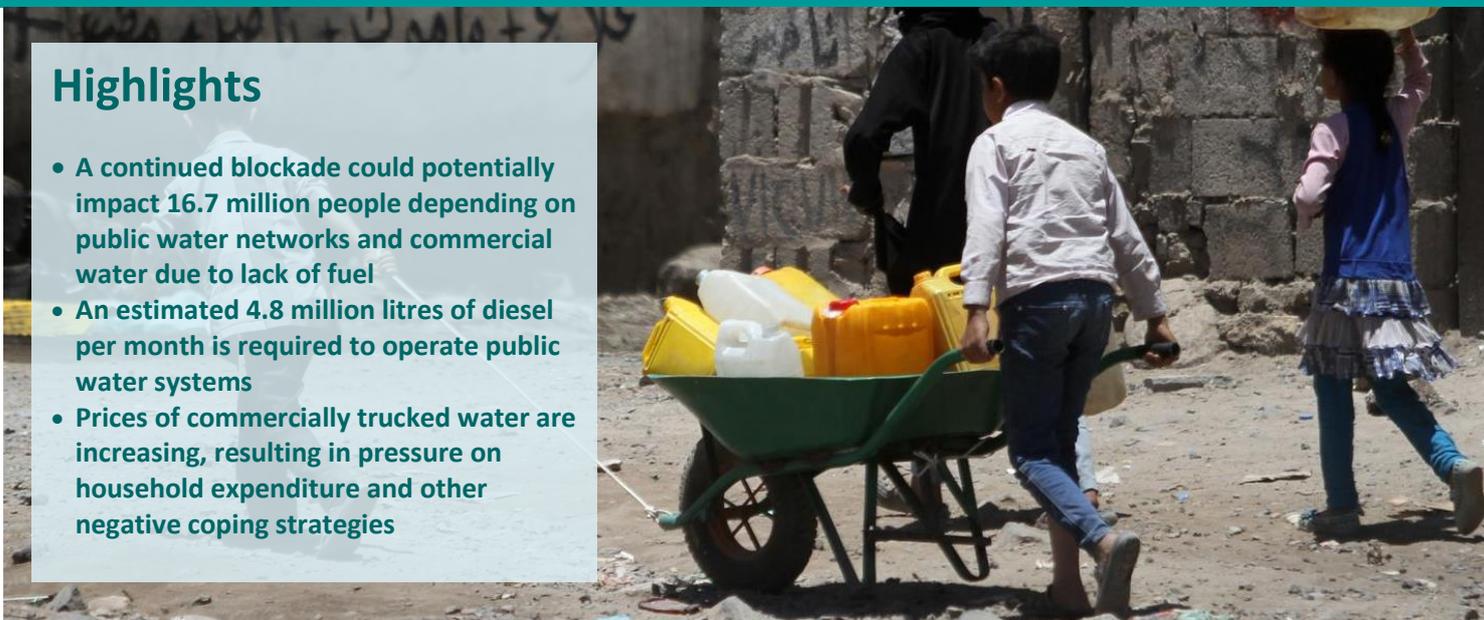


Highlights

- A continued blockade could potentially impact 16.7 million people depending on public water networks and commercial water due to lack of fuel
- An estimated 4.8 million litres of diesel per month is required to operate public water systems
- Prices of commercially trucked water are increasing, resulting in pressure on household expenditure and other negative coping strategies



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Potential impact of the blockade on water and sanitation services in Yemen¹

As a result of the closure of all air and seaports by the Saudi-led coalition, fuel prices in Yemen are spiking and fuel supplies are rapidly being depleted, which has a direct impact on the availability of water across the country. While sea and airports in areas under the control of the Government of Yemen have re-opened, these ports lack the infrastructure capacity required for the high volumes of commercial and humanitarian cargo previously handled by Al Hudaydah and Saleef. The re-opening of Aden airport has allowed some humanitarian flights to land, but services to other parts of the country are still blocked.

