya (GoK) is currently undertaking a series of reforms aimed at enhancing quality, efficiency and transparency in service delivery by public sector institutions in an effort to alleviate poverty. A number of development frameworks have been crafted with an aim of providing quality life to all the citizens by the year 2030. The achievement and success of these goals calls for public participatory-solutions that are developed and maintained by the local people as these are the solutions that stand the best chance of long-term success.

In order to design effective solutions that improve transparency in governance, it is important to understand how people and organizations are involved in making decisions in the Kenyan water sector, the roles they play, and the structures, platforms and processes they use to make decisions. This is all encompassed in the term *"water governance, which refers to the range of political, social, economic and administrative systems that are in place to regulate and manage water resources and provisions of water services at different levels of society"* (UNDP, 2000). In this report we use this term to refer to various ways in which societies make decisions and take actions that affect the water sector.

This M-Governance report focused on understanding the roles played by various stakeholders in the water sector in dealing with the governance issues, the gaps faced in providing services and how mobile technology can be integrated to improve the governance processes in the water sector. It is essential to understand that the governance process is diverse and includes a combination of traditional regulatory approaches, collaborative and market-based processes. For effective governance to be achieved in any set up, it is mandatory that all the concerned stakeholders diligently take up their role.

METHODOLOGY

The overall objective of the study was to understand the role of technology in promoting transparency between the citizens and the local stakeholders in the water governance sector. This objective was further narrowed down to specific aims as follows:

- i. To investigate the type of water information stakeholders give to citizens;
- ii. To understand the gaps faced by different stakeholders in trying to avail information to citizens;
- iii. To identify the technology platform that stakeholders would prefer to use in sending or receiving information from citizens.

A cross-sectional study was conducted in four counties in Kenya (Kiambu, Migori, Makueni and Nairobi). Data from the sites was collected using both qualitative and quantitative approaches through structured and semi-structured questionnaires designated for both citizens (consumers) and stakeholders in the water sector. The achievement of this objective also relied on extensive desk research and thorough literature review. Thus:

- i. 896 face-to-face interviews with citizens in the three counties across Kenya, covering the urban and rural populations of each county and;
- ii. 9 key informant interviews with stakeholders in the Kenyan water sector. The stakeholders interviewed include local water service providers (WSPs), Academia, Civil Society Organizations and Water Services Regulatory Boards (WASREB).

The research team attempted to get all the relevant stakeholders in the water sector to provide information to this report but it is important to note that not all the stakeholders were reached. One key aspect that was missing was media. Media plays a very important role when it comes to reporting on issues of transparency and promotion of good governance. Good governance only holds when journalists are free to monitor and investigate critical issues affecting the society and if possible criticize the public administration's policies and actions. The level of citizen participation and awareness can be increased when the media reports or denounces cases on human rights violations. With these facts in mind, we found it necessary to involve the media in this study. However, our efforts proved futile, as we could not reach the media in order as to get their insights on the issues of water governance as they kept postponing the appointment..



CHAPTER TWO

POLICY AND REGULATIONS IN THE KENYAN WATER SECTOR

Prior to the implementation of the new constitution in 2013, the Ministry of Water and Irrigation was in charge of policies on water supply and the Ministry of Public Health and Sanitation in charge of policies on sanitation. With the recognition of the human right to water and sanitation included in the Bill of Rights (Article 43) of the 2010 Constitution of Kenya; it has become a constitutional duty for state actors to ensure fulfillment and protection of the right. The human right to water and sanitation:

- i. Entitles every person to access sufficient, safe, acceptable, physically accessible and affordable water for domestic purposes as well as reasonable standards of sanitation and;
- ii. Entails applying the human rights principles of non-discrimination and equality, participation and empowerment as well as transparency and accountability in water supply and sanitation (WSS) services.

Decentralization and Citizen Participation

Decentralization is the process of the government delegating some of its power and management responsibilities to lower levels of government, the private sector or community and civil society organizations. Decentralization reform is justified by the principle of subsidiary (management at the lowest appropriate level). In Kenya, water service boards and water service providers supervise management of water resources.

Challenges of decentralization of water resources include:

- i. Mobilizing and set up requires human, financial and institutional capacities;
- ii. Ensuring transparency and participatory approaches when decentralizing water responsibilities to local communities or new catchment-based organizations;
- iii. Corruption- corruption siphons off scarce monetary resources and diminishes

countries' prospects for providing water and sanitation for all and sound water resources management;

- iv. Lack of effective communication channels between the state and civil societies making partnership formation difficult. This is experienced when the different actors involved "keep one another at arm's length";
- v. Ownership issues- Without properly specifying the various roles and responsibilities encapsulated in legislation on water rights and ownership, Individuals and organizations may start abusing the right to use a resource as a means power and control. This scenario is reflected when water services are decentralized.

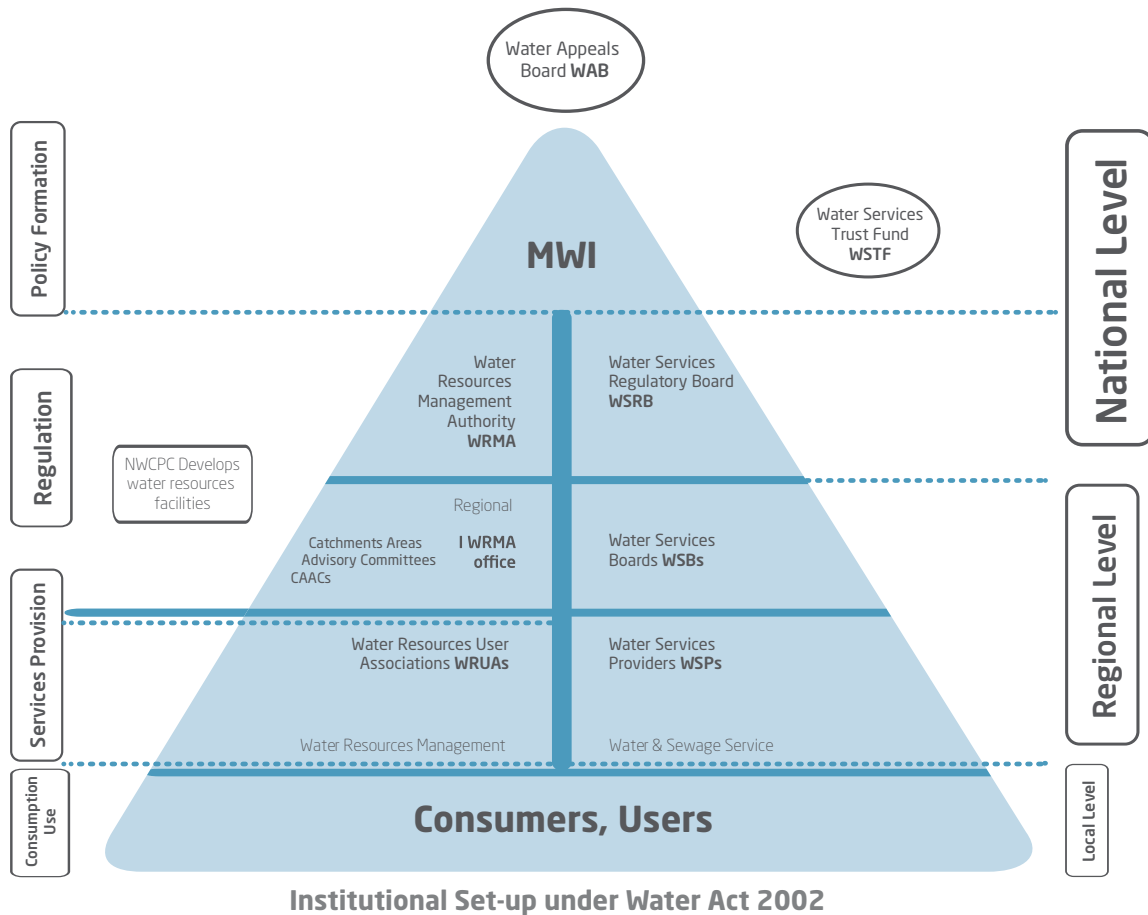
The effective way to ensure the success of decentralization is through participation by all the parties involved. Through participation, it facilitates for more informed decision-making, effective implementation and enhanced conflict resolution. It also guarantees that the voices of relatively powerless groups are heard. Participation offers people opportunities to claim their rights as well as meeting their responsibilities to improve their livelihood opportunities (KHRC & SPAN, December 2010).



Figure 1 The Minister of Water and Irrigation
Hon. Charity Ngilu commissioning a water project



STAKEHOLDERS IN THE KENYAN WATER SECTOR



There are different stakeholders in the water sector whose role affects the overall decision-making cycle. "Stakeholder" refers to a person or group that has an investment, share, or interest in something, as a business or industry (Dictionary.com). They include Government, Private Sector companies providing water services, Academia, Civil Society Organizations, NGOs and Media.

Figure 2 Institutional Setup under the Water Act 2002 obtained from the Nairobi water company website

The figure above represents a cross section of the water governance structure after the passing of the Water Act of 2002. Water governance is divided into three levels: local level, regional level and national level.

At each of the different levels, interaction levels ranges: Consumption, Service provision, Regulation

and Policy Formulation. These levels of interaction amongst the stakeholders in the water sector and the citizens were clearly represented in the course of the research process through the data analyzed that revealed how information is transferred, the methods used to engage each other at the various levels and the technology tools used for communication.

