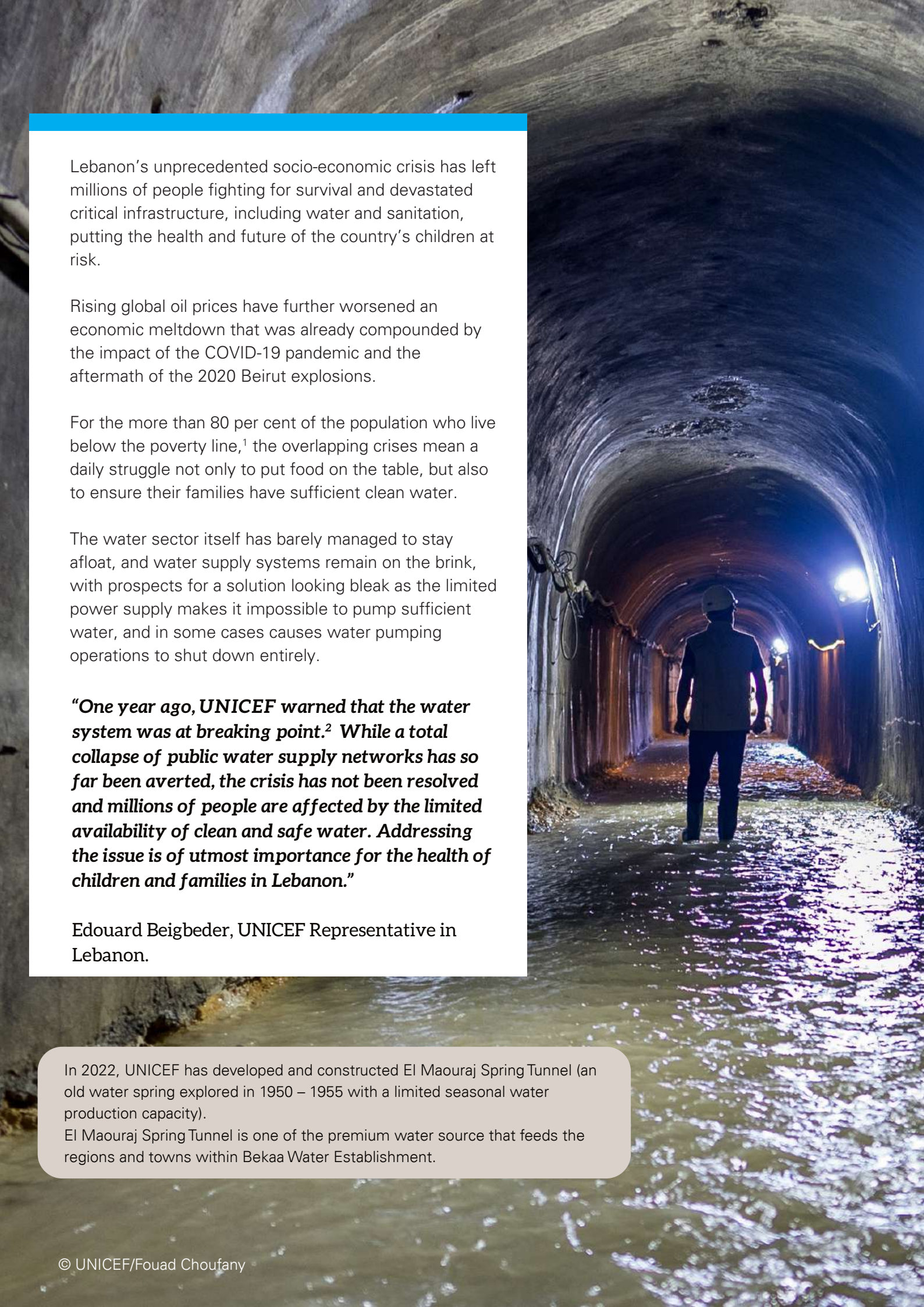


# Struggling to keep the taps on

Lebanon's water crisis continues  
to put children at risk

UNICEF Lebanon | July 2022

A photograph of a person wearing a white hard hat and dark clothing, walking away from the camera down a long, narrow tunnel. The tunnel is filled with water, and the walls are illuminated by a series of bright lights, creating a strong perspective. The water on the floor is dark and reflects the lights. The tunnel appears to be an old, possibly abandoned, structure that has been repurposed for water supply.

