

CRISIS OVERVIEW

On 15 April 2023, clashes erupted between the Sudanese Armed Forces and the Rapid Support Forces (RSF) in multiple areas of Sudan. Multiple ceasefires have created temporary lulls in fighting, but violence continues. The most affected states are Al Jazirah, Central Darfur, Khartoum, North Kordofan, South Kordofan, West Darfur, and West Kordofan (IOM 02/08/2023).

As at 23 August 2023, more than 4.5 million people had been displaced within Sudan, and more than 926,000 had fled to other countries (OCHA 23/08/2023). The armed conflict has also resulted in thousands of deaths and injuries, although available data is unreliable as access restrictions challenge data collection (OCHA accessed 28/07/2023).

The displacement, access constraints, and destruction of infrastructure resulting from the conflict have affected people's access to essential items, such as food and water. These have also affected access to WASH services, aggravating related needs. In November 2022, at least 11 million people needed WASH assistance (OCHA 07/11/2022). As at May 2023, one month after the start of the armed conflict, this number had increased to 15 million (OCHA 17/05/2023). The conflict is also affecting the hospital system, with about 80% of hospitals not functioning as at 1 August 2023 (UNHCR 02/08/2023; ACAPS 27/04/2023).

Between 15 April and the end of May 2023, more than 300,000 people in Khartoum did not receive tap water. Infrastructure damage from aerial bombardment and explosive ordnance affected water pipes and water treatment plants, making service intermittent (VOA 26/05/2023). Without safe drinking water, civilians used possibly polluted water from the Nile River without treatment (BBC 20/04/2023 a). Fighting has led to access restrictions and disruptions to communication infrastructure, resulting in a lack of up-to-date information on the WASH situation in Khartoum.

Even before the current conflict, WASH needs in the country were already increasing in 2022 because of floods, droughts, rising displacement in Darfur and Kordofan states, and an influx of refugees from Ethiopia and South Sudan. The coup d'état on 25 October 2021 complicated the delivery of WASH services, which relied on key government line ministries and departments (such as the Water and Environment Sanitation department, State Water Corporation, and the Ministry of Health) (UNICEF 03/2022 a). Over 17 million people did not have access to basic levels of safe drinking water, and around 24 million (almost half the country's population) did not have adequate sanitation facilities. Unhygienic practices, such as open defecation, were common in the country, with at least 10.5 million people doing it recurrently (UNICEF 30/07/2020).

About this report

Aim: this report seeks to understand how the armed conflict in Sudan has affected WASH services across the country. While some reports document disruptions to water services or the scarcity of resources for the rapidly increasing population in certain states, few have explored how the armed conflict has modified patterns of WASH service use and interacted with the country's WASH infrastructure and the workers in charge. This report seeks to address this information gap.

Methodology: this report is based on the review of secondary data, mainly reports from humanitarian organisations and press information. To supplement this, ACAPS conducted several interviews with key informants to triangulate publicly available information and better understand information gaps.

Information gaps: damage to the Sudanese health system from attacks during the current conflict and the lack of medical personnel limit the possibility of identifying disease outbreaks in time. Available information about disease outbreaks is based on anecdotal and location-specific assessments, and the number of people affected is very likely higher than reported (Saied 13/05/2023; Dyer 25/04/2023).

Access constraints in areas with active conflict have made it difficult to conduct proper assessments; the estimates used may not project true figures.

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KEY FINDINGS

The current conflict has damaged several water treatments plants and pumping stations across the country. The armed groups in dispute have also attacked, threatened, or held workers at these stations. This, coupled with constant power cuts and fuel shortages, has resulted in intermittent drinking water supply in combat zones, such as Khartoum and North Darfur.

Across Sudan, water was already a scarce resource before the recent crisis. The rapid influx of displaced people since April 2023 has placed additional pressure on host communities and made water even harder to come by. One example is White Nile state, which has had to adjust from providing water and sanitation services to only a small number of people to tens of thousands more since the eruption of conflict (KII 02/08/2023).

Because of water infrastructure damage and the rapid increase of displaced people in host communities, people have had to use non-potable water sources, such as river water. This raises their risk of contracting diseases and infections; cases of cholera, measles, and polio are already increasing. In Blue Nile and Khartoum states, cases of waterborne diseases that were under control before the start of the conflict (such as malaria, measles, dengue fever, and acute watery diarrhoea) are on the rise (OCHA 28/07/2023). The almost total disruption of health services in some areas of Sudan aggravate these outbreaks. The crisis in the hospital system is also challenging the identification and monitoring of outbreaks in each state.

