THE WATER SECTOR IN KENYA

Introduction

The Kenya Vision 2030 goal on water and sanitation under the social pillar is access to water and sanitation for all by 2030. Kenya is a water scarce country and thus the achievement of this goal will not come easy but requires deliberate effort geared towards the development and expansion of the sector. The renewable water per capita in Kenya stood at 647 M$^3$ against the recommended 1000 M$^3$ United Nations recommended minimum. Water management will be crucial in achieving the targets under the 3 pillars of the vision. Under the political pillar rural conflicts have largely been resource based. Under the social pillar the targets under health, tourism among others will depend on water to be achieved. Access and quality of water will be a contributor to the infant and child mortality rates. Industrial development under the economic pillar will also have a heavy reliance on water which then shows that water management cannot been ignored in the development agenda of the country.

Figure 1: Picture courtesy of political deck

Challenges under water management in Kenya

Water management has been a challenge across the decades in Kenya. One of the main challenges being the perception that water should be a commodity and service provided by the government for free. What this has created is the lack of willingness to pay for water which is one of the causes of increase in Non-Revenue Water (NRW) in Kenya. This has caused is a situation
of unsustainable water institutions in the country due to lack or insufficient revenues from the provision of water in the country. It has been indicated that NRW accounts for about 42% of water in the country. The shortage of water in Kenya is largely pronounced in the rural areas and largely in the ASAL which has led to a strain on women and children who are the ones tasked with looking for water especially for domestic use. Water shortage has affected education in some regions where children miss crucial hours of school in search of water.

The other main issues in water in Kenya are around the quality of water, continuity of water supply and waste water treatment. Currently due to the failed rains there has been a shortage of water and this can be seen through the pronounced water shortage that has been experienced in Nairobi and its environs for the past few months and seems to be getting worse.

The availability of water in rural areas has also been one of the greatest challenges with water shortage affecting water for irrigation and for animal use.

![Figure 2: Picture courtesy of The water project website](image)

**Institutional, legal and policy framework**

Water management has remained for a long time a preserve of the government and the management of water and water resources has largely remained under the government until recently when private entities have entered the water sector especially provision of water in gated communities. This is where they have boreholes and water is distributed to households.
Until the enactment of the Water Act 2002 water services were centralized under the National Water Conservation and Pipeline Corporation and a few other entities that had been created from 1992. The enactment of the Water Act in 2002 there was a decentralization of the water services to 91 local Water Services Providers (WSPs). In 2016 a new Water Act was enacted which as a result there was farther decentralization of water services to the 47 counties. 47 water works development were created as part of the operationalization of this act. Development of water policies and was left as the preserve of the national government under the ministry of Water and Irrigation. Various institutions apart from the decentralized board have been set up pursuant to this act which include the Water Services Regulatory Board (WASREB) whose main mandate is the development of rules and enforcement of the rules within the water sector and this are geared towards ensuring the access to efficient, affordable and sustainable services. The Water Sector Trust Fund (WSTF) was also created under the Act and was restructured from the Water Services Trust Fund to the Water Sector Trust Fund (WSTF). The mandate of WSTF is financing water and sanitation services in the country. The establishment of this institutions is in the effort to organize the water sector in the country and to ensure that the anticipated universal access to water is achieved.

Water Services for All Kenyans

Figure 3: Picture courtesy of WASREB website

The role of the Private sector
The provision of water in Kenya has remained a preserve of the government and as earlier mentioned the private sector has had very little contribution to the provision of water. With the increase in water shortage in the country over the years communities have begun to organize themselves to look for solutions to water shortage in their areas even without the intervention by the government. WSTF during the launch of a report on “Catalyzing low cost green technologies for sustainable water service delivery in Kenya”, indicated that some of the most successful water projects were those that were run by communities. In the past few years there has been an increase in the community water projects and this has increased what would be called privately owned water projects. One of the greatest roles that the private sector should be playing is innovation to create the solutions to improve the
access to water and reduce the high volumes of Non-Revenue Water which is one of the greatest challenges that the water sector in Kenya faces. The government’s role should be development of the policy, institutional and legislative framework to operationalize the water sector while the private sector steps in to offer the services and especially those that are based on innovative solutions to the water crisis in the country. The private sector has a role in coming up with solutions on water efficiency especially when it comes to irrigation. A large volume of water is lost in irrigation in Kenya as most farmers employ the use of overhead irrigation that has been said not to be very efficient in the use of water. Kenya being a water scarce country there is need for every effort to be put towards the preservation and efficient use of the water that is available.