Some of the key stakeholder organizations interviewed during the research study include: Water Services and Regulatory Board (WASREB), ACADÉMIA, Water companies in Kiambu and Migori (Mikutra Water Company and Kiambu Water Company), Civil Society Organizations (CSOs) like Umande and Twaweza and some Water Service Providers (WSPs) like Kathonzweni Borehole Project and Nyasare water services. In Kenya, the water companies form an umbrella body called WASPA- Water Services Providers Association. The CSOs have formed a network called KEWASNET- Kenya Water and Sanitation Network. The Ministry of Water and Irrigation

(MWI) has different offices such as Water Boards, and Water Services Trust Funds. Citizens also have not been left behind forming Water Action Groups (WAGs) and technology entrepreneurs have build software applications providing different kinds of information in the water sector. Outlined below is a brief description of the above-mentioned organizations indicating their roles and key activities.

i. Water Services Providers Association (WASPA)

Water Services Providers Association (WASPA) was registered in November 2002 under the Societies Act (CAP 108), Laws of Kenya as an association of Water Services Providers (WSPA's) in the country. The Companies took over the provision of water and sewerage services from their respective municipal councils. This therefore placed the water companies at the leading edge to consolidate the knowledge and share experiences. The water services providers formed WASPA to provide a forum for the various companies to learn from each other. This has been successful and the association has experienced tremendous growth, with current membership being 58 paid up members.

The Association's objectives include: fostering commercialization of water and sanitation services delivery in Kenya, promoting sustainable management of water and sanitation infrastructure, Stimulating and promoting best practices and standards in development, management and delivery of water and sanitation services in Kenya, promoting information and experience sharing through establishing a data bank for information relevant to members, study tours, networking and participation in international and national for a and advising its members on training needs in collaboration with other actors and help establish staffing norms relevant to the sector, and also support members in acquisition of funds for developments. Appendix A outlines the organization's membership structure details.

An example of a company who is a member of WASPA is Mikutra Water and Sanitation Company.

Mikutra Water and Sanitation Company

Mikutra Water and Sanitation Company Limited was incorporated and registered under the Company Act (Cap 284) on the 12th June 2006. It is a water services provider contracted by Lake Victoria South Water Services Board through a Service Provision Agreement (SPA) to run gazetted water supplies within Migori, Rongo, Kuria East, Kuria West, Transmara, Nyatike and Uriri districts as per the Water Act 2002.

There are 8 operational water suppliers within the above named districts, which comprise of: Migori water supply, Ikebana water supply, Rongo water supply, Nkararu water supply, Kehancha water supply, Kilgoris water supply, Lolgorian water supply and Angata Barakoi water supply.

The company provides services to an area covering about 5976Km² with an approximate population of 994,200 people based on the 1999 population census.

ii. KEWASNET

KEWASNET was founded in August 2007 and is registered as a non-governmental voluntary, non-partisan and non-profit trust under the Kenyan Trustees Act formed to enable civil society organizations involved in the water and sanitation sector to work in a coordinated manner. The purpose of the network is to ensure that Kenyans have access to affordable and safe water and sanitation access in a sustainable manner. The membership is drawn from civil society organizations that are working to improve water resource management and increase efficiency in service delivery in water and sanitation services. KEWASNET provides a linkage between service providers and consumers by facilitating partnerships between policy makers and stakeholders and encouraging equitable participation by all parties in governance and decision-making mechanisms.

The objectives of KEWASNET are outlined in Appendix A. The diagram below shows the way KEWASNET engages their audience.

KEWASNET ENGAGEMENT CYCLE

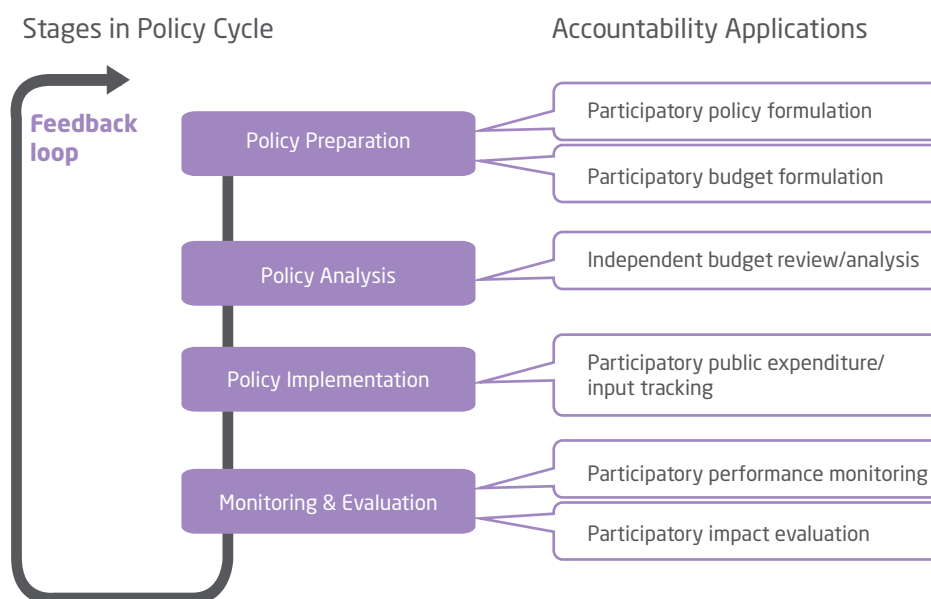


Figure 3 KEWASNET engagement cycle diagram obtained from the KEWASNET presentation to Kenya water donors group 2008

KEWASNET engages citizens in their work through several ways: KEWASNET keeps a database of their members and activities they undertake; they send an e-Newsletter, quarterly with hard copies as well, to all their members; they aggregate Citizen's Report Cards, they conduct financial tracking on WSS sector service institutions; they submit Annual Kenya Water & Sanitation (WSS) Integrity & Performance Index Surveys/Reports; they operationalize grass root Water Watch Groups (WWG's) as a regulatory support mechanism and they have Annual Awards to best WSPs, WSBs and CEOs.

Examples of CSOs who are members of KEWASNET include: Umande Trust, Maji na Ufanisi, Kenya Water and Health Organization (KWAHO), Transparency International Kenya, Kenya Community Support Center (KECOSCE), Sanaa International, Friends of the Mau Water Shed (FOMAWA) among other members.

Umande Trust



Umande Trust is a rights-based agency, which believes that modest resources can significantly improve access to water and sanitation services if financial resources are strategically invested in support of community-led plans and actions. Its mission is to be the partner of

choice in transforming water supply, sanitation and environmental services in close partnership with communities in Kenya's urban centers.

Since 2004, Umande Trust has facilitated community organizing for independent action but also to demand fairness, accountability and competent services. The details of the objectives of Umande Trust are included in Appendix A.

Umande places emphasis on a multi-level approach that focuses on a product (access to urban water, bio-sanitation and solid waste management services) and a raft of community-led processes (partnerships for change, integrated urban environmental planning, sanitation governance, human rights and urban services financing).

i. Water Boards in Kenya

There are 15 water boards in the country. They are responsible for water and sanitation service provision; however they are not required to provide the services directly. They can delegate the tasks to commercially oriented public enterprises- the Water Service Providers (WSPs). Appendix A contains the complete list of water boards in the country.

Water Services Regulatory Board (WASREB)

The Water Services Regulatory Board (WASREB) is a non-commercial State Corporation established in

March 2003 as part of the comprehensive reforms in the water sector. The mandate of the institution is to oversee the implementation of policies and strategies relating to provision of water and sewerage services. WASREB sets rules and enforces standards that guide the sector towards ensuring that consumers are protected and have access to efficient, adequate, affordable and sustainable services. The responsibilities of the regulator are indicated in Appendix A. The objectives of WASREB include: review and operationalize the legal framework for the establishment of WSPs; promote the commercial sustainability of WSBs and WSPs; improve the institutional capacity of WASREB; facilitate public / private partnerships in the water services sector; facilitate effective information and communication on water services and develop a mechanism for enhancing collaboration between WASREB and other institutions.

WASREB engages citizens in their work in several ways. They release impact reports which are circulated to different WSPs periodically and which citizens can access and read freely from their any WASREB offices. The impact reports contain data aggregated from the different WSPs. From the Impact report based on data aggregated in the period 2010/11, the performance of the WSPs was as follows:

Figure 4: WSP Performance in 2010/11 obtained from the WASREB Impact report 5

Key Performance Indicators	Urban WSPs		Trend	Rural WSPs		Trend
	2010/11	2009/10		2010/11	2009/10	
Water Coverage (%)	52	40	↑	45	37	↑
Sanitation Coverage (%)	19	35	↑	82	80	↑
Non-Revenue Water	45	45	→	63	64	↓
Water Quality (Residual Chlorine)	91	88	↑	86	91	↓
Water Quality (Bacteriological)	81	77	↑	40	61	↑
Hours of Supply	13	14	↓	12	15	↓
Metering Ratio	87	81	↑	73	58	↑
Revenue Collection Efficiency	84	82	↑	87	82	↑
Staff Productivity (Staff per 1000 Connections)	7	8	↑	10	11	↑
Operations & Maintenance Cost Coverage	131	133	↓	120	113	↑

Sector Benchmarks: good (green), acceptable (yellow), not acceptable (red), benchmark varies (orange)

ii. Water Service Providers

Water service providers are categorized based on the total number of water and sewerage connections. WSPs have been classified either as Small, Medium, Large or Very Large.