Displaced people staying in makeshift shelters have less access to WASH services. This puts them at greater risk of contracting infections during the rainy season, as they are often in open areas with few sanitation facilities. The increased cost of items such as water and soap will also further affect the populations whose livelihoods have been disrupted by the current conflict.

In Sudan, the impact of the conflict and displacements coincide with climate hazards, such as heavy rains, leading to localised flooding in some regions (such as North Darfur and White Nile) and prolonged drought in others. Floods can contaminate water sources, while droughts can make water even scarcer.

Because of increasing needs, WASH humanitarians have changed response strategies, shifting their focus towards life-saving interventions. These include developing actions to respond to community needs in urban areas where water infrastructure has been destroyed or is not in operation.

IMPACT OF THE CURRENT CONFLICT ON WASH NEEDS

Lack of water supplies

Damage to infrastructure and water shortages

The destruction of water supply infrastructure is one of the direct consequences of the current conflict on the provision of WASH services. The fighting has partially or totally destroyed several water treatment plants and affected water pumping stations (WASH Cluster 24/08/2023; Fanack Water 17/07/2023; OCHA 02/05/2023). On 15 April 2023, one of the main water pumping stations in Bahri (Khartoum North) suffered some damage, resulting in frequent water outages (BBC 20/04/2023 b). In Omdurman and Um Bada in Khartoum state, the destruction of two electric transformers has put water pumping stations out of service. Little information is available on when the transformers will be replaced (WASH Cluster 29/08/2023).

Even when the violence has decreased temporarily, access to bottled water remains scarce (BBC 20/04/2023 b). Besides the damage to water treatment plants and pumping stations, constant power outages also affect the constant supply of drinking water, as pumps rely on electricity to function. These power outages result from both infrastructure damage and a lack of workers, with the conflict displacing people (Mint 19/04/2023; France 24 14/07/2023). On 6 August, Al Fasher Water Department (in North Darfur) reported that its power service was interrupted, as electricity workers were on strike after the RSF detained one of its workers. Workers at other stations have also stopped working because of the lack of security and safety during the fighting. Water shortages continued in several parts of Sudan, including North Darfur, until at least 6 August (Radio Dabanga 06/08/2023). As at 30 August, the water stations in Bahri and El Shajara were not in operation as a result of electricity and fuel shortages (WASH Cluster 29/08/2023).

The RSF has taken over some water and electricity stations or threatened workers, resulting in a lack of drinking water supply for the people living in areas with active violence, such as Khartoum and North Darfur. The group's actions have particularly influenced Al Fasher town, where water supply had been affected since June and was still affected as at early August (Radio Dabanga 06/08/2023).

Water access in Sudan was already precarious for many people before the start of the current conflict. As at November 2020, around 32% of Sudan's population did not have access to basic domestic water supply for drinking and household use, and only 28.2% of Sudan's population had access to both domestic water supply and sanitation facilities (AFMM 04/11/2020).

At a national level, coverage for drinking water was estimated at 60% as at December 2022. Blue Nile, Gadaref, and Red Sea were the states with the lowest levels of coverage. Among the rural population, only 53% had access to a drinking water source within a 30-minute walk, 28% had to walk more than 30 minutes to find drinking water, and the remaining 19% consumed contaminated water (UNICEF 21/03/2023). 28% of water sources had insufficient water, and 25% were reported as not functioning as at November 2022 (OCHA 07/11/2022).

Limitations on domestic water supply, worsened by the impact of the conflict, increase the time families have to spend fetching water from the nearest sources, which can take hours of walking. Families usually assign fetching water to women and children. The extended time increases their risks of assault, harassment, attack, and rape, especially in the conflict context. Poor families are more exposed, as they cannot afford to fetch water from trucks, have no means of transport to facilitate the task, and cannot afford the transportation to flee conflict areas (CARE 30/04/2023; ACAPS 11/08/2023; OCHA 26/02/2023).

Unsafe sources of water

Without safe drinking water, people have resorted to using water from unsuitable sources. During the early months of the conflict, civilians reported waiting for days in their homes for the violence to subside so they could collect enough water to last them a few days at the banks of the Nile River in Khartoum (Fanack Water 17/07/2023; VOA 26/05/2023; BBC 20/04/2023 a).

