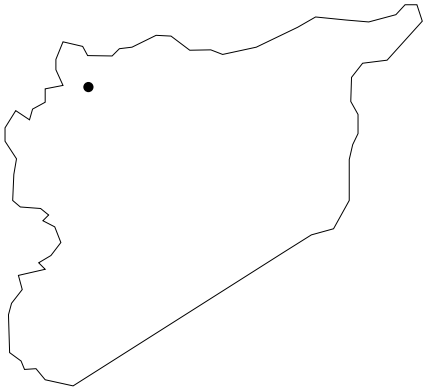
CASE 12. Weaponizing drinking water:

Rivers, purification plants and generators as targets (Syria, 2014-16)

AUTHOR: KNOWN TO PAX

COUNTRY

Syria



PERPETRATOR

Various parties to the Syrian conflict, including the government, ISIS, Jabhat Al-Nusra

ACT

leveraged control over and access to water by targeting water infrastructure, poisoning water sources, diverting water resources, and booby trapping water stations

OBJECTIVES*

- to punish perceived opponents and to terrorise civilians living in opposition areas
- to use water as a bargaining chip or tool of extortion
- for financial gain (by selling equipment and oil, the production of which requires a lot of water)
- to expand territory

** As far as we have been able to discern; the list may not be exhaustive in this regard*

CONSEQUENCES

The widespread occurrence of water-based diseases (e.g. typhoid, cholera, hepatitis)

Reduced hygiene

↳ leading to further development and spread of diseases and other public health concerns

Reduced agriculture

↳ causing food scarcity and malnutrition

Economic problems as water prices soared

Internal displacement

↳ leading to a number of displacement-associated risks (e.g. reduced access to education, income and health care)

Protection concerns for women and children who had to walk long distances to collect water and/or use communal sanitation facilities

Aleppo, sitting on the crossroads of one of the silk roads, is one of the oldest constantly inhabited cities of the world, with its recorded history spanning back to the 5th millennium BCE. It was the largest city in Syria before the 2011 devastating civil war rampaged this commercial hub. Aleppo was gripped with protests not long after those that initially began in March 2011 in Idlib and Damascus, which triggered the Syrian civil war. By early 2012, the city was divided in two: The eastern part was under rebel control, while the western part remained under the control of the Syrian government.[1] The governorate of Aleppo, with its capital as its namesake, saw multiple battles and multiple perpetrators during the civil war. Perpetrators included the Syrian military, backed by Russia and Iran – commonly known as the Russia–Syria–Iran–Iraq coalition; Kurdish militias including the Syrian Democratic Forces, militarily led by the People's Protection Units, known as YPG; the Free Syrian Army (FSA), one of the rebel groups, backed by the US, France and Saudi Arabia; the Lebanon-based Shi'a militant group, Hezbullah; the self-proclaimed Islamic State of Iraq and Syria (ISIS); as well as multiple other militant groups, including, but not limited to Al-Qaeda, Jabhat Al-Nusra, Liwa Al-Tauheed, Ahrar Al-Shaam and Jaish Al-Islam.

The Aleppo governorate and its capital faced many methods of warfare, including suicide bombing, siege, use of explosive weapons in populated areas, urban warfare, chemical weapons, barrel bombs, and the use of water and electricity as a weapon of war. Regardless of the means and methods used, and irrespective of the identity of the perpetrators, civilians bore the brunt of the casualties and suffered the reverberating effects of the harm caused. This chapter discusses the use of water, specifically drinking water, as a weapon of war in Aleppo.

12.1 Case: Militarisation of water in Aleppo

Particularly poignant for the lives of the civilians was the way in which the most basic of all necessities, drinking water, was made into a tool of war. The parties in conflict utilise water, in all its shapes and forms as an essential commodity of life, to their advantage without consideration of the short and long-term consequences for civilians. The control of drinking water for several million people is a significant strategic asset as it provides a huge amount of leverage to the faction which controls it. Water as a vital consumable, the treatment of wastewater, and power provision of water plants became part of military strategy.

Water supply to Aleppo was particularly vulnerable during the war because the various parts of the city were under control of different parties to the conflict. In 2014, the initial pumping station on the Euphrates River was held by ISIS, while the next pumping station in the district of Suleiman Al-Halabi was controlled by Jabhat Al-Nusra, and the final station was in the Syrian government's hands. Vulnerability was compounded by looting of equipment at the water treatment and water pumping stations, targeting of buildings during airstrikes, and

booby-trapping of water stations. Only two out of eight generators remained partially functional in Suleiman Al-Halabi. Water was only available for 12 hours over a period of 48 hours (REACH, 2014).