Figure 5 Categorization of WSPs based on water connections, accessed from WASREB Impact Report 5

Total Registered Water and Sewerage Connections	< 5000	5000 - 9,999	10000 - 35000	>35000
Category of WSP	Small	Medium	Large	Very Large

The WSPs face the challenge of developing the capacity of their staff to take on a new corporate and commercial approach to water and sanitation services. Water Boards in charge of WSPs in different areas deal with this situation by grouping them together (clustering) to ensure efficient and effective management for service delivery. Clustering is a preferred option as it will result in improvements in water quality; increase in water production and water availability; reduction of unaccounted for water (UFW); extension of service provision to low-income areas; improvement of customer service and cost reduction. Further, clustering will lay the foundation for the increase in access of the urban poor to sustainable systems, adequate service using low cost technology and cross subsidization.

iii. Water Action Groups (WAGS)

Water Action Groups are local community based organizations made up of citizens, who have volunteered to address issues that affect consumers of water services. Water Action Groups operate as an extended arm of the Water Services Regulatory Board (WASREB), under whose mandate consumer protection lies.

The goal of Water Action Groups is to ensure that consumers' views are taken into account on matters related to water service provision, in line with the objectives of the water sector. They are meant to facilitate improved understanding of the roles and obligations of consumers and sector institutions.

WASREB has appointed and trained Water Action Groups in four regions. These are Nairobi (area covered by Nairobi Water and Sewerage Company), Kisumu (area covered by Kisumu Water and Sewerage Company), Kakamega (area covered by Western Water Services Company), and Mombasa (area covered by Mombasa Water and Sewerage Company).

iv. Water Services Trust Fund (WSTF)

Water Services Trust Fund (WSTF) was established as a corporate body under the Water Act 2002. WSTF is mandated to mobilize resources and provide financial assistance towards capital investment costs of providing water and sanitation services in areas of Kenya that lack adequate water services. This is especially in areas with poor and disadvantaged people; thus contributing to poverty reduction.

The Fund receives financial assistance from government budgetary allocation, development partners, Kenyan citizens, civil society organizations and the private sector (Centre of Governance

and Development, 2007). The development partners include SIDA, DANIDA, European Union, World Bank and UNICEF.

The Fund has concentrated on rural areas until the last quarter of 2009 when it started dealing with water companies in urban areas covered by the Lake Victoria North Water Service Board (LVN-WSB). In rural areas, the Fund works in collaboration with Water Service Boards (WSBs), which are the water and sewerage facilities/assets holders and Water Resources Management Authority (WARMA) that provide technical support like checking the quality of the proposals prepared by Community Based Organizations (CBOs).

The maximum funding for a rural and urban-based project is Ksh 8 and 15 million respectively. For rural water and sanitation projects, communities provide 15% and 25% of the project costs respectively.

WSTF has faced numerous challenges and some suggestions to improve it as accumulated from citizens interviewed include: making citizens aware of the functions of the fund, encouraging community involvement in some of the fund's activities, changing management structures, improving transparency and accountability, increasing funding for water projects as well as having people of integrity in the committees.

INFORMATION DISSEMINATION IN THE WATER SECTOR

i. Information provided to Citizens by Water Stakeholders

The kind of information accessed by the citizens is highly determined by what the various stakeholders offer them. Despite the many efforts put by the Government of Kenya to make public government data accessible to the citizens, the number accessing this information still remains to be a worrying figure. For instance, in the water sector, access to information proves to be a hurdle to the many citizens. In the series one report where citizens were reporting on their perspectives on technology use in the water sector- [here](#); it was established that only an average of 26% of the interviewed citizens had access to water information leaving an average of 74% with no access to any kind to water information. Some of the government initiatives include [Kenya Open Data](#) launched in 2012 that is aimed at making government data public and accessible to the people of Kenya by posting the national census data, government expenditures and the public service initiatives, among other data.

Service charters are other platform set by the government to inform the citizens. All the ministries have service charters outlining their roles and mandate. However, from the series one report, it is alarming that only 14% (N=896) of the respondents knew about service charters. This probably explains the reason as to why many people do not have access any to information on water.

It was observed that most of the information provided by the various organizations revolves around water projects in the area and teachings on water hygiene. Good health begins with access to clean water. Half of the world's hospital beds are filled with people suffering from water related diseases. In developing countries, about 80% of illnesses are linked to poor water and sanitation conditions. 1 out of every 5 deaths under the age of 5 worldwide is due to a water-related disease (WHO, 2007). Clean and safe water is essential to healthy living. This relates to why a number (31%) of the citizens interviewed said that they would like to be informed on water treatment and safety measures aimed at curbing water related diseases. In the Series one report, (31%) of the citizens also said they would wish to be informed on how to treat and make water safe for consumption.

When the different stakeholders were asked the type of water information that they provided to citizens and how they provide it; the following are their responses:

Table 1 Information Provided by Water Stakeholders

Organization	Category	Information provided
MIKUTRA	WSP	Information regarding projects in the area e.g. digging of boreholes, dams
Nyasare Water Services	WSP	Importance of clean water; teaching citizens on water hygiene, soil erosion, improvement of water catchment areas through tree planting and other environmental preservation methods
Kiambu Water & Sewerage Company	WSP	Information regarding key decision making meetings-and informing the citizens of the water tariffs (new water tariffs) and upcoming projects
Kathonzweni Borehole project	WSP	Pricing information
Mburu Borehole service ltd	WSP	Water Schedules, pump disorders
WASREB	Government	Water tariffs, comparative performance analysis (Impact magazine), performance of WSPs
TWAVEZA	Civil Society Organization	Through their research unit UWAZI, they generate data and make it available to Royal Media. Services Limited (a media company focusing on TV broadcasting and radio) They also visualize budget information
UMANDE	Civil Society Organization	Educating citizens on the Water Act, water pricing and education on charges that might be reasonable to the citizens

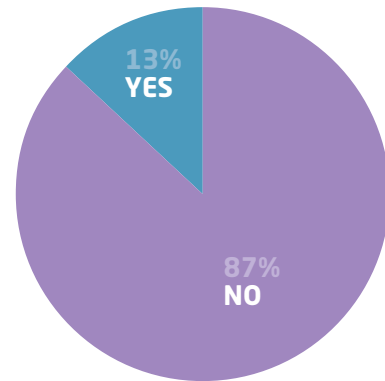
i. Channels Used to provide Water Information to Citizens

Up to date information is of importance to any individual for critical decision-making process. This is however not always true in most of the digitized data portals. A number of government websites have outdated data, which at times do not serve any purpose to the people, who are in need of current information. How and where the information is provided could probably be the dictating factor especially due to the fact that most residents in the rural areas do not have access to Internet.

The study sought to establish whether the various organizations have a way in which they provide up-to-date information to the citizens.

Figure 6 Inquiry of stakeholders' ways to used to provide up-to-date information to the citizens?

Do you have a way that you use to provide up-to-date information to the citizens?



Contrary to what is observed in most of the websites, a number of the organizations (7 out of 9 interviewed) said they have a way of informing the citizens on current and upcoming issues but it is still unclear how they ensure up to date information is easily accessible to citizens in both rural and urban areas.

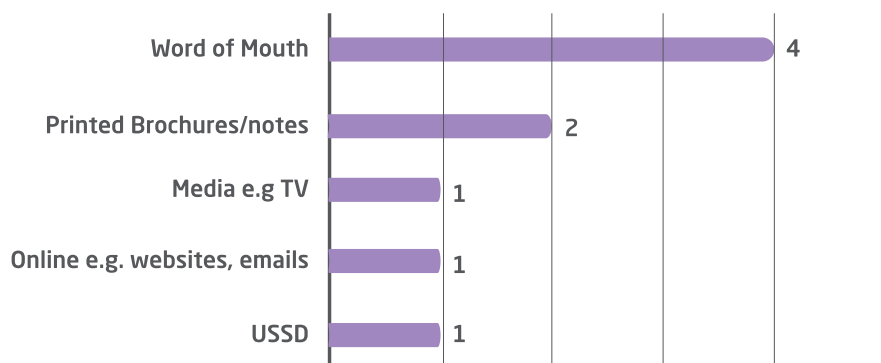
One of the stakeholders who represented academia reported, *"It is impossible to get information"*. He continues to argue, *"People are very protective over data. Even public institutions are not willing to give out data. Public data is often kept under lock and key making access to it very difficult. Kenyans don't want to give data because they think you are going to publish it. The people who hold the data are like prison wardens since they don't want information to land in the hands of other people"*. He further gives a scenario where

he had to seek help from someone in Food and Agriculture Organization (F.A.O) while writing his research on a topographical map of Nairobi. He spoke with someone in Rome to get data from Kenya. The stakeholder added that data about Kenya that is held by people outside the country who give it more easily than the government.

Flow of information from organizations to citizens is currently done manually. According to the research findings, 5 of the organizations interviewed especially those in the rural areas frequently pass current or upcoming events to citizens by word of mouth. 2 of the organizations use written memos, newsletters or brochures. Citizens are required to attend the meetings such as chief's barazas or other organized workshops in order to get informed on what is going on regarding water sector in their regions.

Table 2 Statistics on Provision of up -to- Date information to Citizens

How do you provide up-to-date information to the citizens?



Apart from word of mouth, some organizations prefer informing the citizens by giving out printed brochures or written notes probably to cut on the costs of passing information to the citizens. Only one organization (Kiambu Water & Sewerage Company) affirmed to be using the Internet to update citizens on current available information despite the low number of people visiting the site. *"We use website and emails, though most people don't visit the Internet"*, said an officer from Kiambu Water & Sewerage Company. In series one report, it was established that 27% of citizens in Migori, 23% of Kiambu residents and 20% of Makueni residents browse the Internet showing low levels of accessibility of this mode.

