



Drying up

The growing water crisis facing Syria and the region

Amman, 6 June 2014

Alert: Millions of Syrian children are at increased risk of disease because of the severe damage to water and sanitation systems caused by the three-year old conflict. The situation is made worse by acute water scarcity -- and warnings of drought -- inside Syria and neighbouring countries now sheltering nearly 3 million refugees.

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Overview

With Syria's conflict now well into its fourth year, its impact on the civilian population becomes ever more devastating. Access to clean water, sanitation and hygiene continues to deteriorate, posing a serious threat to the health of millions of people in Syria and beyond. The escalation of violence, coupled with massive and ongoing population displacement and destruction of infrastructure and basic services, have turned this crisis into a humanitarian catastrophe with children at its centre. Further exacerbating the situation is an impending drought in Syria and neighbouring countries.

Syria

The availability of safe water inside Syria is now one third of pre-crisis levels. Of more than 9.6 million Syrians affected by the conflict¹, 46 per cent are children². Many live in overcrowded shelters with very limited access to toilets and showers. In the last 18 months, the number of collective shelters has nearly doubled to 977, with the six largest governorates³ witnessing a population increase of 25 per cent. Aleppo's population alone has now doubled to 2.5 million people.

Parts of Syria are suffering their lowest levels of rainfall in more than half a century. So far in 2014 most parts of the country have received only half the average rainfall for this time of the year, causing significant stress on the water table/aquifers even before the peak summer season.

Maintaining a regular supply of water is challenging with some areas only receiving water once every three weeks. Recently, the main water pumping station in Aleppo, which provides 125 million litres of water a day, was deliberately put out of service. At least 2.5 million people in the city and its rural areas were left without clean water and sanitation for at least ten days.

The conflict has caused severe damage to sewage systems, pumping stations and other water infrastructure. The situation is worsened by frequent power cuts, fuel shortages and limited maintenance of water works, especially in areas that witnessed high levels of hostilities like Rural Damascus, Idlib, Deir Ezzour, Homs, Aleppo and Al-Raqqa.

Jordan

Already the fourth most water scarce country in the world, the influx of hundreds of thousands of Syrian refugees across the country has put further strain on public services, including water resources. In Za'atari, aid agencies are struggling to meet the needs of what is now the biggest refugee camp in the Arab World, sheltering at least 99,000 people. During peak summer periods, water availability in northern governorates is reduced to less than one day every three weeks.

Lebanon

Lebanon is hosting more than a million refugees, most of them scattered in host communities and informal tented settlements across the Beka'a Valley (34 per cent) and the Northern region (27 per cent).⁴ Syrians now account for just over a fifth of the country's total population. This huge population influx is placing increased pressure on existing water and sanitation services. The coping capacity of Lebanese host communities is being seriously eroded. Competing demands between host and refugee communities for safe drinking water and wastewater services are increasing tensions within an already volatile social, economic and political environment. Women and girls are particularly affected as they often have to walk long distances to collect water that in many cases may be unfit for drinking.

Iraq

Over 200,000 refugees from Syria live in 10 camps, mostly in the northern Kurdish areas of Iraq. Although most of the refugees have access to piped water, reliability fluctuates between 50 and 75 per cent⁵. The refugee crisis has placed further stress on the water system with Sulaymaniya showing 70 per cent water losses even prior to the refugee influx. Concerns also focus on the disposal and management of wastewater, which is currently discharged untreated due to the lack of sewage treatment plants in the area. The situation in Iraq is made more alarming by its history of cholera and typhoid outbreaks and, more recently, the re-emergence of polio. Over the last 15 years major epidemics have occurred in Iraq every two to three years. The last recorded cholera outbreak took place in Sulaymaniya in September 2012⁶. Acute diarrhoea remains a major and common reportable disease in all refugee camps⁷. Further strains on the system stem from the movement of 3,214 displaced families relocating from troubled Anbar province to Erbil and 3,338⁸ to Sulaymaniya.

¹ OCHA

² UNICEF

³ Aleppo, Damascus, Homs, Idlib, Deir Ezzor, Hama

⁴ UNHCR Lebanon Registration Statistics. Available at <http://data.unhcr.org/syrianrefugees/syria.php> (last accessed 26 Sep2013).

⁵ Iraq: Water and sanitation sector, OCHA 2008

⁶ Cholera Preparedness Plan, 2013

⁷ EWARN, Iraq Weekly Epidemiological Bulletin WEEK 45/2013 4 to 10th November

⁸ IOM figures as of 30 April 2014

A scarce source of life running dry

The overall situation in Syria and the surrounding region is being further exacerbated by a worsening drought affecting Syria, Lebanon, Jordan and Iraq. Syria is currently witnessing its lowest rainfall since 1959, less than half the annual average. In April 2014, the UN Food and Agriculture Organization confirmed lower than usual agricultural production in Syria, which will adversely affect income generation and access to food. The last officially declared drought in Syria (from 2007 to 2009) affected more than one million people, with a severe impact felt in Al-Hasakah, Al-Raqqa, Aleppo and Deir Ezzor governorates. By March this year, conditions were being described as alarming.

The impact of water scarcity will be felt much more severely this year in western and central governorates, which are struggling with the needs of 2.8 million internally displaced people. There are concerns that if the situation worsens, more civilians will be forced to leave their home communities in order to find adequate supplies. At the same time, water resources are already under great strain: groundwater levels are falling (to below 700 meters in some places), spring and wells are drying up, and higher concentrations of pollution is likely in rivers that have become the primary sources of water when networks shut down.