In April and May 2014, the water to the city and its surrounding areas was cut completely for several days at a time from the ISIS-controlled Al Khafseh pumping station, rendering between 200,000 and 300,000 Aleppans without water (Deen, 2014; REACH, 2014). This affected homes, hospitals, schools, and medical centres. The cuts appeared to be a deliberate interference with the civilian water supply. Conflicting allegations suggested that some armed opposition groups and the Syrian government were both responsible at different moments and to varying degrees.[2] To make matters worse, an airstrike reportedly hit the Al-Khafseh water treatment plant in November 2015, which cut off piped water to an approximate 3.5 million people. An ISIS-affiliated newspaper blamed the Russians for this airstrike, which allegedly mistook it for an oil refinery (Triebert, 2015). Civilians bore the price of all these actions, and many resorted to drinking from unclean sources, including Aleppo's Queik river and puddles.

Furthermore, the processing of wastewater was compromised by the war. By June 2014, attacks and counter-attacks had destroyed several wastewater treatment and sewage facilities in the country, and the damage to the sewage system in Aleppo led to the contamination of drinking water.[3] Jabhat Al-Nusra had bombed the main pipeline carrying water from the Euphrates river to the city. Electricity shortages in the city also meant that water pumping capacities were severely affected. Often, water and electricity were available at different times, which further exacerbated the issue.

In order to provide water to Aleppo, an international non-governmental organisation (INGO) in Syria arranged for a custom made high-capacity generator to arrive in Latakia port in August 2015.[4] The Syrian Arab Red Crescent (SARC) negotiated a ceasefire of hostilities in Aleppo to allow for safe transit of the convoy with the generator, coordinating with all parties, including the Syrian government and its supporter Russia.[5] Notwithstanding these arrangements, the transport to the pumping station sustained delays due to ongoing fighting, while the preparatory works at the pumping station were hindered by booby-traps at the site, hampered access for the workers, ongoing overhead bombardments, and broken equipment. While initially, it was planned that the transportation would take one day, due to the sheer size of the convoy and permissions received by the Syrian government, the convoy only managed to enter Suleiman Al-Halabi area, controlled by Jabhat Al-Nursa, on day five. SARC staff waving flags with the red crescent against a white backdrop accompanied the trucks on foot through narrow debris-lined roads towards the station to show their neutrality as a humanitarian entity (Syrian Arab Red Crescent, 2015). Despite all the challenges in getting the generator into the station and onto the base in opposition-controlled areas with limited resources which took another few days, on 2 January 2016, the generator was finally inside the sterilisation centre of the pumping station. Laila, the logistics focal point of the INGO overseeing the installation of the generator, recalled:

> *I hadn't slept since the day the generator left Latakia; finally I could eat and sleep. I have worked for corporates and the United Nations, but looking back I still consider this as one of the biggest achievements of my professional career.*

While the logistical challenges of transporting the generator were over, the installation was another challenge in itself, explained engineer Mohammed:

> *The teams had to go inside everyday crossing multiple checkpoints. At any one of them, they feared detention and harassment. Every day we heard of a new story, until the workers were stuck inside and their technical supervisor was unable to cross into the Al-Nusra controlled areas. While the workers could do the heavy work, they had never installed such a generator before. We had no choice but to rely on WhatsApp texts and photos as a means of communication between the workers stuck in and their technical supervisor so the latter could still undertake the work.*

However, as soon as the installation was completed, ISIS cut off water from Al-Khafseh in order to negotiate restoration of the Ain Al-Baida pumping station which provided water to areas under their control (Syrian Observatory for Human Rights [SOHR], 2017). Water was finally restored from Al-Khafseh in March 2016. 'I was so worried over those few weeks that I had even stopped shaving. My colleagues began jokingly calling the generator my wife, since they had never seen me in this state. I had even named her Aziza', Muhammed reminisces.

This was not the only generator needed to run the pumping station at full capacity; another high-yield generator was installed at Suleiman Al-Halabi in 2016 by the same INGO. However, as government forces started clashing with opposition forces, the treatment plant came under intense shelling. Three people were killed and at least twelve injured (SOHR, 2016). Damage to a generator and other equipment cut off the water supply, while just prior the Bab Al-Nayrab station had also sustained damage as a result of airstrikes (The Guardian, 2016). By December 2016, the Syrian government and its allies had regained control of all of the city of Aleppo. In March 2017, the government had also recaptured control of Al-Khafseh.