Communication

Effective communication plays an important role in ensuring good governance not only in the water sector but also in all spheres of life (Coffey, 2007). *Communication channels refer to the medium used to send a message, such as word of mouth, the telephone or email.* Effective communication requires selecting an appropriate communication channel to send a message. It is believed that new technologies can play a role in good governance and that mobile phones can facilitate transparency and accountability (Avila et al 2010). This is particularly true when technology is not only seen as an information and transparency tool, which processes, disclose and disseminate information; but also as a tool using the revealed information for accountability purposes and to encourage participation.

Traditional medium of communication still plays a crucial role. Many organizations (5), especially in the rural areas, provide information to the citizen through face-to-face. This entails calling for meetings, forums and other avenues such as chief's barazas. Second is print media with about 3 of the organizations using it to communicate with citizens. The fact that radio and internet were the less used in communicating water information at 1 each, can be attributed to the high costs incurred in using these channels and also accessibility in the rural areas when it comes to Internet connectivity.

i. Challenges faced by Water Stakeholders in providing water information

Information Availability

The findings from the research conducted indicate that majority of the organizations interviewed (6) have faced challenges in their efforts to make water information available to citizens. Access to information is critical for enabling citizens to exercise their voice, to effectively monitor and hold organizations to account, and to enter into informed dialogue about decisions, which affect their lives. Information is seen as a vital tool for empowering all the citizens, including vulnerable and excluded people, to claim their broader rights and entitlements. But the potential contribution to good governance of access to information lies in both the willingness of the organization to be transparent and actionable, as well as the ability of citizens to demand and use information - both of which may be constrained in low capacity settings.

A key question in this regard is: *To what extent can information be availed to the citizens? What are the hindrances in passing information to the citizens?* From the study, it is clear that effort to reach all the people still remains a major hurdle to many organizations interviewed. *"We write letters and hand deliver them, this takes much time and we can't reach everyone"*, said an officer from Nyasare Water Services in Migori County. At the same time the number of people who browse the Internet is very minimal. *"People don't actively visit the website"*, says another officer from Kiambu Water & Sewerage. This poses a big challenge since very few people are able to access such information. In fact from the series one report, it was established that only 23% of the citizens browse the Internet and probably a much lower percent of this group of people are interested with the updates on water related issues. Another challenge experienced in informing the citizens is failure on their part to attend the meetings called by the organizations, *"When meetings are called to inform the citizens on what's going on, people don't attend such meetings"*. This

could be attributed to the possible long distances that citizens have to cover to reach the meeting place.

There is a pervasive level of discontent and lack of confidence and dissatisfaction in the public service. People do not know their stake neither do they take their roles seriously. This is probably due to the fact that citizens aren't aware in the first place if they have a role to play in governance. People don't believe that the government is looking out for them. "If citizens knew what they were supposed to get then they could demand their rights", says Dr. Awiti.

Despite the above-mentioned challenges faced by the organizations in their attempts to reach all the citizens and avail information and services; the various stakeholders in the water sector have taken measures to reduce and ensure they reach the citizens in both rural and urban as shown in the next table:

Has your organization faced any challenge while working on providing water information to citizens?

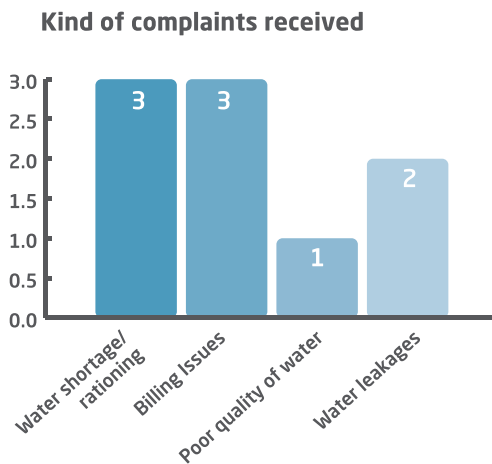
Organization	Challenges	Measures in place
Nyasare Water Services	Communication is a problem as they have not captured the contacts of all their clients so they write letters and hand deliver them plus the bills which is quite hectic	They have asked their clients to provide them with their telephone numbers and email addresses. Additionally, they are in the process of introducing M-pesa payment system
Kiambu Water & Sewerage Company	People don't attend meetings; don't actively visit the website; distributing the timelines takes a much longer time (a whole week); cost for using radios, fliers, newspaper are expensive; the third party (citizens) don't always cooperate	They have committed a budget for communication plus attendance budget; they also keep on inviting the citizens using more than one channel e.g. using face-to-face, print media, radios etc.
Kathonzweni Borehole project	Sometimes information doesn't reach all the people intended to	None
WASREB	They don't deal directly with consumers. So they would not know if there are problems unless one goes through the complaints register.	They have Water Action Groups (WAGS) and Majivoice platform, which is currently being tested. They educate WSPs and consumers and support them. In most cases WASREB tackles governance issues arising from the WAGs.
TWAVEZA	<p>There is very limited data on water. This is the biggest problem- they don't have credible data. This makes disseminating data a challenge-you can't disseminate what you don't have.</p> <p>Available data is mostly ministry oriented limiting the kind of good data that can be distributed.</p>	<ul style="list-style-type: none"> -They generate data themselves through UWAZI. They commission surveys and they are also currently supporting functionality mapping to generate credible data. (They generate data or support others to generate it) -They have formed partnerships with media to report/ investigate water issues. -They support thinking/ idea generation even without finances -They support the development of mobile/web applications that enable wider dissemination of water information.
UMANDE	Water rationing, getting service providers to engage in Corporate Social Responsibility (CSR) in low income areas i.e. the Mmaji project, they engaged Safaricom to offer low tariffs for usage of that service. Currently, the costs for supporting the platform are shared between Stanford and Umande	<ul style="list-style-type: none"> -They negotiate with service providers on pricing -They also try and get more sponsors to support water projects.

Water Complaints Management

A “complaint” is any expression of dissatisfaction made by an individual, orally or in writing, to a person designated for the purpose of processing complaints (Oxford Dictionary). Complaints management is an important aspect of the decision making process to continuously improve service quality. The organization needs to uphold commitments made in the service statement to citizens to ensure that citizens get the best quality of service as far as response to their complaints is concerned.

All the organizations interviewed receive complaints from citizens regarding various disputes. Water shortages/rationing and billing issues (at 31% each) are among the most commonly issues complained about by the citizens. Citizens continue to be bombarded by hiked water bills from the water service providers.

Table 3 Types of water complaints received



In the series one report, [here](#), it was observed that 12% of the citizens (mostly experienced in Kiambu) reported that they frequently receive bills that they did not relate with and did not understand, as their consumption was low or sometimes the water shortages are high and yet they still receive high bills.

According to a study conducted by the African Institute (2012) in Embakasi and Langata, targeting low-income earners in that area, found out that most of the citizens, 56.5% of the households interviewed; spend Ksh 500 per month to cater for the cost of water. 10.8% of the citizens interviewed pay between Ksh 1000 to Ksh 4000 so as to get this vital commodity and a significant number of people still pay above Ksh 4000 per month for their water bill, despite the efforts to avail water to the citizens at an affordable price. The cost is high considering the fact that water is a necessity

that needs to be accessible to all at an affordable rate. This could necessitate complains by the citizens to the various water supply providers.

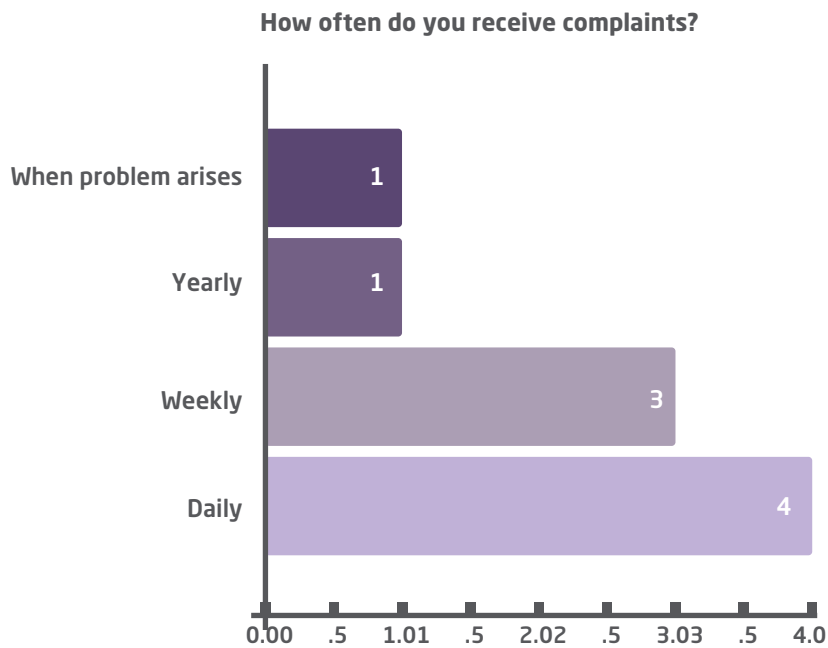
It is evident that face-to-face remains the most commonly used channel of communication especially when critical attention such as complains are concerned this is according to 3 of the organizations interviewed. Most organizations receive complains by word of mouth. The question that arises is whether all people are able to physically go and raise complains and what hinders some people from raising alarm to authorities when faced with water challenges. Distance was highlighted as a hindrance towards raising complains since most citizens believed in having a face-to-face audience with the authorities that requires them to travel to the organizations’ offices.

Two out the nine organizations affirmed to be receiving the complains via phone calls and emails while written letters and USSD were mentioned by only one organization.