The Nile River has been tested several times over the years, with only low levels of pollution being detected (BBC 20/04/2023 a; Gov't Sudan 05/12/2017). On the other hand, the water in the Blue Nile (one of the tributaries of the Nile) is rapidly becoming polluted because of industrial growth and floods (Bashir et al. 07/11/2022). Water levels in the Nile are also rising as a result of the rainy season and are expected to flood riverine communities in the coming months (WASH Cluster 29/08/2023).

In the wake of the current conflict, water trucking remains the most common water source for household use across Sudan. The lack of fuel has resulted in humanitarian responders, particularly in Khartoum, distributing treated water pumped directly from the Nile River (WASH Cluster 29/08/2023 and 24/08/2023; MEE 30/06/2023).

In some cases, there have been reports of people going to hospitals because of the availability of treated water for patients. With about 80% of hospitals not functioning, this option is diminished for a large portion of the population (UNHCR 02/08/2023; VOA 26/05/2023).

Sanitation

Sanitation is particularly poor in IDP sites, since available facilities are under pressure because of the large influx of IDPs. In White Nile, the few available sanitation points are

insufficient to serve the influx of displaced people. As at 2 August 2023, water demand in IDP sites in White Nile state had risen from 15m³ before the conflict to more than 300m³ per day. The available sewer installation in White Nile IDP sites had also been exceeded, developing a risk of transferring waterborne diseases (WASH Cluster 24/08/2023; KII 02/08/2023).

In 2020, more than 10.5 million people in Sudan practised open defecation, meaning that they defecated in bushes and other open areas. The country has the most people practising open defecation in the Middle East and North Africa regions (UNICEF 30/07/2020).

Open defecation can result in human waste contaminating water sources used for drinking water, such as rivers. This risk increases especially during the rainy season, as floods often carry waste and discharge it into larger bodies of water. This can expose the population to waterborne diseases (UNICEF 30/07/2020; HelpAge 16/05/2023). Particularly for women, a lack of privacy when practising open defecation also creates the risk of sexual harassment or violence (UNICEF 10/2022; Saleem et al. 06/02/2019).

By 2022, half of Sudan's schools had no water access or only had dysfunctional facilities. Handwashing facilities were only available in 10% of schools in the country (UNICEF 03/2022 a).

Stretching resources in the face of rapid influxes of people

Most of the people displaced by the current conflict reside with host communities. The states with the largest numbers of IDPs are River Nile (499,093), South Darfur (486,285), East Darfur (467,570), Northern (364,173), North Darfur (292,384), and White Nile (286,946), but almost all regions of the country have received a large influx of IDPs (IOM 05/09/2023).

Prior to the conflict, Sudan's population was already increasing rapidly. The population of Sudan in 2022 was over 41 million, with a growth rate of approximately 2.4% annually (UNICEF 03/2022 a). About two-thirds of Sudanese live in rural areas (ISS 03/10/2022). This rapid population growth, coupled with a large influx of refugees from neighbouring countries (mainly the Central African Republic, Chad, Eritrea, Ethiopia, and South Sudan), has limited the Sudanese Government's capacity to ensure the population's access to WASH facilities (UNICEF 03/2022 a). Before the start of the current conflict, 151 of the 189 localities in Sudan were classified to be in a state of crisis or critical water shortage (OCHA 07/11/2022).

Before the current conflict, water shortages in several areas of Sudan led to interclan clashes that also escalated into tribal disputes (TWD 26/04/2022). Populations in some states, such as the Darfur states, also engaged in disputes over water scarcity. Previous droughts and the desertification of certain areas in the north of the country also caused many people to relocate (Fanack Water 17/07/2023). Current displacement to several states, especially those with previous conflicts over scarce resources, could spark additional hostilities.

Water scarcity during the current conflict influences the food security and nutrition of the population. Firstly, the lack of water has the potential to contribute towards food price increases, as there is not enough water available for soil irrigation. Secondly, poor hygiene practices and the low consumption of safe drinking water can aggravate conditions, such as malnutrition, or produce new diseases that would increase the mortality risk for already malnourished children. The IPC has estimated that at least 20.3 million people in Sudan will be food-insecure between July–September 2023 (IPC 02/08/2023).

In response to the increasing needs of the population, especially with the influx of people in IDP camps, humanitarian responders have shifted the focus towards constructing additional communal latrines and reduced new household sanitation installations (WASH Cluster 29/08/2023).