In Jordan, dams are only 42 per cent full, compared to 53 per cent at the same time last year. 2014 has been the driest year since 2008 with rainfall only 31 per cent of the annual average. Groundwater levels have fallen to 52 metres in the Dead Sea, 17 in Azraq, and 30 in Amman/ Zarqa over the last 20 years.

Water rationing is already being applied particularly in the northern governorates where host communities have access to water only once every one to three weeks. The provision of water supply is now interrupted regularly across northern areas, while growing numbers of households remain unconnected to sewage networks and many existing waste water treatment plants are now operating at full capacity. With an additional half a million refugees in the north (half of them in the governorates of Mafraq and Irbid, the strains on already highly stressed resources will become more acute this year.

Like Syria and Jordan, Lebanon is experiencing one of the driest winter seasons of the past 100 years. Surface water, which accounts for approximately 80 per cent of the country's supply, depends on stored winter rain which provides water during the dry summer months. This year, however, the reservoirs are running dry. In Zahle which hosts nearly 400,000 refugees, groundwater levels have

dropped by 11 metres, with similar reductions observed in other areas. Water springs have seen flows reduced by up to 40 per cent and salinity of boreholes has increased in coastal towns. Syrian refugees are already struggling with only 15 litres of water per person per day. Additionally, 40 per cent of households do not have access to adequate latrines, soap and other hygiene items.

In Iraq, reduced rainfall and drought conditions are predicted this year. The situation adds to the water losses currently being sustained by poorly-maintained water systems. This will most certainly impact the availability of water, 40 per cent of which comes from surface water resources outside the region. Furthermore, 40 per cent of springs, which account for much of the remaining water sourced internally, have been depleted during previous drought periods.



A girl carries containers of drinking water home from a community water tank, at an informal settlement for Syrian refugees in Lebanon. © UNICEF/NYHQ2013-1415/Noorani.

⁹ 220mm precipitation in 2014 compared to the average 520mm.
Directorate of Water & Sewage, Damascus

What water scarcity means for populations affected by the Syria conflict

Water scarcity and failing sanitation services within Syria and neighbouring countries are likely to have serious consequences for civilians and especially children, including:

- The spread of life-threatening diseases, including diarrhea, typhoid, polio due to poor hygiene;
- Displacement of civilian populations within Syria and beyond Syria's borders;
- Increased tensions within refugee camps and in host communities due to demand and competition for water supplies;
- Further degradation and contamination of water sources in all affected countries, contributing to even greater water scarcity.



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Key UNICEF response activities to date

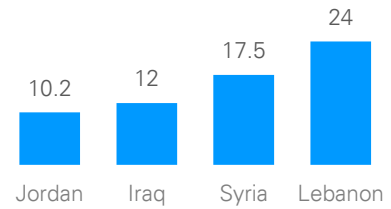
- Ongoing purification of water supplies to more than 16 million people across Syria
- Water extraction, treatment and distribution for more than 300,000 refugees in Jordan, Lebanon and Iraq
- Installation of generators in water and sewage pumping stations in Syrian communities
- Repairs to pipe networks and other damaged water facilities
- Intensified efforts to mitigate the spread of water related diseases through the provision of hygiene supplies, family drinking water kits and awareness raising materials for 1.5 million people in Syria and refugee communities
- Provision of additional water storage capacity for communities and households (through large emergency tanks, jerry cans and buckets) to offset water scarcity and water insecurity
- Development and equipping of contingency water sources (boreholes)
- Promotion of water conservation measures.

Funding needs



US\$ 63.7 million

Urgently required to address the most pressing needs in Syria, Lebanon, Iraq and Jordan.



Syria

Without urgent funds of **\$17.5 million**, Syria faces a greater risk of water-borne and communicable diseases in northern and eastern regions where shortages have obliged some of the population to use untreated water for drinking. This increases the potential for life-threatening disease outbreaks as waste water is often being discharged directly into surface water sources, as well as contaminating groundwater. Support to garbage collection is needed before the summer, in order to keep vermin and vector levels low, and to minimise public health hazards.

Lebanon

UNICEF urgently requires funding of **\$24 million** to maintain water infrastructure and access to water in informal settlements for 214,900 Syrian refugees; mitigate water scarcity in the most critical areas for 170,000 people; and undertake campaigns on hygiene and water conservation for more than 700,000 people.

Jordan

Without urgent funding of **\$10.2 million**, UNICEF Jordan will be forced to discontinue basic humanitarian service delivery of water, de-sludging, solid waste management, and hygiene promotion services to more than 130,000 Syrian refugees in Za'atari and Azraq camps from June up to the end of 2014. To continue responding to the urgent needs, UNICEF will need to establish a minimum of 4,400 additional water and sanitation facilities.

Iraq

UNICEF requires **\$12 million** to provide the minimum water, sanitation and hygiene standards both for refugees in Kurdistan and people internally displaced as a result of the Anbar crisis. This year, there has been greater evidence of reduced water availability from the Tigris and Euphrates rivers due to lack of rainfall and recharge as well as greater demand on these limited sources from other countries. This raises concerns regarding the overall depletion of this vital resource and the longer-term impact on Iraq and neighbouring countries.



A girl drinks water at her school in Domiz refugee camp in Northern Iraq. © UNICEF/UKLA2013-00960/SCHERMBRUCKER

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