Table 4 Methods of receiving water complaints

Hardly a week comes to pass without a complaint on water issues being made to the authorities by citizens. Most of the organizations get complaints almost on a daily basis. It was further established that on average 37 complains are made to the organizations by the citizens in a week. This number translates to a figure of up to 1924 complains in year. This shows how critical the sector is and therefore requires close monitoring coupled with ready feedback mechanism.



Feedback & Action

Providing feedback and handling complaints is part of good governance. By responding to issues raised by citizens and keeping the communication lines open and non-discriminatory, the local stakeholders stand a better position of developing and maintaining a good relationship with citizens. The end result will reduce the likelihood of complaints and where a complaint is received, immediate action and open communication is mandatory to help resolve complaints to the satisfaction of citizens.

Part of the study therefore aimed at understanding how the organizations react to complaints raised by citizens. The findings clearly indicate that citizens' complaints do not go unattended to. 7 out nine of the organizations interviewed are keen on complaints raised by citizens and as such take considerable action on complaints raised. It is however surprising to observe that there

are organizations that do not act on the issues/ complains raised by citizens. The question of interest to ask is *"Why don't they act?"* On further inquiry as to why the organizations didn't act, it came out that some of the issues raised by the citizens are beyond the scope of the organizations. This shows that citizens still lack a clear idea on where to forward their complaints when it comes to water issues affecting them.

On the other hand, 43% of the citizens who had raised complaints stated that no one bothered to take action on the matters they raised. This shows a disconnect between the citizens and stakeholders. This finding can be interpreted to mean that the action taken by the organization is probably not reflected to the citizens leading to the observed variations in response between citizens and stakeholders.

TECHNOLOGY USE BY STAKEHOLDERS IN THE WATER SECTOR

When citizens report issues on water to your organization do you act on them?

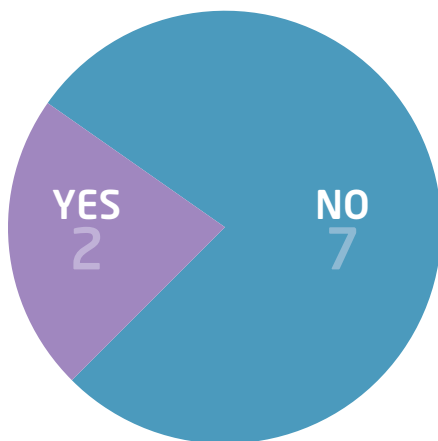


Table 5 Percentage of stakeholders who respond to complaints

The duration taken to act on a complaint raised is of paramount importance both to the organization and the citizens. It is necessary for the organization to deal with complaints swiftly before the problem expands beyond remedy. Most of the organizations affirmed that they deal with complaints raised immediately. However this depends on the magnitude of the problem and could take averagely up to 2 weeks to a month to address.

Traditional ways of communication still dominate the manner in which the organizations disseminate information to citizens, however; modern technology is equally gaining ground. The number of organizations using modern technology e.g. the mobile phone equals the number of those who do not use them. This shows that technology is becoming part and parcel of the day-to-day communication process and as such increased integration of technology can be broadened to improve the ways organizations communicate and involve the citizens in key decision-making process.

The fact that the mobile phone is pervasive was one of the major leading factors given by the organizations towards the use of technology. Much of their work is eased since they can communicate with many people at once without necessarily calling for the meetings. The non-users on the other hand had no reason to warrant their failure to use mobile technology to communicate with citizens. When it comes to costs, the maximum amount spent by the organizations interviewed was Ksh. 20,000 per month while the least spent Ksh. 2000. It is however hard to state whether it is the cost that made some of the organizations avoid the technology, or lack of interest.

There are a number of mobile and web applications used in the water and sanitation sector. Some of the more popular applications include Maji Data, MajiVoice, MMaji and Huduma.

Have you heard of any existing mobile applications?

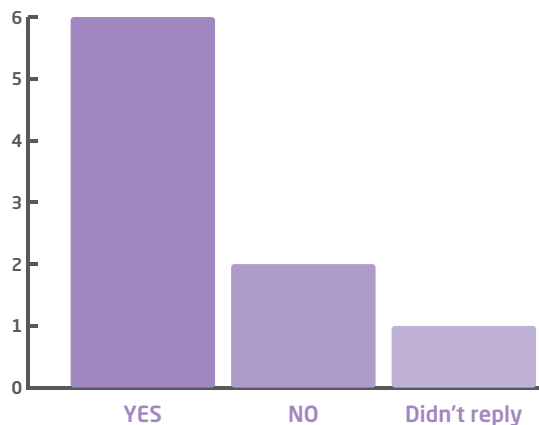


Figure 7

A significant number of the organizations interviewed (6) have heard of existing mobile applications deployed to solve water problems in Kenya. Mmaji stands out to be the most popular app among the research participants (3 out of 4 respondents had heard of Mmaji). A few of the organizations are aware of the bill query/payment system for querying and paying water bills.

MajiVoice

WASREB came up with an innovative and convenient way of handling consumer complaints and concerns through an electronic mobile to web application called MajiVoice. MajiVoice is a two-way communication platform between water consumers and water service providers using affordable, accessible and user-friendly technologies. Through MajiVoice, water consumers can use a mobile phone or the Internet to share their concerns and complaints with providers about the quality of services supplied and receive timely feedback on how the issues they have raised are being addressed. This saves the consumer the trouble of having to abandon what he/she is doing in order to visit the provider's office to lodge or follow up a complaint. In the event that a complaint is not acted upon within the stipulated time, it is escalated to officials in WASREB who follow up the issue with the WSP.

MMAJI

This is a "mobile-for-development" project that aims to use widely accessible mobile phones to empower under-served communities with better information about water availability, price, and quality. The insight behind MMaji (mobile water) is that many slums like Kibera lack access to clean drinking water, but they don't lack access to mobile phones. So the application has been designed to empower the people in the slums get information on water easily.

MAJIDATA



This is the Kenyan online water and sanitation database on urban

low-income areas. MajiData has important information on all urban low-income areas of Kenya. This online database is used to assist the Water Service Providers (WSPs) and Water Services Boards (WSBs) prepare tailor-made water supply and sanitation proposals for urban slums and low income planned areas located within their service areas. The fact that data is linked to satellite imagery also allows for improved management and operation of these areas by WSPs.

How M-Maji works

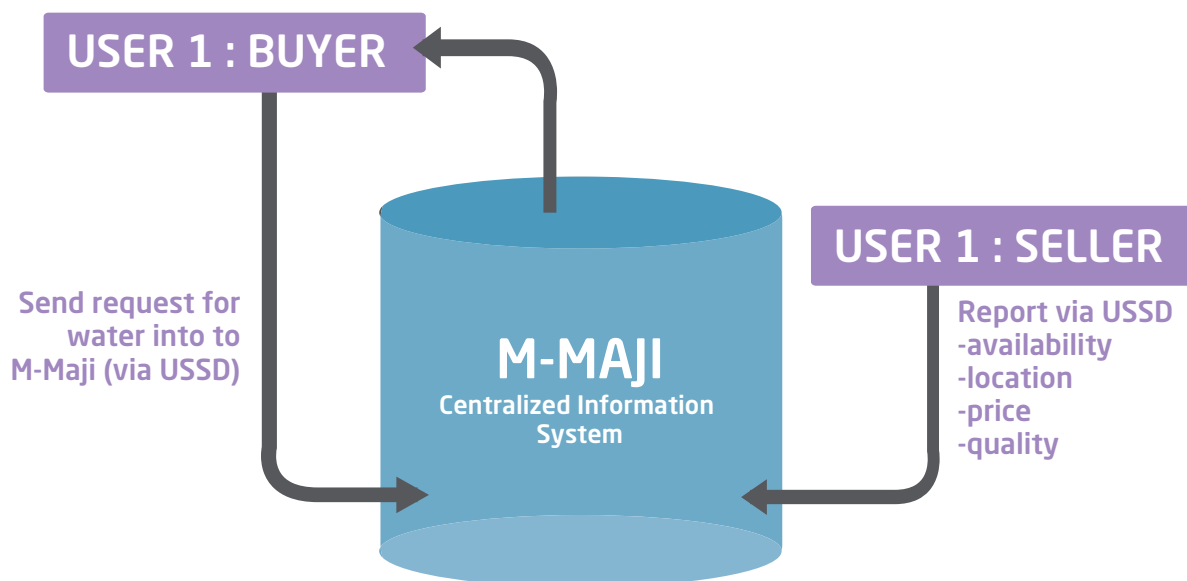


Figure 8 Diagram showing how MMaji Works

Huduma



Huduma is a citizen initiative that leverages on technologically innovative tools to enable citizens to amplify their voices in demand for services directly to authorities and service providers. The purpose of HUDUMA is to inspire the imagination and interest of citizens to act on their own without inter-

mediaries by leveraging existing national, continental and international agreements. Huduma places in public domain, for public use, simple tools that citizens can use to monitor delivery of services by authorities while providing an effective means for feedback on performance from citizenry. The main aim is to gauge the level of responsiveness of service providers to demands on issues around service delivery based on the service charters.

How Huduma works: Citizens can lodge a complaint either through use of SMS or the web platform by following a series of steps outlined on their website.

The stakeholders who were interviewed in the study were asked to comment on the technology platform that they perceive would be best in information dissemination. Just as with citizens, some of the organizations interviewed (3) believe that SMS is the best platform to use in information dissemination between the organization and the citizens at large. Media closely followed at (3) USSD code came in third at (2) while Internet was at 1.