Forced displacement

Lack of WASH services in areas with clashes

As at 23 August, 75% of IDPs across Sudan were from Khartoum (IOM 22/08/2023). As at 11 July, another significant group of IDPs had left Darfur region (which includes the states of Central Darfur, East Darfur, North Darfur, South Darfur, and West Darfur) (OCHA 09/08/2023). These are also the states where WASH service disruptions have been the most constant since conflict remains active in these regions (OCHA 15/08/2023).

As at 18 July, the RSF had taken control of four water supply stations in Khartoum: Beit El Mal (Omdurman), Burri (Khartoum), El Mogran (Khartoum), and Khartoum North (Khartoum). This has resulted in water cuts in Khartoum North and Omdurman. Several water station workers have also been detained (Radio Dabanga 06/06/2023).

With their seizures and as a result of the fighting, many water stations have suffered physical damage. Repairs have been difficult because spare parts are scarce, repair conditions are unsafe for workers, and some staff have been displaced (OCHA 15/08/2023). As a result, even plants that have not been taken over by armed groups are only partially operating, such as Um Dabakir near Kosti in White Nile state (Radio Dabanga 18/07/2023). On 11 July, the RSF blocked engineers from accessing water stations in Khartoum North to maintain water pipes. As a result, civilians in Khartoum North are experiencing long water cuts. The RSF has also banned tankers selling water from entering the area (ICRC 19/06/2023; AllAfrica 11/08/2023). According to some reports, some civilians have been displaced, mainly from Khartoum North, because of the continued lack of water (Radio Dabanga 06/06/2023).

In Darfur region, the situation is similar, as damage to power and water stations and the risks for technical staff to access them have resulted in constant water cuts since the start

of the fighting. Garbage in urban neighbourhoods has also been left uncollected for weeks, and dead bodies have remained in the streets for days. With the onset of the rainy season, these increase the risk of water contamination and waterborne disease transmission (ICRC 19/06/2023). The drinking water shortage remained a problem as at 13 August (Radio Dabanga 06/08/2023; Reuters 13/08/2023). There are some reports of civilians dying from hunger and a lack of clean water, although there is a lack of up-to-date numbers (OCHA 15/08/2023).

WASH services in camps

Among the IDPs in Sudan, about 7% live in formal camps, approximately 4% in improvised shelters, 5% in schools or public buildings, and 4% in informal open-area settlements. In mid-August, IOM identified WASH services as one of the main needs for these IDPs (IOM 15/08/2023).

In formal camps, while access to treated water sources is high, water is insufficient for the population. For example, in White Nile camps, over 90% of households reported collecting water from treated sources, but only 5–54% of households (depending on the camp) reported having at least 10L of drinking water storage per person. For example, in Al Jameya and Khor Alwarel camps, only 14.7% of households had access to water from protected/treated sources for domestic use. Access to WASH facilities is also low and varies between camps. The range between camps is 6–15% for households with access to soap and 71–90% for households defecating in toilets (UNHCR et al. 06/08/2023).

In informal settlements or makeshift shelters, access to WASH services is more precarious. During the rainy season, IDPs living in open areas or shelters with roofs in bad conditions risk cold exposure or damage to their property from direct rainfall (NRC 24/07/2023). The lack of sanitation facilities leads them to resort to open defecation, creating the risk of diseases and infections (OCHA 15/08/2023). The lack of water also leads them to resort to unpotable water sources, and storage in unsuitable facilities increases the risk of waterborne diseases and gastrointestinal infections (UNHCR 25/04/2023).

As at 24 August, humanitarian responders were actively providing WASH services in IDP sites across the country, although challenges such as liquidity issues, fuel shortages, power shortages, and insecurity persisted (WASH Cluster 24/08/2023).

Disease outbreaks

Nationwide, nearly three million children under the age of five are malnourished, and 700,000 are at risk of severe acute malnutrition and death. In these conditions, some diseases, such as measles, malaria, and acute watery diarrhoea, may have a higher risk of lethality. The conflict in Sudan, having disrupted health and various WASH services, has led the population

to turn to unsafe water sources and contaminated food, increasing the contraction risk of several diseases (UNICEF 04/08/2023; ABC News 11/08/2023; Gavi 28/07/2023).