12.2 Victims: 'Access to water should be unconditional'

'Too often in Syria, water becomes a tool in the hands of fighting parties. It becomes a weapon of war. And it is civilians who suffer the most. Access to water should be unconditional,' said Marianne Gasser, head of the International Committee of the Red Cross in Syria (Al Jazeera, 2015). In July 2014, the Syrian government had estimated that 35 per cent of all water treatment plants in the country had been damaged due to war. In Deir ez Zor, water pumping dropped by 90 per cent due to war and resultant serious damage to water pumps while it was still under ISIS control (Strategic Foresight Group, 2014).

Despite limited verifiable data coming from Syria, there is persistent anecdotal evidence from news outlets, people who have worked in the country, as well as Syrians on the effects of the 'weaponizing' of water on the civilian population. In Aleppo, when the water began to get cut for longer periods of time and the population had to rely on wells dug around the city, sanitation water got mixed with the drinking water, and more than a hundred people were poisoned as a result (Reznick, 2016). Rising prices of fuel in combination with rapid currency depreciation meant that boiled water remained a luxury many were unable to afford. Local sources confirmed that between 200,000-300,000 people were affected by the water shutdown (REACH, 2014). Prices of bottled water also tripled in the city as a result of the shortages. The situation in such cases was compounded as INGOs were not allowed to import chlorine into Syria at all as the regime has been accused of using chlorine in chemical bombings against civilian populations.[6]

Faced with such shortages and irregular supply of water, the residents of Aleppo used bomb craters for water collection and storage. A resident of Aleppo revealed:

> *The water network is damaged in some areas, to the point where you can see [bomb] craters filled with water. We are still managing to get water through different means, from local wells. But it's not safe to go out in the street. (Oxfam, 2016)*

Another indicated that 'queuing to get water is a time-consuming struggle and buying water is becoming expensive. You need to pay more to get water first from truckers. […] The situation is becoming unbearable' (Oxfam, 2016). A female resident of Aleppo remarked:

> *I have had to cut my hair, and also force both my daughters to cut their hair. […] We just cannot afford to take care of it anymore. Even washing long hair costs a lot of money, and we would rather use the water for drinking and ration it for cleaning accordingly.*[7]

ISIS diverted water from Al-Tabqa dam in Aleppo to Iraq in May 2014, reducing the flow of the Euphrates river downstream to Raqqa governorate. The drop directly affected five million Syrians, and put an additional two million at risk. The November 2015 airstrike on the Al-Khafseh water treatment plant, which produced 18 million litres a day, cut off piped water to approximately 200,000-300,000 people. The water shortage led residents of Aleppo and Raqqa to draw water from unreliable and potentially unsafe sources of water, like the Euphrates river, and some even resorted to drinking from puddles in the streets (UNICEF, 2015).

Beyond Aleppo

Unfortunately, the story of weaponizing water in Syria was not only limited to Aleppo. The spring of Ain Al-Fijah, where most of Damascus's water comes from, came under FSA control from November 2011 onwards (Waters, 2017). They used this as leverage by cutting water several times, forcing the government to withdraw their troops and release prisoners (Reznick, 2016). This had 'a devastating impact on more than five million civilians in both government and opposition-controlled areas who were deprived of regular access to potable water for over one month', according to a UN investigator (Miles, 2017).

In Damascus itself, water was controlled by the regime and distributed according to the level of loyalty, according to Qassem Mohammad, a Damascus-based opposition activist. As a result, government-controlled areas with heavy military presence received water almost daily, while the population in opposition territory received water for only two hours a day. The residents of Yarmouk refugee camp and Jdeidet Artouz, also under opposition control, received water once every twenty days. 'That which arrives, tastes like fuel', one resident remarks. 'I saw a man who could not pray at his son's funeral because he had not washed in more than two months,' said Youssef al-Bustani, a spokesman for the revolutionary coordination committees in Damascus' countryside region (Razzaq, 2015). A worker in the water pumping station in an opposition-controlled area remarked:

> *We don't have enough equipment or time to check if the water has been poisoned. We keep fish in the reservoir in the station. If the fish die, we know something is wrong so we can quickly turn the water off to avoid civilian casualties. The people have no option but to drink water; there is no fuel to boil it.*[8]

Residents were able to access water for up to two hours every three or four days. Many turned to unregulated private distributors, where neither price nor quality are regulated, prompting concerns about the risk of water-borne diseases. The financial burden to households is considerable; families could pay up to USD 12 for only 1,000 litres of water (UN News, 2017).[9] Many have contracted hepatitis and typhoid due to drinking contaminated water (Razzaq, 2015).