With the increased access to cell phone possession among the citizens (78% penetration, CCK 2012), there is a strong belief among the stakeholders that mobile applications will improve service delivery. *“Technology has already improved service delivery in this sector for example, we used to take cash and now we have Mpesa and bank payments which is safer and more convenient. I am already trying out a mobile application for taking the meter readings on site”,* posed an officer from Kiambu Water & Sewerage. *“Water quality/physical quality of water can be transmitted to your smart phone- assisting in verifying water quality issues”,* says Dr. Awiti who represented the academia. Dr. Awiti however feels that there is need to have combinations; blending the modern technology with traditional technology. He also believes that the most powerful combination is radio and cell phone, which can be used to galvanize national and grassroots conversation.

Despite endorsement of technology, it still emerges that traditional way of disseminating information still plays a crucial role. For instance, there is a strong feeling among some water organizations that forums would work best when it comes to call for action.

Best platform

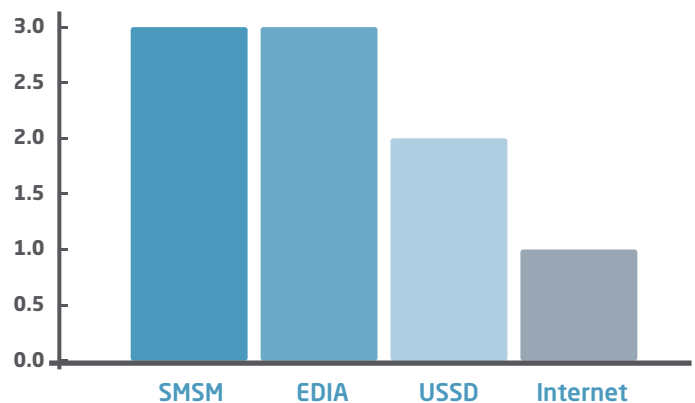


Figure 9 Stakeholders perspective on the best platform to use to communicate with citizens

When the stakeholders were asked which platforms they preferred to use to disseminate information to citizens, SMS and traditional media were the most preferred platforms. The reasons given for selecting these platforms were:

Instant/faster reception

One of the key reasons for choosing SMS is attributed to the fact that the intended audiences are able to get the information at a much faster rate. The same sentiments were echoed by those who preferred media as the best platform to use in communicating with the citizens.

Effectiveness

“SMS can be received anywhere and at any time”, said an officer from WASREB. It is instantaneous and therefore making it outstanding among other platforms. It is also viewed as effective since the text is saved and unlike in phone call where if one misses out an important piece of news/detail during the call he/she forgets about it, with an SMS you can refer to it at any time. Media on the other hand is regarded to be effective as it can pass information to many people at the same time.

Foreseen challenges in use of technology for transferring information in the water sector

Despite the potential to improve governance in the water sector through communication by use of modern technology (mobile technology), a number of bottlenecks could possibly hamper the process. The challenges include:

Cost

In Kenya, the high mobile usage holds true even for those at the lower end of the economic spectrum. About 60.5% of Kenyans living on less than \$2.5 USD/day own a mobile phone (RIA, 2012). However a number of them are faced with financial challenges that some end up making unrealistic sacrifices for some of their basic needs such as meals, transport costs (iHub, 2012) in order to have airtime credit for their phones. Cost implications of sending SMS using USSD code and making phone calls are the likely foreseen hindrances towards embracing SMS or phone calls to disseminate information between the organization and other concerned parties in the water sector e.g. citizens. Considerable efforts need to be put in place to ensure that citizens (especially those living below \$2.5 USD/day) do not undergo economic stress in trying to use the technology to get informed.

Network problems

Some regions in the country are prone to network failures and this may cause delays before the receiver reverts at an urgent call of action. This is viewed as a possible stumbling block in getting timely information.

Illiteracy levels

High illiteracy levels among the citizens may slow down the process of integrating technology between the organizations and citizens in an effort to improve communication. A significant number of people do not know how to read and write and as such they may experience language barrier.

Others

Many factors including costs of technology adoption and individual differences are too high and may represent a major barrier. Age, educational background, beliefs, and personality are all factors that affect the acceptance of any newly introduced and emerging technology, (Rogers, 1983), and the technology acceptance model (Davis, 1989).

Challenges Stakeholders face while using the current channels of communication

The current high illiteracy level among a section of the citizens is probably the greatest hindrance that organizations experience in trying to inform the citizens in issues regarding water issues. "*Illiterate people cannot read SMS,*" says an officer from Nyasare water Services. Sent SMSs therefore end up unread.

Similar to findings in series one report, another major observation by the organizations is the high number of people who lack knowledge on where to go when they have water problems. This situation results in a scenario where citizens resolve to suffer in silence without reporting to anyone. A lot of the existing applications are not valuable to citizens, as they do not solve their needs. "If you do not give me solutions, I will interact once or twice and get fed up", posed an officer from TWaweza. Reports are made to suit the reporter (probably the media) and not the actual problem, according to MI-KUTRA who frequently use print media to inform the citizens. Trust is of paramount importance as far as the choice of communication channel is concerned, as it impacts on how citizens view the organization and the willingness to interact with them. Therefore there is need to have a more trusted channel that can report information as it is.

Solutions to improve existing mobile water applications

Today, mobile applications have become the backbone of our mobile communication system. There are numerous mobile applications in various sectors (Health, Finance, Agriculture, Education, etc.) intended to improve service delivery and governance. The development of numerous mobile applications is spreading with swiftness however some are in a decrepit state. The following considerations should be made to improve the existing mobile applications:

Open communication lines

Operators should easily be reached to help those with complaints. This would boost the morale and confidence of the citizens towards agitating for their rights and letting their voices be heard.

Dedicated monitoring of the mobile applications

Much focus should be directed on ensuring that the mobile apps work within their framework, it is vital to monitor and create a self-sustainable model that is well communicated and well planned for.

Improved design of water application interfaces

Building a user-friendlier app that has the final consumer in mind is necessary since some of the apps are built without having consumers in mind and this slows the scalability of such apps.

Questions that need to come up when studying mobile applications designed for citizens to tackle water issues should be:

- i. Why are citizens not using technology tools actively to access water related information?
- ii. What kind of information is being transferred from these tools?
- iii. What kind of relevant information would citizens and other relevant stakeholders prefer to access on water?
- iv. Which means would citizens like to use to access that information?

DECISION MAKING PROCESS IN THE WATER SECTOR

Accountable and transparent decision-making process is the cornerstone to good governance-not necessarily in the water sector; but also in other sectors of a country's economy. The role played by the leadership and how the people and their leaders interact, as well as the interaction with other non-governmental groups has a direct effect on the governance process. 7 of the local water organizations interviewed currently have a role to play in the decision making process in the

water sector. Decision-making process is a multi-stage process for instance; the Water Supply & Sanitation Services (WSS) participate in the decision making by sharing the information to the water boards under their jurisdiction that then link up with the government while at the same time; they too act as a link to the citizens.



Figure 10 A structure showing of how decision-making trickles from the ministry down to the citizens

The study found out that 6 of the organizations currently involve citizens in decision making processes. The first study with the citizens revealed that only 20% currently participate in decision process. This clearly shows disconnects between the organizations and citizens based on the fact that 77% (N=896) of the citizens would like their voices to be heard. However one of the organizations, TWAVEZA, seeks an approach to provide platforms where citizens can speak out, brainstorm and influence other actors directly/indirectly. On the other hand, there is a feeling that citizens are not actively involved in decision-making processes. *"Many citizens have withdrawn from participation because they don't think their voices count"*, says Dr. Awiti.

Those who participate do so by either attending meetings, sending emails and SMS, sending reports through box mails and making phone calls. WASREB for instance, participates in decision-making processes through their legal and enforcement department; and they also advise the Ministry of Water. TWAVEZA on the other hand does not participate directly (they do not lobby), but they influence a lot of policy by getting consulted at high levels such as the Ministry of Water and the United Nations Children Fund (UNICEF). They however, do not go out of their way to seek audience with government institutions.





RECOMMENDATIONS

i. Recommendations by the stakeholders regarding technology

Apart from the view that use of SMS and phone could be the best platforms to be used to disseminate information between the citizens and the organizations; other platforms such as Twitter, Face Book and USSD code are potentially equally effective platforms to address issues faced by citizens as recommended by Nyasare Water Services. It has to be agreed that technology can indeed improve the level of transparency and help solve problems in the water sector and according to TWaweza, *"The thinking is good; the only wrong approach is that applications that are not useful are being created. Developers should try and come up with useful solutions that are sustained over time."*

ii. Effective measures should be taken to ensure that the deployed mobile applications are suitable to the citizens

Boosting the mobile networks

Frequent network failure is one of the bottlenecks mentioned by the organizations in trying to embrace mobile technology. It is therefore recommended that GSM operators should increase the capacity of their networks to avoid network congestion, which causes network failure and delay in delivery of text messages. This would ensure responsiveness and effective feedback mechanism between the players. Mobile operators should partner with organizations deploying water applications for the social community. This will help reduce costs for operating the system by removing the burden of expensive bills from citizen.

iii. Recommendations to the stakeholders

As it stands, only a small number of citizens (20% of n=896) participate in decision making processes in the water sector. It is important to understand that *governance is the exercise of economic, political and administrative authority to manage a country's affairs at all levels and a process that comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences.* (UNDP, 2005)

Inclusiveness, accountability, participation, transparency, predictability and responsiveness are some of the vital ingredients that make up good governance in the water sector and as such it will be necessary for the organizations to involve the citizens. Organizations need to establish champions of information in different parts of the country to encourage citizens to take up their roles in the water governance sector.