Measles: since the beginning of 2022, several measles outbreaks have occurred in Sudan, mainly in East Darfur and West Kordofan. According to Médecins Sans Frontières, the majority originated from South Sudan refugee camps, where several measles outbreaks have been declared (MSF 12/04/2022; Radio Dabanga 05/05/2022). Between 15 May and 17 July 2023, more than 300 people (mainly children under five) died from measles and malnutrition (UNHCR 08/08/2023 a). 1,835 measles cases were confirmed across eight states in Sudan in July, with a case fatality rate of 1.82% (Health Cluster 07/08/2023). The disease has likely spread across 28 localities in 11 states (OCHA 28/07/2023). In White Nile state refugee camps, at least 36 children have died, and there are 1,551 suspected cases, 75% of which affect children under the age of five (UNHCR 08/08/2023 b). In 2021, at least 20% of children did not receive any dose of the measles vaccine in Sudan (UNICEF 03/2022 b). Vaccination campaigns are active in some White Nile refugee camps and are planned to start in Northern, Red Sea, and River Nile states in August and September. Conflict-affected areas were not accessible for health response as at 7 August, meaning actual numbers of those affected are likely higher (Health Cluster 07/08/2023).

Malaria and dengue: since before the current conflict, cases of malaria and dengue fever have been on the rise in Sudan. As at 5 March 2023, there were at least 1,200 suspected cases of dengue fever, 487 confirmed cases, and two related deaths in Khartoum (Radio Dabanga 05/03/2023). During the first week of March, at least 5,600 malaria cases were registered in the greater Khartoum area (Radio Dabanga 08/03/2023). At the end of July, malaria cases were still being reported among displaced people. Although the conflict is complicating the confirmation of cases, the rainy season is expected to aggravate the situation (UN 27/07/2023; VOA 27/07/2023).

Cholera: Sudan has had repeated cholera outbreaks since 2016 (WHO 15/10/2019). While no systematic increase in confirmed cholera cases has been reported, the disruption of WASH services, water shortages, and untreated water consumption have increased the risk of food or water contamination (The EastAfrican 08/08/2023). In Amhara region (Ethiopia), where several displaced people have arrived from Sudan, a cholera outbreak was reported in May, which may indicate that there are unidentified cholera cases in Sudan (Health Cluster et al. 20/06/2023; OCHA 17/08/2023). The collapse of medical services and the continuation of the conflict in some regions make it difficult to confirm suspected cases in time (The EastAfrican 08/08/2023).

Acute watery diarrhoea: since the beginning of the current conflict until the end of July, 300 cases and seven deaths from acute watery diarrhoea have been confirmed in Sudan (OCHA accessed 28/07/2023). The numbers are likely higher, with damaged hospitals and the lack of medical staff and equipment challenging the population's access to the health system (Gavi 28/07/2023). Acute watery diarrhoea occurs mainly among children. In several states, children

simultaneously present acute watery diarrhoea, measles, and malnutrition, complicating the timely identification of conditions (UNICEF 04/08/2023).

Polio: in December 2022, an outbreak of a poliovirus variant was confirmed in Sudan along the border with Chad (GPEI 25/07/2023). Polio cases have been reported in Al Jazirah, Blue Nile, East Darfur, Red Sea, and West Darfur (Smartraveller accessed 11/08/2023). Laboratories have been set up to detect the virus, and vaccination campaigns are underway in the country, but the conflict affects these processes. In May, UNICEF reported that the looting and damage of facilities led to the destruction of about one million vaccines (Reuters 05/05/2023). Widespread immunisation campaigns continue in the country despite this damage, but the conflict keeps the transportation of vaccines and maintenance of cold chains at risk (Gavi 28/07/2023; OCHA 17/08/2023).