In December 2016, water again stopped flowing altogether in Damascus. Each side has accused the other of damaging the spring's infrastructure. In March 2017, UN investigators accused the Syrian air force of deliberately targeting the water facility: A war crime that cut off water for an estimated 5.5 million people in and around Damascus (Al Jazeera, 2017).

Reverberating effects

A combination of damaged infrastructure, a lack of maintenance, manipulation and limited power-supply has resulted in a 50 per cent reduction in access to safe water since the start of the war. According to the 2016 Humanitarian Needs Overview, this forced almost 70 per cent of people inside Syria to rely on unregulated and often expensive sources of water for drinking, domestic use and personal hygiene. While there is a general dearth of data on this in Syria, the lack of adequate clean water is also known to increase the risk of food insecurity, malnutrition and water-related diseases. The former two were mostly recorded as a result of supply lines being cut deliberately, including water supplies, and siege-like situations in the country as opposed to as a result of direct lack of access to water. However, the 2017 polio outbreak in eastern Syria spread as a result of abysmal sanitation; children who had not been vaccinated against polio contracted the crippling and potentially deadly virus (Venters, 2017).

In addition to health and hygiene problems, the struggle to get water creates recurring protection risks for the population. The long distances and the considerable queues to get water, expose families – including children – to attacks from warring parties. The use of communal latrines, often the only available sanitation, makes women and children in particular vulnerable to attack and abuse, especially after dark (Jägerskog & Swain, 2016).

Whilst conflict and protection concerns are the primary drivers for the recent displacement trends in Syria, a lack of access to essential services such as water is cited as a major reason amongst both Syrian refugees and internally displaced persons within Syria for fleeing their communities. This displacement places yet another burden on the often already stretched capacity of host community services.

Lastly, the effects on the population of the use of the most essential of all life commodities as a tool of war are also psychological. The uncertainty, the fear caused by the threat of absence of water, undermines society. In Damascus, the water shortages and rationing sent residents into a panic, especially as rumours circulated about a rebel threat to bomb the spring and destroy the supply for good. King (2015, p. 157) calls this incident an instrument of 'psychological hydro-terrorism'.

12.3 Perpetrators: Using water to their advantage

Opposition forces, ISIS, and Syrian government forces all bear responsibility for the destruction of water infrastructure during the Syrian civil war. This section focuses in particular on the acts of the Syrian government and ISIS, the parties who were the most engaged in the manipulation of water for belligerent purposes.

While the rebels also controlled water and used it as a source of leverage, especially while they were controlling Wadi Barada, they did not destroy vital infrastructure to the same extent as the other two parties.

The Syrian government and its allies

The Syrian government used many tactics in the civil war, that resulted – intentionally or not – in damaging water systems to the detriment of the population. The Russia-Syria-Iran-Iraq coalition executed multiple airstrikes that ravaged water infrastructure. In August 2014, airstrikes on ISIS positions in the eastern Syrian city of Raqqa hit the city water plant and cut off water supplies to the locals. Similarly, in September 2014, after a drought and a typhoid outbreak in the summer, conflict between government forces and militant groups destroyed the pipelines supplying water to Yarmouk refugee camp in south-western Syria. Rehabilitation efforts only began in 2020.

The government further leveraged water by prioritising rehabilitation and repair of water systems in government-supporting areas. For instance, when a Russian airstrike targeted Aleppo's main water treatment plant in November 2015, it was reportedly repaired by the government within five days as the plant provided water to government-controlled areas. In contrast, the water pumping station in Deir ez Zor, also damaged in an airstrike in November 2015, was only rehabilitated in 2019 when the area came under government control.