The continued closure of some sea and air ports by the SLC will push Yemen to a further catastrophic humanitarian situation and the impact on water and sanitation services in Yemen can already be seen. Failing water and sanitation services in the last years have contributed to one of the world's worst cholera outbreaks in modern history. If these services collapse further, it is expected that another wave of cholera cases will affect the country in the nearby future.

Shortage of fuel

Representatives from the largest fuel importing companies in Yemen have indicated that they no longer will be able to supply the consumer market with fuel starting November 21st, 2017. WFP is estimating (based on information from Yemen Petroleum Company) that approximately 16 days of diesel and 7 days of petrol is available in northern parts of the country. Based on these estimates, which assume normal purchasing patterns, commercial petrol stockpiles would be depleted by November 22nd and diesel stockpiles by December 2nd. However, current purchasing patterns by individuals and business are far from normal, which makes it challenging to predict when different areas will run out of fuel. This will depend on what rationing steps individual traders implement and how stockpiles of fuel that could have been built up by non-commercial actors, could re-enter the market.

¹ This advocacy note has been developed jointly with the Cash and Market working group

The rapidly reducing fuel supplies combined with large purchases by medium and large businesses are expected to result in fuel to the consumer market being cut off. Small businesses depend on upon this market for their needs, and these markets are likely to start closing across the country in the coming days.

A fuel crisis is a water and sanitation crisis

Yemen is one of the most water scarce countries in the world and depends largely on groundwater for its water supply. Water pumps require electricity or diesel to pump water out of the ground and out of the tap. After the escalation of the crisis in March 2015, electricity has become a scarce commodity with most of northern Yemen cut off from electricity completely. Consequently, many operators of water supply systems and boreholes shifted to using diesel powered generators to pump water. Now that diesel has also become scarce, water pumps will reduce or stop their operations, which will affect the ability of millions of people to access safe water and maintain safe hygiene practices, putting them at risk of diseases such as cholera.

Public water networks

An estimated 38 per cent (or 11 million people) in Yemen depend on piped water networks as their main water source². The majority of these people are living in urban areas, while a smaller part resides in rural towns and communities. A number of piped water networks had already stopped functioning due to lack of electricity and fuel since 2015, while others remained functional fully depending on humanitarian support.

Since April 2015, UNICEF and WASH cluster partners have been supporting the main water networks in cities across the country with fuel and more recently started connecting networks to electricity. Electricity support is only possible in Amanat Al Asimah and Al Hudaydah so far (due to its limited availability) and only supports the partial operation of the networks (22 wells or 60 per cent in Al Hudaydah and 41 wells in Amanat Al Asimah). Sa'ada public water network is able to function partially on solar energy reaching 60 per cent of the population, but relies on fuel to cover the rest. Solar energy is a good option for some water sources up to a certain depth, but requires time and should be prioritized as a long-term investment to move away from dependency on fuel.

The Urban Water Unit of the Ministry of Water and Environment estimates that 7 cities (Sana'a, Hodeidah, Hajjah, Taiz, Sa'ada, Al Bayda and Amran) have already depleted their fuel stocks and 2 more cities expect fuel stock-out in 2-4 weeks (Ibb and Dhamar). The estimated fuel consumption for these cities is 2.8 million litres. Another estimated 2 million litres are required each month to operate rural water supply systems across the country. UNICEF and other WASH cluster partners have agreed to support the water networks in these cities, but this support can only be provided if fuel remains available in the market at a reasonable price.

² REACH and Yemen WASH Cluster, SDR Access to improved water sources in Yemen, July 2017

Water trucking and bottled water

Due to often irregular public water supply and lack of other available water sources, an estimated 15 per cent of Yemen's population (4 million people) already depends on private water trucking as their main water source. Another 6 per cent (1.7 million people mainly residing in Amanat Al Asimah and Taiz city) depend on bottled water to meet their daily water needs.