COMPOUNDING FACTORS

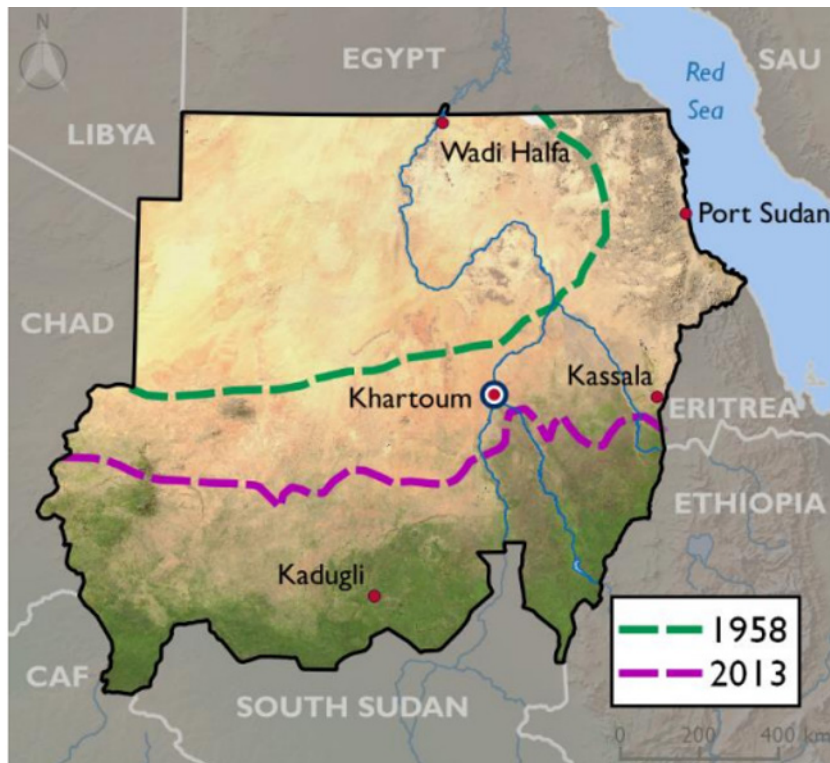
Impact on health infrastructure/disruption of medical supplies

The conflict has significantly affected the Sudanese health system. WHO estimated in late July that more than 65% of hospitals were not functioning in the country (UN 27/07/2023). As at 24 August, WHO had verified 51 attacks on healthcare facilities, with ten associated deaths and 24 injuries. These attacks included the destruction of medical equipment and vaccines. As a consequence, disease surveillance, health laboratories, and rapid response teams are considerably limited throughout the country (WHO 24/07/2023). Besides its effect on care for the wounded in combat or the victims of sexual violence during war, this disruption risks aggravating outbreaks of diseases such as cholera, malaria, dengue fever, and polio (Insecurity Insight 10/05/2023). The inability to adequately monitor suspected cases, test them in laboratories, and treat them early can increase mortality and transmission. Violence also constrains the transport of vaccines and medical supplies for their treatment in several parts of the country (OCHA 17/08/2023). Some vaccines have already been destroyed during the current conflict, and others remain inaccessible because of the fighting (Insecurity Insight 10/05/2023).

As at 19 August, WHO had delivered more than 200MT of urgently needed essential medicine and medical supplies by air, sea, and land. This supplements the supplies that had been prepositioned prior to the conflict. An early warning alert and response system was also launched in Sudan on 24 August to replace the previous surveillance system that had been disrupted by displacement, insecurity, and a lack of resources. The new system will support the early detection of suspected outbreaks of diseases such as malaria and acute watery diarrhoea, which are currently spreading across the country (WHO 24/08/2023 and 19/08/2023).

Extreme weather conditions

Desert expansion in Sudan, 1958–2013



Source: USAID (08/2016)

Rainy season: the rainy season in Sudan generally occurs between June–September, with a peak between August–September. The 2022 rainy season affected 349,000 people, damaged more than 48,000 houses, and destroyed more than 24,800 (OCHA 08/12/2022). Floods affected 15 of the country’s 18 states, with Central Darfur, Gedaref, Kassala, South Darfur, and White Nile being the worst affected (OCHA 08/12/2022; ACAPS 21/06/2023).

The rainy season usually affects WASH services in Sudan. During 2022, rains damaged 1,000 water sources and 2,500 latrines in the country (OCHA 28/08/2022). Rain is likely to affect the large number of displaced people living in camps or makeshift shelters with poor WASH facilities. Flash floods or overflowing rivers may also contaminate the water sources that civilians use. This risks the transmission of gastrointestinal infections, as well as

waterborne and vector-borne diseases (such as dengue, malaria, cholera, Rift Valley fever, and chikungunya, which are already present in the country) (OCHA 17/08/2023 and 15/08/2023). In areas with lower-than-normal rainfall levels, water access may be scarcer, aggravating the already existing water scarcity, the extended time spent to fetch water, and the curtailment of hygiene practices, such as proper handwashing and latrine use (ACAPS 21/06/2023).

Drought: drought is a frequent risk in Sudan. Over the past decades, the frequency of droughts has increased in the country, leading to the desertification of millions of hectares and reduced water levels (USAID 08/2016).