Additionally, there are reports of deliberate contamination of water. In December 2016, fighting between the Syrian Arab Army and opposition forces damaged the pumps at the Ain-al-Fijah springs in Wadi Barada (see above). The water that remained flowing became contaminated with diesel fuel. The damage could be 'because of fighting, or because of sabotage or because of both,' said Jan Egeland, a special adviser on Syria for the UN. Government and opposition forces accused each other (Knipp, 2017). However, the most likely perpetrator is the government, as there is evidence of the Syrian Arab Army bombing in close proximity to the spring and video footage of a bomb hitting the spring. This bombing is also probably the most likely reason for diesel entering the water supply, whether from a damaged fuel tank, generator, or otherwise. Secondly, if the armed opposition groups had wished to cut the water supply, they could simply block or divert the spring, as they had done in the past; nor was destroying the structure in their interest as it was an important instrument of leverage for them.

ISIS

ISIS made aggressive and frequent use of water to terrorise and harm civilians, attack military forces and conquer territories in Syria and Iraq, amongst others by flooding, cutting off water and electricity supply, and diverting water flow. They used water and water infrastructure as a tool of expansion, a financial asset, and as a weapon, often covering several of these goals within one operation (Strategic Foresight Group, 2014).

By capturing strategic dams and upstream portions of the Euphrates-Tigris basin, ISIS gained control over nearby regions dependent on those streams for drinking water, irrigation and electricity supply. For example, in early May 2014, ISIS diverted water from Lake Assad, the reservoir of the ISIS-controlled Tabqa Dam, to Iraq and Aleppo, reducing the level of the Euphrates river. They did this partly to provide water to the areas under its control and partly to threaten downstream opponents in Raqqa governorate (Von Lossow, 2016). In a similar tactic they seized control of the Ramadi dam in central Iraq in May 2015 and diverted water into Lake Habbaniya. Consequently, ISIS gained (partial) control over water supplies for Babylon, Karbala, Najaf, Qadisiya and Anbar

governorates – areas that they gained control over without having to physically occupy them. After capturing the large dams at Falluja, Mosul, Samarra and Ramadi, ISIS not only interrupted local water supplies but also deprived distant Shiite areas in the lower reaches of the Euphrates and Tigris of water by damming and diverting it (Von Lossow, 2016).

ISIS also used their dams extensively to produce and provide electricity to surrounding regions. In many cases they retained the staff working at the plant and continued to supply electricity to government-controlled areas, especially Damascus and Hama, in a tactical move to garner popular support by providing electricity, employment and a resultant boost to the local economy (Strategic Foresight Group, 2014).

Financially, not only the electricity generation at the dams brought ISIS revenue, but their access to water sources enabled them to extract and produce oil from their captured oil fields in Syria and Iraq, a process that requires significant amounts of water. The control over water also consolidated their domineering position over agriculture. Until ISIS lost Mosul Dam in August 2014, it controlled 40 per cent of Iraq's wheat producing area.

Direct weaponization was also achieved, amongst other means, by creating floods. In April 2014, after ISIS closed the Falluja Dam floodgates, the retained water flooded large areas upstream and submerged Iraqi government facilities on the banks. The water inundated extensive areas up to 100 kilometres away, and put the town of Abu Ghraib in Baghdad governorate under up to 4 metres of water. Over 10,000 houses and around 200 square kilometres of fertile farmland carrying harvest were destroyed and livestock drowned. Up to 60,000 locals were resultantly displaced.

Contamination of water was another weaponization mechanism that ISIS employed. In December 2014, ISIS deliberately contaminated drinking water with crude oil in the Balad district of Salahaddin governorate. There were also reports of poisoned water supplies from Aleppo, Deir ez Zor, Raqqa and Baghdad. Finally, ISIS created further insecurity by looting, sabotaging and booby-trapping water plants in Syria and Iraq upon their retreat. They blew up the turbines of Tabqa Dam in Aleppo when they withdrew (Hubbard, 2018). As a consequence, the necessity to clear the treatment plants of booby-traps and explosives before rehabilitation works could commence, significantly delayed resumption of services.

12.4 Significance: Water as a weapon of war

The first ever documented war revolving around water took place about 4,500 years ago, in the Levant, when the armies of Lagash and Umma, city-states near the junction of the Tigris and Euphrates rivers, battled with spears and chariots after Umma's king drained an irrigation canal leading from the Tigris. 'Enannatum, ruler of Lagash, went into battle,' reads an account carved into an ancient stone cylinder, and 'left behind 60 soldiers [dead] on the bank of the canal' (Hammer, 2013). The revered story in Shi'a Islam, on how Hussein ibn Ali, Muhammad's grandson, and his followers, a caravan of almost a hundred people including women and children, were denied water from the Euphrates in the Iraqi city of Karbala in October 680, by Yazid and his army, is not forgotten in Iraq, and in fact brings in thousands of pilgrims every year. Yet, even with this deadly history relating to water in the region, belligerents have no hesitation using the same tactics, denying a fundamental human right to their opponents, with mostly civilians bearing the brunt of it.