Lebanon's unprecedented socio-economic crisis has left millions of people fighting for survival and devastated critical infrastructure, including water and sanitation, putting the health and future of the country's children at risk.

Rising global oil prices have further worsened an economic meltdown that was already compounded by the impact of the COVID-19 pandemic and the aftermath of the 2020 Beirut explosions.

For the more than 80 per cent of the population who live below the poverty line,<sup>1</sup> the overlapping crises mean a daily struggle not only to put food on the table, but also to ensure their families have sufficient clean water.

The water sector itself has barely managed to stay afloat, and water supply systems remain on the brink, with prospects for a solution looking bleak as the limited power supply makes it impossible to pump sufficient water, and in some cases causes water pumping operations to shut down entirely.

***“One year ago, UNICEF warned that the water system was at breaking point.<sup>2</sup> While a total collapse of public water supply networks has so far been averted, the crisis has not been resolved and millions of people are affected by the limited availability of clean and safe water. Addressing the issue is of utmost importance for the health of children and families in Lebanon.”***

Edouard Beigbeder, UNICEF Representative in Lebanon.

In 2022, UNICEF has developed and constructed El Maouraj Spring Tunnel (an old water spring explored in 1950 – 1955 with a limited seasonal water production capacity).

El Maouraj Spring Tunnel is one of the premium water source that feeds the regions and towns within Bekaa Water Establishment.

## A HUGE IMPACT ON THE MOST VULNERABLE



Just about everyone is affected: the 3 million people – about half the population – who are connected to the Water Establishments' networks,<sup>3</sup> and most of the remaining population, who rely either on often costly alternatives, such as water trucks and private providers, or on unregulated boreholes and illegal connections to the public water network. In addition, a majority of Lebanese households depend on bottled water for their drinking needs, in part because of concerns over the quality of tap water, posing an additional financial burden for families.

Critically, the water crisis also affects hospitals and other health centres, as well as schools.

Inadequate supplies of safe water pose a huge risk to infants and young children, who are particularly vulnerable to water and sanitation-related diseases, one of the leading causes of death for children under age 5.

Families are affected both by insufficient supplies of water and prices many can't afford.

Since the beginning of the crisis, per capita water supplies from the Water Establishments have decreased dramatically amid frequent blackouts, falling short of the 35 litres a day considered to be the minimum acceptable quantity.

***“We cannot live without water. Every single detail in the house needs water.”***

Hanaa, mother of 4

A child drinks water from the only water source in Hesbi-Camp.



## THE HIGH COST OF WATER



Around 198,000 Syrian refugees in 2,284 informal settlements rely on water trucking, because their communities are not connected to the public water network, while some Lebanese households and businesses use this option as an alternative during the dry season, when spring-fed systems produce less water. This year, with the decrease in water pumping due to power cuts, there has been a significant increase in demand for water trucking among Water Establishments' customers.

The average cost for 1,000 litres of trucked water reached 145,000 Lebanese pounds (LBP)<sup>4</sup> in April 2022, an increase of almost 50 per cent compared with the same month in 2021, and an almost sixfold increase compared with 2019.

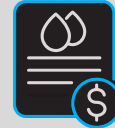
In April 2022, families who relied on bottled water for their drinking needs had to pay three to five times more than they did a year earlier. A family of five, drinking a total of 10 litres a day, would need to spend about LBP6.5 million (US\$261<sup>5</sup>) a year, in addition to the cost of water they use to meet their cooking and hygiene needs.



The average cost of 1000L of trucked water increased by sixfold from 2019 to 2022.



Families who relied on bottled water had to pay 3 to 5 times more than a year earlier.



Water tariffs now represent 3 per cent of the minimum wage and allowances.

In 2022, the government approved a new Water Establishments' tariff for the annual water bill of between LBP800,000 and LBP1 million (\$32-\$40<sup>6</sup>) per household per year for a maximum of 1 cubic meter a day – an increase of 268-335 per cent, and the first step in a phased approach to gradually close the gap between the cost of running the water supply services and the revenue collected. The current tariff represents 3 per cent of the minimum wage and allowances. But the cost remains a burden, particularly for the most vulnerable, who often have to cut down on food, health and education expenses in order to make ends meet.