In the Horn of Africa, rainfall seasons have been continuously below average since 2019. This has steadily reduced access to water resources for several populations (OCHA 07/11/2022; IOM 05/06/2023). The situation has disrupted the livelihoods of the farming and pastoralist populations, who represent almost two-thirds of the rural population. A lack of rainfall and high temperatures have reduced soil moisture (UNEP 13/02/2023).

The drought is affecting several regions of Sudan. The Intergovernmental Authority on Development Climate Prediction and Applications Centre’s Greater Horn of Africa Climate Outlook Forum forecasts below-average rainfall in some regions of Sudan until September (ICPAC 24/05/2023). This may further aggravate the water shortages already present in several states of Sudan (IPC 02/08/2023).

Poverty and livelihood disruptions

Given the current conflict, poverty incidence is likely to rise because of the disruption of livelihoods in conflict zones and the limited capacities of host communities to serve IDPs. The current conflict has also disrupted several local markets and made it more difficult to sustain supply chains. Cereal production is estimated to be 45% lower than in 2022 and 13% below the five-year average, likely increasing prices. Staple grain prices are expected to increase 100–200% above the 2022 average and 200–700% above the five-year average (IPC 02/08/2023). These price increases come at the same time as the almost total disruption of rural livelihoods in many areas and the emergence of high levels of displaced people with limited access to their livelihoods (FAO 14/08/2023). In April 2020, more than 46% of Sudan’s population lived in poverty (WB 04/2020). By September 2020, this figure was as high as 77% (Radio Dabanga 16/09/2020).

The current conflict has increased the price of water as well. In April 2023, at the start of the current conflict, drinking water prices doubled (CGTN 28/04/2023). By July, water costs had increased from approximately SDG 400 (USD 0.64) to SDG 600 (USD 0.96) three weeks later (NRC accessed 30/08/2023). By August 2023, prices were as high as SDG 3,000 (USD 5.10) in some areas of North Kordofan (Radio Dabanga 08/08/2023).

A liquidity crisis resulting from the damage and destruction of banking infrastructure aggravates these price increases. The crisis has limited access to cash, and people are unable to make purchases, including for drinking water (MONITOR 28/04/2023; NRC 24/07/2023).

Some areas of Sudan obtain water from vendors' trucks because of the intermittent service from water pipes. With increased drinking water prices, limited access to cash, and the widespread disruption of livelihoods, civilians may resort to water from untreated sources, leading to disease and infection (OCHA 17/08/2023). Other WASH products, such as soap and menstrual hygiene products, are in short supply or have increased in price (UNICEF accessed 22/08/2023; CARE 30/04/2023).

Lack of fuel

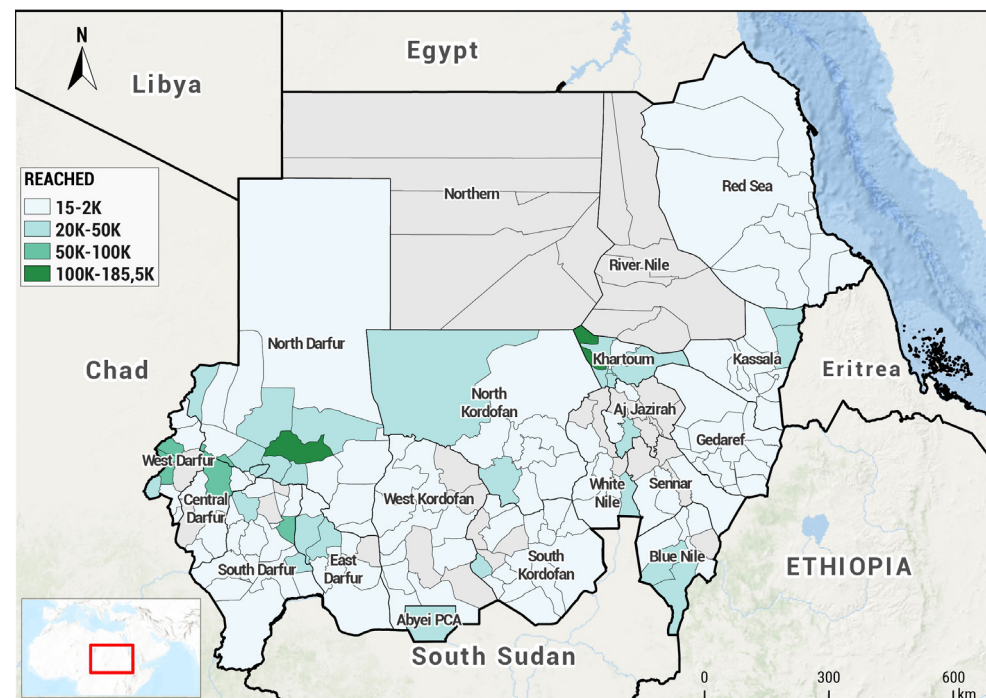
In Sudan, water pumping stations are highly dependent on fuel to operate. As at May 2023, fuel costs have increased by 300–400%, limiting the operation of water supply systems and access to water trucks (OCHA 17/05/2023; EUI 21/06/2023). The conflict has disrupted fuel distribution channels, resulting in fuel shortages that have rendered power stations out of operation and increased the demand for water trucking. This has further increased the price of water. Humanitarian responders are trying to encourage the use of less fuel-reliant water supply methods (WASH Cluster 29/08/2023). In West Darfur state, increasing fuel prices have affected the operation and maintenance of water yards.