Unlike the public water networks, private water vendors depend on the fuel consumer market for their fuel supply, often purchasing fuel on a daily basis. As a result, the increase in fuel prices and reduced availability of fuel directly translates to an increased cost of commercial water. A quick price monitoring conducted by the Cash and Market Working Group and the WASH Cluster indicates that the price of water trucking has increased between 17-60 percent across northern governorates, and up to 90 percent in Amanat Al Asimah. Interestingly, demand for water trucking in the capital city only decreased with an estimated 26 per cent. This indicates that people have no other option than to continue buying water from the private sector and an increase in people's expenditure for water is expected. Estimated decrease of income for water vendors in Amanat Al Asimah is currently 67 per cent.³

Sewage and solid waste

Waste water treatment and solid waste collection and disposal services also depend heavily on electricity and fuel. If waste water is not properly treated, this could have huge implications on a potential recurrence of cholera in the country. Piling up of solid waste in the streets equally has negative public health implications. Main concerns are currently related to the operation of waste water treatment plants in Amanat Al Asimah and Hodeidah city, and the solid waste collection and disposal in the main cities in the country. The waste water treatment plant in Amanat Al Asimah is currently supported by UNICEF and fuel is available until mid-December only. The treatment plant in Hodeidah is partially functional with electricity support provided by UNICEF. The impact of the fuel crisis on solid waste collection and disposal services is still unknown and will be monitored closely in the coming weeks.

A shrinking market

Further increase in the price of water in line with the rising fuel prices and a decrease in the availability of water supplies is expected. Small-scale water vendors who are not able to access fuel at any cost will have no other option than to suspend their business, which combined with increasing prices will promote hoarding and speculation, potentially leading to a negative cycle of price increases. However, most of these enterprises are small and operate with limited regulation, and our understanding of this market is limited. Traders will continue to purchase fuel at any price while it is available but an increasing percentage of the population will likely be priced out of the market. Further reduction of functionality of public water networks leaves millions of people depending on the commercial water market (water trucking or bottled water), pressuring this market even further.

³ Percentages are all estimates based on ad hoc monitoring and are not representative for the whole country.

Unsafe coping mechanisms

As prices of water continue to rise, the percentage of household expenditure dedicated to water will increase at the expense of other basic needs. People's coping capacity after 2.5 years of crisis have deteriorated, leaving people with difficult choices to prioritise their expenditure. In 2015 the World Bank estimated that over 50% of Yemen's population survived on less than one USD a day, this situation has likely worsened since the start of the conflict and gives most families only a limited resilience to the shock of price increases.

Reports from WASH cluster partners indicate that people are starting to spend cash grants provided for food to buy water, further increasing the risk of famine.

Additionally If people are unable to purchase water, they most likely resort to accessing unsafe water sources such as unprotected wells, rainwater tanks or rivers, which increases the public health risks and can amplify disease outbreaks such as cholera.

It is expected that people will also no longer be able to access sufficient amounts of water, which is known to reduce proper hygiene behaviours, such as proper handwashing with soap and running water. This will put people at risk of water borne diseases such as cholera. This is a major public health risk in a country that is currently facing one of the largest cholera outbreaks in modern history, with over 900,000 suspected cases reported since April 2017.



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KEY ASKS

- ❖ **All ports of Yemen should be re-opened immediately and fuel and other humanitarian goods should be allowed to enter both northern and southern ports of Yemen.**
- ❖ **Fuel and electricity should be prioritized for water and sanitation services and should be made available at reasonable price, to reduce public health risk and avoid another disease outbreak, including cholera.**
- ❖ **Reliable and longer term funding is needed to invest in sustainable energy solutions (solar, wind, etc) to operate water and sanitation systems.**

found at:

<https://www.humanitarianresponse.info/en/operations/yemen/water-sanitation-hygiene>

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