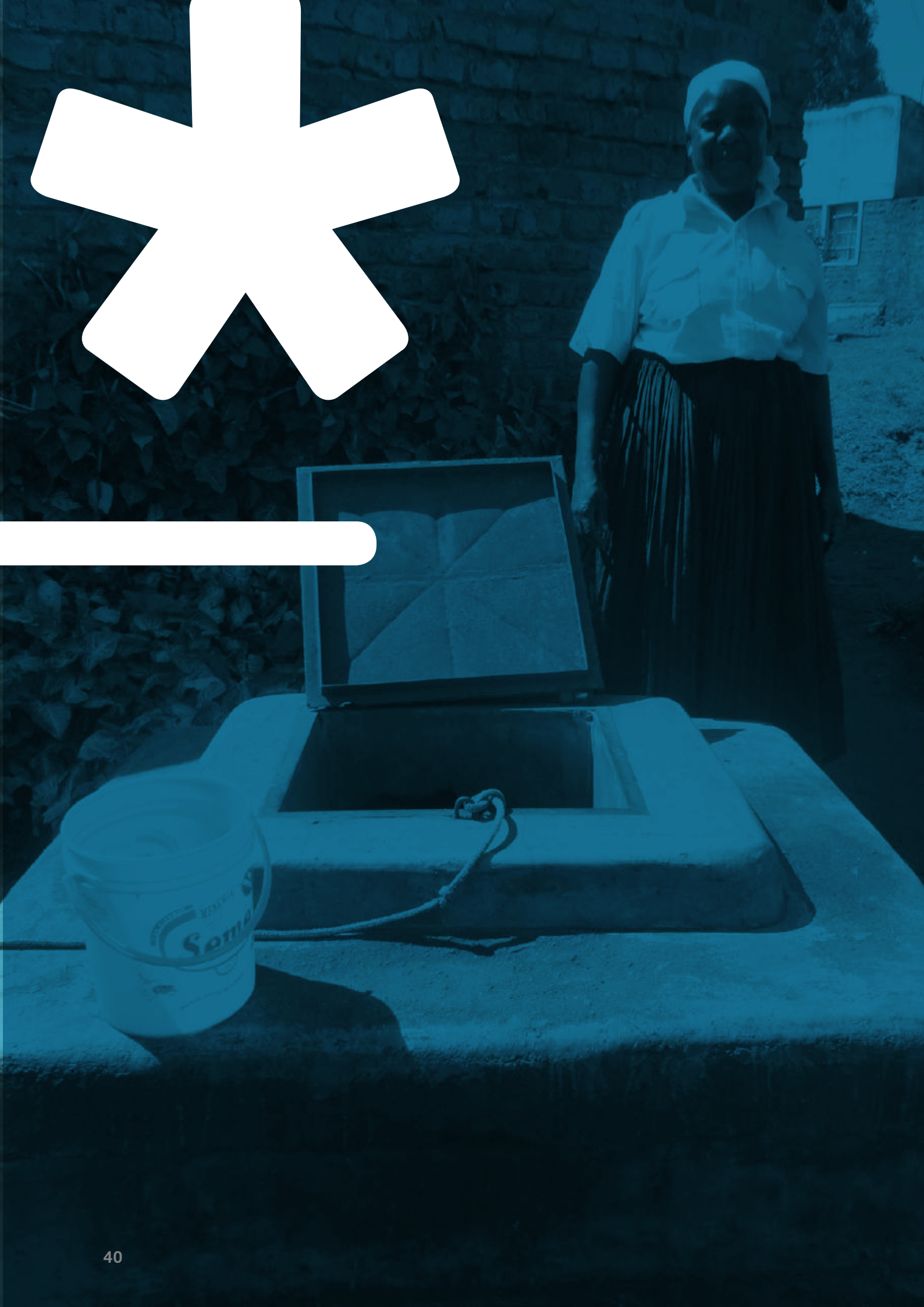
Public education and engagement

Publicity creates awareness. Letting the public know what is going on or upcoming applications is very important. The more people use the systems the more they get informed. There is need by developers to involve citizens so as to have a clear understanding of their needs and get more qualified ideas. *"Throw around ideas among people who can criticize comprehensively"*, says an officer from TWaweza as this would help the developers come up with useful applications which are sustainable over a period of time. Currently there are organizations offering water bill checkups and payments to the citizens via mobile phones however, not every citizen is able to use this service. It is therefore necessary for the various organizations to dedicate part of their time to educate the citizens on how to use technology to access information. For instance for those offering mobile checkups for water bills can educate the citizens on how they can check on information relating to water bills and how to go about making payments and other related queries.

iv. Recommendations to the citizens

Citizen Participation

Governance is a collective responsibility of all - citizens, government and all other stakeholders involved. It is therefore essential for citizens to take an active role to ensure they stay informed and actively participate by being the champions of good governance where they report on water issues and serve as advisors to decision-makers in water monitoring, assessment and management. Where possible the citizens need to avail themselves during meetings when called upon as by this, they would be able to get informed on current and emerging issues in the water sector, contribute in the best ways to tackle issues and challenges affecting the sector thereby improving the service delivery and transparency.



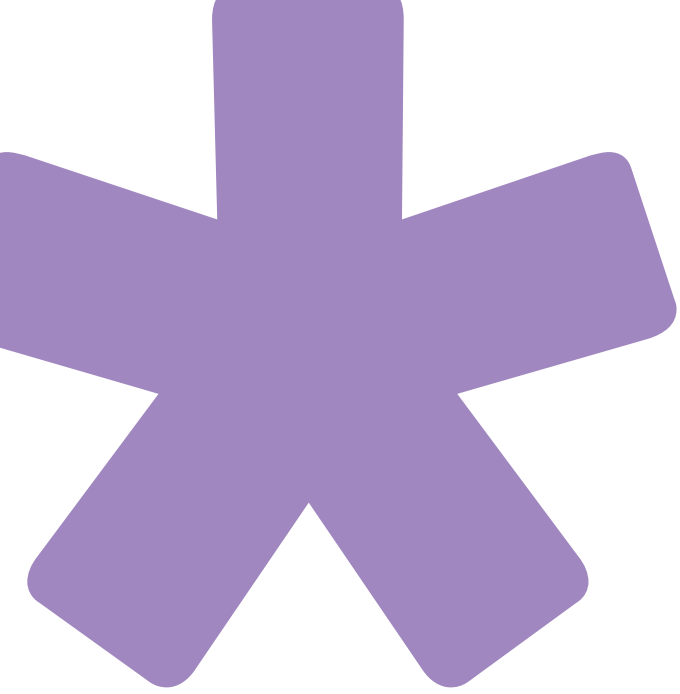
CONCLUSION

The water sector in Kenya has undergone major changes with the introduction of new legislation that interrupted procedures of carrying out services in the water sector. The government has begun decentralizing some of its powers and management of responsibilities to lower levels of government, civil society and private organizations. This effort is in attempt to improve service delivery in the sector as well as increase information accessibility. Despite this attempt, the process of decentralization is still hampered by high corruption levels, and lack of effective communication channels between the state and the civil societies making partnership formation difficult.

To effectively design solutions that improve matters of transparency in governance, understanding the way citizens and organizations make decisions in the Kenyan water sector is important. From findings of the study, it is evident that flow of information from the organizations to citizens is currently done manually. Most of the organizations interviewed (5) especially those in the rural areas frequently pass the current or upcoming events to the citizens by word of mouth. A substantive number (2) said to be using written memos, newsletters or brochures.

Forums form a vital component of citizen engagement as through these forums, citizens are invited to speak their mind. However various organizations have different ways through which they involve citizens. Creating an effective complaints management system is an important aspect of the decision making process to continuously improve service quality. Various organizations therefore need to uphold their commitments made in the service statement to citizens to ensure that citizens get the best service quality as far as response to their complaints is concerned.

In conclusion, there is a deficit in access to information by citizens from stakeholders in the water sector; this comes as a result of poor attendance by citizens to scheduled water meetings, and unwillingness by some individuals in some instances to give out the required information. These challenges can however be dealt with, it will however take time, resources and strict dedication among the concerned parties.



Appendix

APPENDIX A

WASPA Membership structure

Membership to WASPA is voluntary and the following are ways to engage with WASPA:

Full Membership- any water and sanitation provider is eligible for full membership once they have paid the full fee; Individual membership- students from any institutions who have paid up in full the membership fee; Associate membership- Open to any person and/or private professional bodies and organizations which have direct interest in the expansion of the water sector either through the provision of services or other inputs and will best serve the best interests of the association; and Honorary Members- These are reputable members of the society appointed by the management committee. They have no voting rights.

*For more information visit: www.waspa.co.ke

Objectives of KEWASNET

- i. Consolidate a strong network that engages government agents and co-ordinates engagement of partners, such as non-governmental organizations and community-based organizations at regional and national levels;
- ii. Monitor continuous institutional efficiency in service delivery and policy implementation on water sector reforms;
- iii. Undertake monitoring to ensure that the supply of water to the poor is maintained at sustainable levels and that as much as possible; the policy of government subsidies in water production for different uses is equitably applied;
- iv. Encourage collaboration between partners and stakeholders including but not limited to NGOs, FBOs, CBOs, and WSPs;
- v. Strive to build the capacity of member organizations so that they can be meaningfully involved in decision-making processes and the management of water resources;
- vi. Provide information to Kenyans to enable them to be engaged and involved in the management and decision-making mechanisms of the water and sanitation sector and encourage citizens at various levels to hold water providers accountable for service delivery;
- vii. Mount sustainable national advocacy programs and conduct public discussion forums to raise awareness and educate the public on their rights as regards access to water resources and the affordable provision of water and sanitation services.