Reduced government capacity to operate because of the conflict means less revenue collected as payment for services, resulting in a further reduction of water and sanitation services to residents.

HUMANITARIAN ACCESS, CONCERNS, AND RESPONSE

As at 30 August, the number of people needing humanitarian assistance had increased by 30% to 14.1 million since the start of the conflict. In response to the dire conditions across the country, humanitarian responders have resorted to implementing a phased approach, emphasising life-saving and life-sustaining interventions (such as water trucking, the service and repair of existing infrastructure, and surface water treatment). They have halted implementing new and longer-term construction, such as open wells. Focused responses that previously did not exist have been developed to respond to the needs of people in urban areas where most of the conflict is concentrated. For sanitation, responders have limited the installation of new handwashing facilities and focused on mobile handwashing facilities (WASH Cluster 24/08/2023 and 29/08/2023). The current liquidity crisis in the country has also affected the response, particularly in El Genenia in West Darfur, where cash availability is limited. In East Darfur state, challenges for WASH responders include a lack of contingency stocks as a result of inadequate funding (WASH Cluster 24/08/2023).

Wash sector needs vs. population reached



Source: ACAPS using data from WASH Cluster (29/08/2023)

Conflict zones: organisations delivering humanitarian assistance are experiencing limited movement in Sudan. Trucks carrying water and hygiene supplies have been stopped or looted on their way to IDP camps or areas in need of humanitarian assistance, especially in regions of active conflict, such as Nyala town in South Darfur (OCHA 21/08/2023; Reuters 03/05/2023; WASH Cluster 24/08/2023).

In some parts of the country where fighting continues, violence restricts the possibility of entry for humanitarian workers. In Central Darfur, in particular, no coordination mechanism existed as at 30 August as a result of insecurity and communication challenges. In South Kordofan state, road blockages hinder access into Kadugli locality. 17 attacks across Sudan have killed at least 19 aid workers (OCHA/UN RC Sudan 17/08/2023; WASH Cluster 24/08/2023).

In response, humanitarians are engaging community-based organisations for intervention in non-accessible and active conflict areas, such as Darfur, Khartoum, and Kordofan (WASH Cluster 29/08/2023).

Host communities: since before the current conflict, the response to WASH needs have been insufficient, particularly after the military coup in 2021 when coordination between ministries and departments broke down. At the same time, the Sudanese State's response capacity has been insufficient for the country's needs, leaving few trained staff to respond in the sector. Some NGOs' operational permits have been withdrawn, leaving the country at the beginning of the conflict with less capacity than necessary to respond to the widespread disruption of WASH services (UNICEF 03/2022 a; OCHA 17/05/2023).

WASH sector partner's presence



Source: ACAPS using data from WASH Cluster (29/08/2023)

As at 30 August, 49 WASH responders were operational in Sudan. The budget for humanitarian response had risen from USD 121 million in December 2022 to USD 230 million. This increase aims to respond to the growing needs resulting from the increased displacement of people, the re-displacement of IDPs and refugees, and the inclusion of the urban population who have become in need because of the damage and destruction of water infrastructure. The cost had increased from USD 27 to USD 38 per person. As at 31 August, only 17.9% of the required amount had been funded (OCHA accessed 31/08/2023).