The crisis has also caused some wastewater plants to shut down frequently, discharging untreated sewage into the environment – which poses extensive health risks, especially for children.

## WHY IS THERE A WATER CRISIS?



The multiple crises have left the Government unable to buy fuel for power stations, leading to persisting electricity outages, a situation made worse by spiralling inflation and global fuel price fluctuations. This directly affects Water Establishments, which need long hours of reliable electricity supply to operate pumping stations, treat and distribute water. Private operators, for their part, are severely affected by fuel prices and shortages, as they need diesel for their trucks and generators.

At the same time, about 40 per cent of the water produced by Water Establishments is lost to illegal tapping and leakages, while many of the skilled staff are leaving their positions, often to seek better opportunities abroad.

Soaring prices of chlorine, equipment and materials needed for maintenance and repair, coupled with the global supply chain crisis add to the formidable challenges faced by the water sector in Lebanon.

Many of the aging facilities need major rehabilitation and new equipment. While the Ministry of Energy and Water approved water tariff increases as part of a recovery plan, the current rates remain well below what is needed for the Water Establishments to cover rising operational costs. Water Establishments will not be able to remain operational unless the gap between revenue and expenses is filled.

Diesel generators provide power to a significant number of pumping stations and will likely remain a source of power for some time. But, given the cost of diesel, repairs and maintenance, they are not seen as a preferred option in the long run. Plans to reduce dependency on the electricity grid and diesel generators, notably by using renewable power sources and shifting to gravity flow water systems, will take time to develop, finance and implement.

***“When we didn’t have water, we couldn’t do anything. I couldn’t wash my face and my hair nor brush my teeth.”***

Marie-Noel, 9 years old

***“During this tough period, people cannot afford to buy water anymore.”***

Ali, father of 9

Drinkable water is delivered to an informal settlement for Syrian refugees near Baalbek, Lebanon.



## WHAT NEEDS TO BE DONE



A family transporting water gallons from a spring due to water shortages.

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The immediate top priority needs to be to resolve the power crisis, by restoring electricity supply through the national grid and providing fuel for standby generators at key water supply and wastewater treatment facilities. This needs to be accompanied by a continuation of the essential repair and maintenance programme, which will keep the facilities operational to the extent possible. With the continued deterioration of the Water Establishments infrastructure, the repair and maintenance programme will need to be extended to cover more major rehabilitation of non-functional equipment.

