



WATER, SANITATION, AND HYGIENE FINANCE (WASH-FIN)

COVID-19 UPDATE I: Water Treatment Chemicals Supply Chain in Kenya

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INTRODUCTION

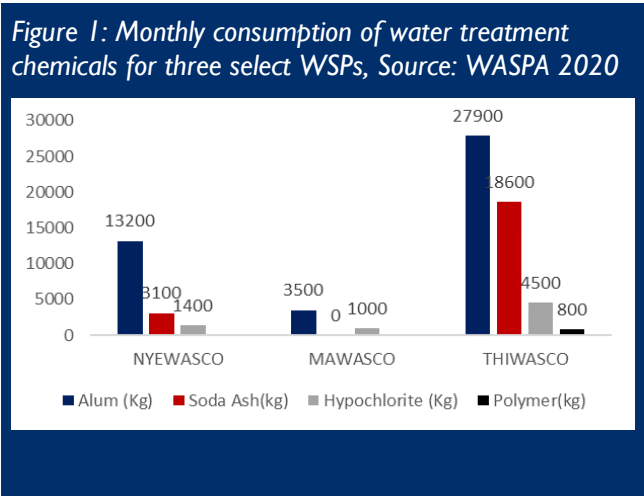
The prevention and containment of COVID-19 requires provision of adequate water supplies to enable hygienic practices including hand washing. Consequently, the Kenyan Government has declared water supply a public health necessity and directed public Water Services Providers (WSPs) to ensure uninterrupted supply to all consumers. As the lockdown directed by the government continues, availability of water treatment chemicals could become a challenge if the supply chain is not kept running. To assess how this is progressing, USAID's Water, Sanitation, and Hygiene Finance (WASH-FIN) program has undertaken a rapid assessment of suppliers and WSPs to get a sense of the status of the water treatment chemicals supply chain in the country. The WSPs assessed included Thika Water and Sanitation Company (THIWASCO), Mathira Water and Sanitation Company and Nyeri Water and Sanitation Company (NYEWASCO), while the suppliers included Kel Chemicals in Thika, Pan Africa Chemicals and Aqua Treat in Nairobi.

WATER TREATMENT CHEMICAL DEMAND FOR SAMPLE WSPs

The main chemicals utilized in the water production process include Alum and polymer as coagulants, Soda Ash for pH correction, and Hypochlorite and Chlorine gas for disinfection. Chemical reagents are used mainly for monitoring water quality within the network to ensure water supplied by the WSPs meets health standards at the consumer level. Figure 1 below shows the monthly quantities of the various chemicals used by the three WSPs highlighting the differences in scale and complexity of their water production systems. The three WSPs serve a combined population of 538,000 and have a combined monthly water production of 2.2 million cubic meters. The difference in usage of chemicals is explained mostly by the amount and quality of raw water, as well as the configuration of the treatment plants.

A key issue arising from this analysis is that systems like the one in Thika will require more chemicals in terms of both quantity and variety, implying the critical need to keep the supply chain flowing. This is particularly important given the fact that the COVID-19 has hit the country at a time when the rains have been coincidentally

higher than normal, leading to higher water turbidity and higher demand for chemicals. On the



other hand, the apparent low chemical demand in Mathira Water is indicative of the fact that not all their water is treated in full as one of the treatment plants is not designed for full treatment but only chlorination.

SUPPLY SIDE OF WATER TREATMENT CHEMICALS

The water treatment chemical supply chain is made up of both manufacturers and suppliers sourcing from manufacturers within and outside the country. Two of the firms interviewed (Kel Chemicals and Pan Africa Chemicals) produce Alum although they import raw materials from India, China or Russia. All three firms interviewed source Soda Ash locally from Tata Chemicals, which produces the chemical in Magadi Kenya. Chlorine/hypochlorite, polymers and chemical reagents are imported from South Africa, China and India.

PROCUREMENT PROCESS FOR CHEMICALS

Procurement of chemicals by the WSPs is governed by the Public Procurement and Disposal Act (PPDA 2015). WSPs use a competitive open tendering system where suppliers submit bids in response to advertisements. The winning bidder is contracted to supply the chemicals for a specified contract period at specified rates. This procurement policy allows the WSPs to systematically order chemicals from other

evaluated bidders if the winning bidder is unable to meet the contractual obligations.

PAYMENT FOR CHEMICALS

Figure 2 shows the average monthly cost of chemicals for the three WSPs based on data obtained from WASPA.