**KCICs Work in Water**
Among the three thematic areas that KCIC works in, is water. KCIC is keen on supporting innovative green tech solutions in the water sector and this are businesses that are concerned with water efficiency and conservation. One thing however worth noting is that the innovations under the water sector have been very limited. The innovations under the water sector in KCIC are the fewest compared to the other two sectors, agribusiness and renewable energy. This has been credited to the perception that the returns on investment in the water sector are minimal and selling innovations in the water sector is difficult. There is need to effort by both the government and the private sector to increase the innovations and consequently investment in the water sector.

**KCIC Water clients**
**SwissQuest**
SwissQuest Water Suppliers Company Limited is in the business of supplying, installing and managing smart prepaid water metering solutions as well as prepaid water management information software. The company supplies household smart prepaid water meters with advanced metering infrastructure that has a water valve control function, and radio frequency communication system. They have also secured mobile payments accounts via Mpesa so that customers (households) purchase prepaid tokens from water utilities’ pay bill numbers then feed 12 digits to access water.
AfricAqua’s
This enterprise is using a ‘Water Mall’ concept whereby all water solutions can be provided under one roof. This concept offers a unique approach to water treatment, packaging and distribution in Kenya. The water treatment technologies are custom made to accommodate specific needs to be used in the specified locations based on the water quality in the area. It also offers different approaches to distribution strategies and social linkages.

Key components of AfricAqua’s distribution model include:

1. A water treatment plant - the company has drilled a borehole in Kimana, Kajiado County where water is treated and packaged for distribution to the Micro Distribution Centers using a company owned Lorry.

2. Micro Distribution Centers (MDCs) within a 4 mile radius - AfricAqua currently has 3 outlets from which the company distributes water. They are located in Kimana town (1 KM away from the treatment plant), Isineti (5KMs from the main plant) and Oloitoktok (10KMs away from the main treatment plant.) Through a franchise network, the company plans to set up more MDCs to effectively cover the whole County. This distribution model will not only decentralize provision of clean safe water but it will also create ‘buy-in’ from the local entrepreneurs hence offering greater social impact.

3. Last Mile delivery concept - Residents directly contact the MDCs via phone and place their orders. Using donkey carts, tuktukts and existing water vendors network, AfricAqua transports water from the MDCs to the households and shops doorstep. Payment is mostly done through MPesa but due to illiteracy among some of the customers, cash is also accepted. A 25 litre can of raw water is priced at Ksh.10 while a 25 litre can of treated water is priced at Ksh.50.
Majmilele

Maji Milele Ltd. is the first subsidiary company of Water Forever. They are based in Nairobi, but provide their services all over Kenya. Like their Dutch mother organization they are a for-profit social enterprise. Their mission is safe water for all Kenyan people and not only for a few years, but ‘forever’, meaning ‘Maji Milele’.

Water Forever International (WFI) provides a full maintenance & service concept (maintenance, repairs, and replacement) for prepaid water points: people pay a small amount of money (0.02-0.08 USD) per 20 litre can. In return, communities get a full service (preventive maintenance, repairs and replacement of infrastructure at the end of lifetime, all free of charge). The price per 20 liter depends on number of users, distance, type of water infrastructure, expected costs of maintenance, water volume being used, and many more. In such cases, selected beneficiaries will receive tokens with a daily volume free of charge. This of course leads to higher prices for other people.

The prepaid concept is partly based on the success and wide cultural acceptance of prepaid services, like prepaid mobile phones and prepaid electricity. Many Kenyans value ‘pay as you go’ systems better than post-paying which can sometime lead to high and unpayable bills. Prepaid water will lead to a systematic and transparent flow of money which makes it interesting for financing institutes as well.

WFI receives revenues upfront and can track all payments and water flows through an online monitoring system, which can be used for evaluation of
activities. The maintenance work will not be done by WFI itself, but regional subcontractors/mechanics will be hired, centrally trained and monitored. In addition, WFI integrates a community savings account in the water delivery model by simply refunding a percentage of the total water sales to a shared online visible community account. With this optional service, communities will have a 100% transparent shared account for the very first time in their life. Savings can be used by communities in the way they prefer. Evidence from the three pilot villages in Kajiado shows that the community savings account really serves as a source of motivation. Two out of three communities even asked to increase the price from Ksh 3 to Ksh 5 in order to save more money. Next to the online publishing of community savings, village committee members will moreover receive a monthly SMS about collected savings. The main source of revenues for WFI is the water price. Their core business is sustaining water services and getting paid through the price of water.

Conclusion
It has been said the next world war, if any, will be based on water. Water is a scarce commodity but a necessity. The provision of adequate water for domestic use, animals and irrigation in Kenya cannot be left to the government. The private sector needs to step in and invest in the water sector in a bid to complement the efforts that the government is clearly putting in place to ensure there is access to clean water for all in accordance with the Kenya Vision 2030 and international standards.