* For more information visit:

<https://www.facebook.com/pages/Kenya-Water-and-Sanitation-cso-Network-KEWASNET/421827647881522>

Objectives of Umande Trust

The agency espouses five key objectives: -

- i. To support the capacity building of community organizations and/or federations in order to enable them effectively manage and sustain water and sanitation resources and services;
- ii. To facilitate the planning, building, and maintenance of community-based water and environmental sanitation services;
- iii. To promote the introduction, adaptation, development and application of best practices for improved delivery of water and sanitation services;
- iv. To conduct action-based research and policy advocacy programs on key issues related to water, sanitation and the environment;
- v. To promote the adoption of information and communication resources and technologies in order to support local communities in pursuit of the above objects.

*For more information visit: www.umande.org

Water Boards in Kenya

The water boards in Kenya include:

- i. Rift Valley Water Services Board
- ii. Kenya Water Institute
- iii. Athi Water Services Board
- iv. National Water Conservation & Pipeline Corporation
- v. Tana Water Services Board
- vi. National Irrigation Board
- vii. Tanathi Water Services Board
- viii. Coastal Water Services Board
- ix. Lake Victoria South Water Services Board
- x. Lake Victoria North Water Services Board
- xi. Northern Water Services Board
- xii. Water Resources Management Authority
- xiii. Water Services Trust Fund
- xiv. Water Services Regulatory Board
- xv. Water Appeals Board

*For more information visit:

http://www.water.go.ke/index.php?option=com_content&view=article&id=116&Itemid=11

Responsibilities of the Regulator WASREB:

- i. Issuance of licenses to Water Service Boards (WSB's) - Through these licenses, WSBs are responsible for the efficient and economical provision of water services within their jurisdictions. The Water Services Regulatory Board monitors the performance of WSBs and WSPs on a continuous basis;
- ii. Licensing Water Service Boards and approving their appointed Water Service Providers through SPAs;
- iii. Setting rules, establishing standards and guidelines and ensuring that Water Service Boards comply with the conditions stipulated in the licenses;
- iv. Overseeing the implementation of policies and strategies relating to provision of water and sewerage services;
- v. Developing guidelines on service provision agreements between WSBs and WSPs;
- vi. Developing operational standards for adoption relating to the whole process of development of water services including design, construction, operations and maintenance of water and wastewater systems;
- vii. Developing standards on water quality and efficient disposal of waste waters;
- viii. Developing guidelines for setting of tariffs;
- ix. Developing guidelines for dispute resolution;
- x. Determining technical, water quality and effluent disposal standards;
- xi. Monitoring and evaluating the performance of Water Service Boards and Water Service Providers;
- xii. Gathering and maintaining information on water services and publishing forecasts, projections and information on water services;
- xiii. Advising the minister on matters connected to water services.

*For more information visit:

<http://wasreb.go.ke/>

APPENDIX B

QUESTIONNAIRE USED IN FIELDWORK

INTERVIEW INFORMATION (TO BE COMPLETED BY INTERVIEWER)

THE M-GOVERNANCE SURVEY - KENYA

ADMINISTRATIVE INFORMATION

Questionnaire number		
Date of interview:		
Time of interview: (24 hr clock)	Start	Stop
Name of interviewer:		
Place of interview:		
Location		
Constituency		
County		
Province		
Area of interview	1. Urban	2. Rural
Type of dwelling	1.1 Formal residential	2.1 Formal settlement

VERBAL CONSENT FORM FOR PARTICIPANT SURVEY

Good morning/afternoon/evening. My name is _____
(Interviewer)

I am here on behalf of a research team from iHub Research, a Tech Research Company based in Nairobi. We are conducting a research on water accessibility that will enable us to understand what is the role of your organization in the water governance sector, how you engage citizens, the kind of water information you provide using your preferred channels, challenges you are currently facing while working in accessing water information and how mobile technology can be used to create impact in the water sector.

We hope that the results of this research will be useful for improving access and quality of water in this community.

Your organization has been selected to participate in this exercise. I would like to ask you some questions. This interview will last approximately **30-45 minutes**. All the information provided will be kept strictly confidential and will only be used for the purpose of this study. Your participation will be highly appreciated. If you are not comfortable answering a question, kindly feel free to skip it.

Would you be willing to answer some questions?

	Single Code	
YES	<input type="checkbox"/>	1 Continue
NO	<input type="checkbox"/>	2 Terminate Interview

Participant Number: _____

SECTION 1: This section aims to understand what kind of water information is publicly provided by your organization.

1.1 What is the role of your organization in the water governance structure?
(relate it to the scenario)

1.2 How does your organization currently involve citizens in your work?

1.3 What kind of water information does your organization provide to citizens?

1.4 How do you provide that information to citizens (i.e. what are your communication channels)?

1.5 Do you think citizens know and have been educated about service charters?

	Single code	
Yes	<input type="checkbox"/> 1	Go to 1.6
No	<input type="checkbox"/> 2	1.5.1

1.5.1 Please explain your response

1.6 Do you have a way that you use to provide up-to-date information to the citizen?

	Single code
Yes	<input type="checkbox"/> 1
No	<input type="checkbox"/> 2
I don't know	<input type="checkbox"/> 3

1.6.1 Explain?

SECTION TWO: This section seeks to understand the gaps faced by your organization in ensuring water transparency

2.1 Has your organization faced any challenges while working on providing water information to citizens?

	Single code	
Yes	<input type="checkbox"/> 1	Go to 2.2.1
No	<input type="checkbox"/> 2	Go to 2.3

2.2.1 If yes, what are those challenges?

2.2.2 How often do you encounter these challenges?

2.2.3 What are the measures you have put in place to solve these challenges?

2.3 Do you receive water complains from citizens?

	Single code
Yes	<input type="checkbox"/> 1 Go to 2.3.1
No	<input type="checkbox"/> 2 Go to Section 3

2.3.1 What kind of complaints do you get from the citizens?

2.3.2 How do you receive them?

2.3.3 How often do you get the complaints?

- Daily
- Monthly
- Weekly
- other _____ (specify)
- Fortnightly
- Yearly

2.3.4 On an average, how many complaints do you get from citizens?

2.4 When citizens report their issues on water to your organization, do you act on them?

	Single code	
Yes	<input type="checkbox"/> 1	Go to 2.4.1
No	<input type="checkbox"/> 2	2.4.2

2.4.1 If yes, how do you go about it?

2.4.2 If No, why don't you act on the issues you receive from citizens?

2.4.3 How long does it take to provide feedback to the citizens from your organization?
Please explain

SECTION THREE: This section aims to understand how your organization communicates to citizens.

3.1 What channels do you use to communicate to citizens on water-related information and issues?

3.2 Do you use any technology to communicate to citizens (SMS, USSD, phone calls)?

	Single code	
Yes	<input type="checkbox"/> 1	Go to 3.2.1
No	<input type="checkbox"/> 2	Go to 3.2.4

3.2.1 If yes, Why did you choose that particular method?

3.2.2 How much does it cost your organization to use that method?

3.2.3 When did you start using that method?

- Less than a month ago
 between 1-3 months ago
 I don't know
 Between 4-6 months ago
 between 7-12 months ago
 More than a year ago
 Entire of my life

3.2.4 If No, why don't you use any technology?

3.3 What platform do you think would be best in information dissemination between you and the concerned parties in the water sector?

- Attending Barazas & political rallies
 Media (e.g. TV, Radio, Newspapers)
 Walking to the government offices (ministry of water)
 Talking to friends
 Internet (Visiting government website)
 Using USSD code
 Making phone calls
 using SMS
 Other _____ (specify)
 I don't know

3.4 In your own opinion, how do you think the platform you mentioned above (3.3) would help solve water problems that citizens are facing at the moment?

3.5 Please state some of the problems/challenges that you are currently facing while using the channels you currently use?

3.6 What other ways do you suggest would be the most effective ways to communicate to citizens and other stakeholders?

SECTION FOUR: This section seeks to evaluate how mobile technology can be used as a tool to improve the gaps faced by the different stakeholders in accessing water.

4.1 Does your organization participate in decision-making in the Kenyan water sector? If yes, what specifically are you involved in?

4.2 Are citizens involved to be part of this decision-making process?

4.3 How do you currently participate in these processes? (For instance, do you attend the meetings or contribute through other platforms, e.g. Internet, media, SMS)

4.4 What other technological methods would you recommend as other potentially effective platforms to help address issues faced by citizens and your organization?

4.4.1 What are some of the problems/frustrations you foresee with these mobile applications?

4.4.2 What measures would you recommend to ensure deployed mobile applications are sustainable and effective?

4.5 Have you heard of any existing mobile applications deployed to solve water problems in Kenya?

	Single code	
Yes	1	Go to 4.5.1
No	2	Go to 4.6

4.5.1 If yes, which ones?

4.6 Do you think such mobile applications are helping to solve current water problems?
Please explain your response.

4.6.1 How can these existing mobile applications be improved?

4.7 Any additional comments?

_____ END _____

Thank you very much for taking your time in this survey.

Interview Feedback

FOR INTERVIEWER COMPLETION ONLY --DO NOT ASK RESPONDENT!

PLEASE COMPLETE THIS SECTION AS SOON AS POSSIBLE AFTER THE INTERVIEW.

FIELD CONTROL

I1. Overall, how did the respondent behave during the interview?

Choose all that apply.


Respondent	
Interested	<input type="checkbox"/> ₁
Indifferent	<input type="checkbox"/> ₂
Distracted	<input type="checkbox"/> ₃
Became tired	<input type="checkbox"/> ₄
Other	<input type="checkbox"/> ₅

I2. Please note any questions that caused particular difficulties for the respondent:



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