For tactical and strategic reasons, water frequently plays a significant role in violent conflicts and wars. Sensitive components of water infrastructure – treatment plants, piping systems, pumping stations, reservoirs – can become targets for military violence. However, the use of water as a military-purpose weapon is much more complex and primarily serves to put pressure on the population and the opponents' political leadership. Drastic interventions in water and electricity supplies are meant to break resistance and gain the support of the population by force, or else to drive people out. The aim can also be to destroy agriculture and food production, and render whole areas uninhabitable. The strategic dimension of water in conflict situations is most evident with rivers because control over the resources in the upper reaches makes it possible to gain influence over or inflict targeted damage on larger and more distant areas, without necessarily directly attacking, occupying or controlling them militarily (Von Lossow, 2016).

The significance of water and related infrastructure in Syria and Iraq is evident. It was widely reported that the decisive factor in the US decision to launch the air campaign against ISIS in August 2014 was the organisation's seizure of Mosul Dam. In this way, it was ISIS' use of water as an instrument of both strategic and psychological hydro-terrorism that escalated the conflict by provoking a new actor and a new type of warfare (the aerial campaign) into the fray. Among the parties to the conflict, ISIS has used 'hydro-terrorism' (King, 2015, p. 160) to great effect.

Given the evident role of water in modern warfare and the devastating effects on civilians that abuse of water infrastructure provokes, it is striking how little protection International Humanitarian Law (IHL) offers to prevent attacks on civilian water systems, especially in civil war and local conflicts. IHL prohibits intentional attacks on civilians and limits the use of specific instruments of war, such as chemical and biological weapons, but pays less attention to the secondary or indirect consequences of the destruction of civilian infrastructure. Moreover, IHL does not appear to invoke sufficient liability or accountability on governments in a way that offers effective constraints on military operations targeting such infrastructure. Enforcement of the laws of war and punishment of violators of these laws, is rare (Gleick, 2019).

There has been a dramatic increase in the number of reported events in which water was weaponized after the 1980s, perhaps partly alluding to improved reporting tools and the quality of access to information. What is also interesting is the shift from multi-state towards intra-state conflicts, and an increase in attacks on water service infrastructure. This roughly translates to governments and armed opposition groups using water against their own civilians, as seen in the case studies presented above.

The use of water as a weapon in Syria has caused few, if any, military battlefield casualties. However, it has certainly taken its toll on civilians. This can be measured both by the suffering caused by mass migration and by outbreaks of waterborne diseases, a result of water contamination and lack of basic water, sanitation and hygiene facilities. Control over water has proven relatively useless as a tactical military weapon, but effective as a tool of political control. Moreover, the humanitarian consequences of weaponization of water, in whatever form, are likely to last long into the future, regardless of the immediate outcome of the war (King, 2015). The full effects of water wars are yet to be seen. Water mismanagement, agricultural failures, decreases in water availability and related economic deterioration have all contributed to matters like urban unemployment, economic problems, food insecurity, and subsequent social unrest (Gleick, 2019).

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Endnotes

1 'Rebel control' is the umbrella term used to include armed opposition groups, apart from ISIS, fighting against the Syrian government.

2 Reports from various media outlets also vary, with Al-Jazeera's report claiming that the Syrian regime was behind the May 2014 cuts, and the Independent attributing the cuts to rebels.

3 See also chapter 4 on the specific consequences of wastewater installation targeting on civilians in the Gaza Strip.

4 The following anecdote, including quotes, are based on the author's own experiences while based in Syria during 2015-16.

5 For transportation of goods and equipment in Syria, one needed a no objection certificate (NOC) for transport within the governorate, as well as transport from one governorate to another, from each governor. These NOCs lasted three working days each, which meant that transporting the generator needed to be closely coordinated to ensure that all NOCs are received in time.

6 This is based on the author's own experiences while based in Syria during 2015-16.

7 This is based on the author's own experiences while based in Syria during 2015-16.

8 This is based on the author's own experiences while based in Syria during 2015-16.

9 In the US, one would pay approximately USD 0,40 per 1,000 litres.