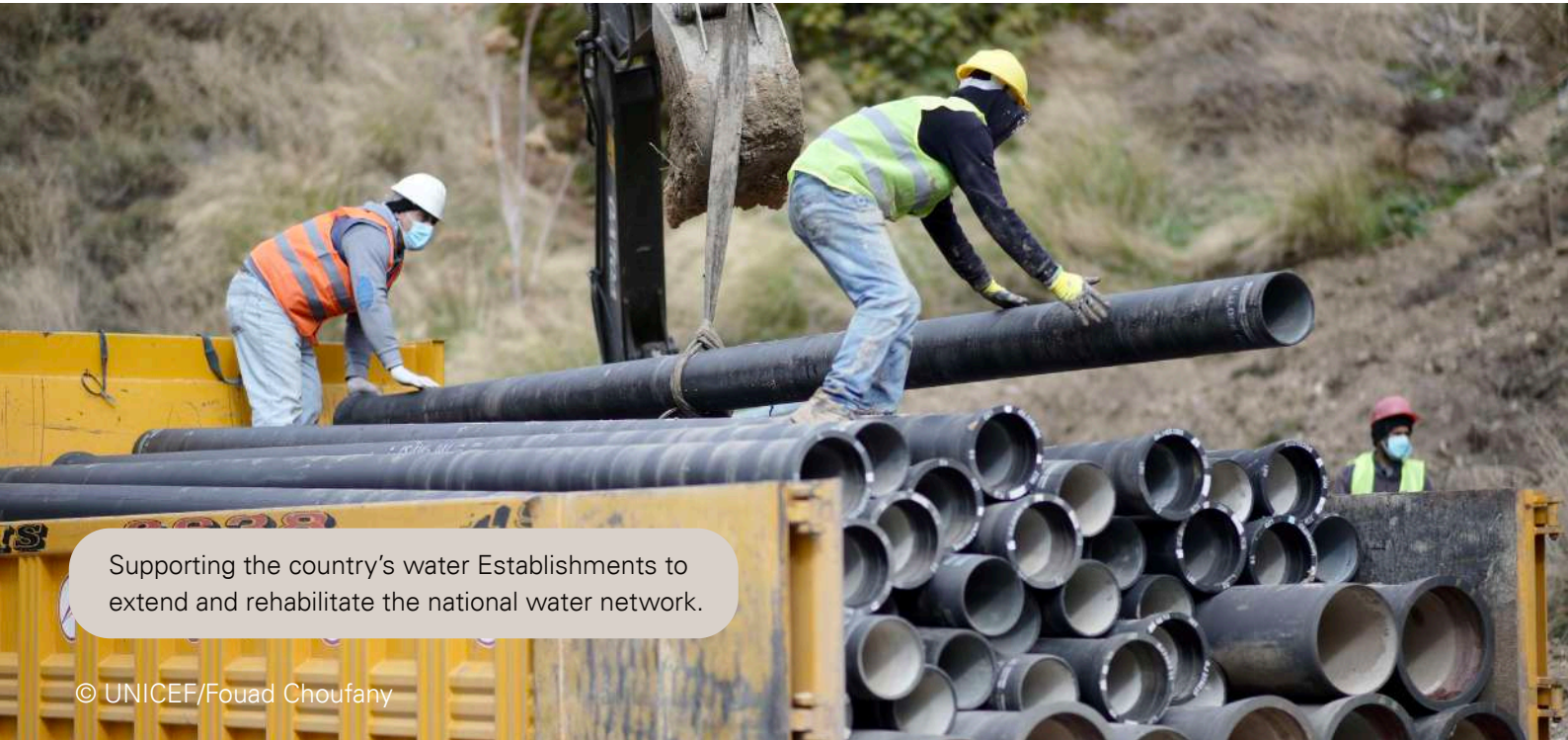
In the medium-term, significant investments are needed for the Water Establishments to return to viable operations. The Water Sector Recovery Plan, recently finalized by the Ministry of Energy and Water, outlines the strategy to achieve this. However, the financing of this plan needs to be underwritten by the Government, to bridge the gap between costs and revenues for several years, until the tariffs can be adjusted to the level required to ensure sustainability and continuity of water services. Any future tariff increases should be introduced in a way that is affordable for even the most vulnerable households, so that no one is denied their fundamental right of access to water because they can't afford it.

Continued investments are needed to improve the public water supply and wastewater infrastructure and the efficiency of the Water Establishment operations. The water and wastewater networks need to be extended, to reach people who currently have to rely on costly alternative solutions, while reducing leakages. Investments are also needed in alternative, sustainable power sources, such as solar energy. The Water Establishments also need to engage more closely with their customers and communities, to bring a sense of partnership to the management of Lebanon's precious water resources.

## WHAT UNICEF IS DOING



UNICEF has significantly increased support to water services in Lebanon since the onset of the crisis, including the provision of supplies, consumables and rapid response repairs, to ensure everyone in the country has access to safe water.



Supporting the country's water Establishments to extend and rehabilitate the national water network.

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- UNICEF prioritized the most critical sites and contributed to **830 water systems repairs**. This made it possible to sustain the equivalent of one to two hours a day of water supply to **500,000 people**.
- UNICEF has provided supplies such as pipes and fittings so the four Water Establishments could conduct urgent minor network repairs.
- UNICEF repaired 20 chlorination systems and supplied 143 tons of chlorine and 50 tons of ferric chloride, allowing the treatment of around **260,000 cubic metres of water per day**, directly benefiting around 2 million people.
- UNICEF continues to support the Water Establishments, covering certain critical day to day operational needs, including supplies for water quality testing and administration.

## REFERENCES

- 1 Multidimensional poverty in Lebanon, ESCWA (Sept, 2021)
- 2 Drying up, Lebanon's water supply system: on the verge of collapse UNICEF (July 2021)
- 3 The four regional Water Establishments are autonomous public sector providers. They are in charge of planning, constructing and operating water, sanitation and irrigation infrastructures under the supervision of the Ministry of Energy and Water.
- 4 The Lebanese central bank's 'Sayrafa' rate published on 15 June 2022 set a rate of LBP24,900 to the US dollar
- 5 Sayrafa rate, 15 June 2022
- 6 Sayrafa rate, 15 June 2022



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