UNICEF seawater desalination plant helps head off Gaza water crisis



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Thirteen-year-old Ahmad and 12-year-old Shahd stand in the new seawater desalination plant. Their class went on a tour of the plant as part of a UNICEF-supported C4D campaign to raise awareness about the safe water.

By Catherine Weibel

Water resources have long been critically scarce in the Gaza Strip, and the situation is getting beyond dire. A new UNICEF seawater desalination plant is providing safe tap water to communities that previously bought or imported their drinking water.

GAZA, State of Palestine, 6 April 2017 – For 13-year-old Ahmad, the idea of drinking water from the tap did not make sense.

"I have never drunk tap water because it is not clean, and it could make me sick," he says. "My parents told me that they used to drink tap water at home, but it must have been many years ago, before I was born."

In January, UNICEF and partners completed the construction of a €10 million seawater desalination plant funded by the European Union. It will initially produce 6,000 cubic metres of safe drinking water a day, providing it to 75,000 people living in the southern Gaza Strip – about 35,000 people in Khan Younis and 40,000 people in Rafah.

Ahmad is among those who will receive safe drinking water at home.

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A Palestinian family listen to a member of Gaza's Coastal Municipalities Water Utility team, left, as he explains how to best use of desalinated water in Rafah, Gaza Strip.

Responding to the Gaza water crisis

Water resources have long been critically scarce in the Gaza Strip, and the situation is getting beyond dire. Ninety five percent of the water extracted from the coastal aquifer is now considered unfit for human consumption. There is over-extraction of water from the aquifer, allowing seawater from the Mediterranean to seep into it, along with sewage and chemicals. To drink, most families depend on water they buy from private vendors at a high cost and without quality control, or on imported water. A 2012 United Nations study warned that the aquifer of the Gaza Strip could become unusable by 2017, with the damage irreversible by 2020.

Seawater desalination is one of the strategic options chosen by the Palestinian Water Authority to help provide 2 million Palestinians in the coastal enclave – including one million children – with safe drinking water. The desalination of seawater from the Mediterranean is essential to curb over-extraction of groundwater from the coastal aquifer, to prevent an environmental disaster and to start the slow process of aquifer restoration.

In addition to limited safe water, the Gaza Strip has long been hit by a chronic energy crisis that results in daily blackouts in family homes. To help conserve energy resources, about 12 per cent of the plant's peak energy requirement is currently met by solar panels. There are plans to harness the renewable energy potential to further increase this percentage.



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A Palestinian woman holds a glass of desalinated water inside her home in Rafah, Gaza Strip. Her family benefits from a new desalination plant that was constructed by UNICEF and partners.

"The water was so sweet, I could not believe it came from the sea!"

Last summer, Ahmad and his classmates participated in a school trip to the new seawater desalination plant.

"I tried a glass of water at the plant, it tasted good. It was so sweet, I could not believe it came from the sea!" he says.

Ahmad and his friends were amazed when they visited the huge building with all the equipment and technology treating water from the sea and turning it into water people can safely drink.

"We had studied the process of desalination at school but I could not visualize what it would look like," Ahmad tells. "After visiting the plant, I saw how it worked and I felt very proud that this new technology was being used in Gaza."

Together with Gaza's Coastal Municipalities Water Utility (CMWU) and the Palestinian Water Authority (PWA), UNICEF has led a public information and 'communication for development' (C4D) campaign to inform the beneficiaries that they can trust desalinated water, and explaining how they can safely handle the water and keep it clean in water tanks at home. UNICEF also provided tips on how to avoid wasting water, and explained why paying the water bill is important, as it will help ensure the sustainability of the plant, to the benefit of all.

Social workers visited families at home in Khan Younis and Rafah, while radio spots and billboards reminded everyone of the plant. Children and adolescents studying in public schools served by the plant also participated in the campaign. After visiting the plant, they informed their families and neighbours about the project.

"I learned a lot and I used my creativity," says 12-year-old Shahd. "I launched a Facebook page called 'Parliamentarians for Environment' to talk about the plant. One of my friends made short videos on the plant which she uploads on her YouTube channel. We all like this project and we will continue to talk about it."



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A Palestinian child holds up an information leaflet detailing how desalination works, which was distributed by workers from Gaza's Coastal Municipalities Water Utility, in Khan Younis, Gaza Strip.

Plans for expansion

June Kunugi, UNICEF State of Palestine Special Representative, still remembers the day she arrived at the site of construction of the plant in April 2013. "All I saw was just an empty stretch of land," she says.

"Today the plant has been completed, and is a testimony to what can be achieved in Gaza. I deeply thank all who were involved in making this possible, especially the European Union for their generous support and for playing a lead role every step of the way. Nothing can be more fitting to celebrate the 70th anniversary of UNICEF than the opening of this plant which enable 75,000 people, half of them children, to realize their right to safe drinking water."

The completion of the plant, which started a little over two years ago in partnership with the Palestinian Water Authority (PWA) and CMWU, is not an end but a beginning. The European Union has granted an additional funding of €10 million to double its capacity. The works of this second phase, which have just started, will enable the plant to produce a total of 12,000 m3 of safe drinkable water daily, serving around 150,000 Palestinians.