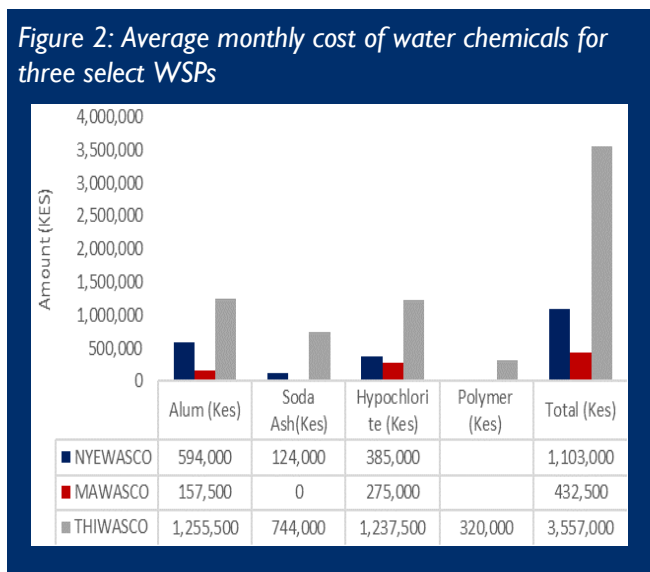
WSPs only make payment on receipt of chemicals from the supplier. This has serious implications in the COVID-19 situation as the WSPs are not able to collect revenues to enable them to pay for the chemicals. Furthermore, based on information provided by Nyeri Water, the WSPs are already beginning to default on meeting their obligations to the chemical suppliers. This situation is only likely to exacerbate unless a solution is found soon.

CHALLENGES AFFECTING THE SUPPLY CHAIN DUE TO COVID-19

It is apparent from the assessment that the supply chain is facing challenges affecting actors on both the supply and demand side due to COVID-19.

On the supply side the challenges include:

1. High cost of importing chemicals occasioned by exchange rate fluctuations (see Figure 3), the weakening of the local currency and reduced production at the source countries.



2. Increased scrutiny of documentation for consignments to be cleared at the different stages of the chain viz. from source, shipping and land transportation, occasioning delays in delivery of chemicals.
3. Stock out of chemicals such as chlorine and polymers and raw materials for manufacture of Alum continued in source countries due to continued lockdowns.
4. Increased costs of chemicals and raw materials due to lack of tax exemption as essentials commodities and an apparent lack of a framework for the suppliers to engage government on this matter.
5. High account receivables arising from unpaid deliveries from the utilities and hence poor cash position to import products.

On the demand side:

1. Dwindling WSP revenues due to reduced water customer bill payments, leading to poor liquidity and inability to pay for chemicals. According to data from WASPA, revenue collection has fallen to an average of 32 percent for all the WSPs between March and April 2020.
2. A rigid procurement system that does not allow quick change over to alternative suppliers in the event the winning bidder has a shortfall.

HOW ARE THE SUPPLIERS AND WSPS COPING WITH THE COVID-19 CHALLENGES TO THE SUPPLY CHAIN?

In response to the evolving situation, both suppliers and the WSPs are identifying coping mechanisms including the following:

- Some suppliers are seeking alternative countries from which to source products and raw materials.
- Some suppliers are limiting quantities supplied to individual WSPs to ensure all their WSPs have some chemicals and mitigate panic buying.

- The WSPs working through WASPA have

Figure 3: Trend of average monthly Kes/USD exchange rate



reviewed the required inventories for the coming months and shared their estimates with national government for potential financing.

- WSPs are beginning to review other suppliers evaluated during open tendering but ranked lower, to ensure continuous supply. These are however more expensive options since these suppliers have much higher rates than the winning bidders, some by up to 30 percent.

WHAT DOES THE SUPPLY CHAIN REQUIRE TO WEATHER THE COVID-19 PANDEMIC?

- Key actors including the Line Ministry and the Council of Governors need to engage Treasury to seek designation of water treatment products as essential to combating COVID-19 pandemic for the purposes of relevant tax exemptions, even if this is for a limited time only.
- Consideration should be given to a centralized purchasing of chemicals at the national level for efficiency and to ensure that all WSPs have access to the chemicals during this time.

It is critical to implement measures to ensure liquidity for both the suppliers and the WSPs to ensure an uninterrupted flow of the chemicals.

WATER, SANITATION, AND HYGIENE FINANCE (WASH-FIN)

The five-year Water, Sanitation, and Hygiene Finance (WASH-FIN) program is funded by the United States Agency for International Development (USAID) and began in October 2016.

Implementation is led by Tetra Tech with support from Open Capital Advisors, Segura Consulting and Global Credit Rating. It is managed by USAID Water Office with support from the Global Climate Change Office. With the current reorganization of USAID, the Water Office has been moved under the Resilience and Food Security Bureau. WASH-FIN seeks to close financing gaps to achieve universal access to water and sanitation services through sustainable and creditworthy business models, increased public funding, and expanded market finance for infrastructure investment.