
OPT: Gaza's water could be undrinkable by 2011

JERUSALEM, 30 August 2012 (IRIN) - Polluted water in the Gaza Strip is seriously affecting people's health and the situation looks set to get worse, the [UN warns in a new report](#).

Gaza's rapidly growing population of about 1.64 million - expected to increase by 500,000 by 2020 - could soon lose its main source of fresh water, the underground coastal aquifer, which could become unusable by 2016, with the damage irreversible by 2020, it says.

Clean water is limited for most Gazans to an average of 70-90 litres per person per day, compared to the minimum global World Health Organization (WHO) standard of 100 litres a day, according to Mahmud Daher, officer-in-charge of the WHO in Gaza.

"We have respiratory diseases, skin diseases, eye diseases, gastroenteritis, which can all be linked to polluted water," said Mohamed al-Kashef, general director of the international cooperation department in the Gaza health ministry.

According to a UN Children's Fund (UNICEF) 2010 [update](#), diseases associated with water account for about 26 percent of diseases in Gaza. However, Daher is more careful to make the link. "There is no evidence that the current water situation is a major public health problem. But what we know for sure is that viral diseases and parasites are connected to polluted water."

Nitrate contamination of the aquifer is believed to be a threat to infants and pregnant women, [says UNICEF](#).

One of the child-diseases connected to polluted water is methaemoglobinaemia, or the so-called "blue-baby syndrome", which has occurred among babies born in the Gaza Strip. It is believed that high nitrate contamination in groundwater is causing the disease.

Diarrhoea, which has become very common in the Gaza Strip, is most likely linked to poor hygiene standards in enterprises which desalinate water, says Mahmud Daher, adding: "It is not clear if the problem is the water, or water together with other sources."

Remedial action

"Damage to the coastal aquifer will be irreversible without immediate remedial action," says the UN report.

An average of 160 million cubic meters (mcm) of water is taken from the aquifer per year, but it is only fed with 50-60 mcm from rainfall and water-runoff from the Hebron Hills every year, resulting in a huge gap between availability and usage. As a consequence, ground water levels have been falling, allowing seawater intrusion.

Meanwhile, the report projects demand for water of 260 mcm in 2020, an increase of about 60 percent from today.

"When I shower my daughter, I need to shower her a second time with bottled water, because you can literally feel the salt sticking to the skin," said Sami Abu Sultan, a development aid worker from the Gaza Strip dealing with water purification projects. "Most people believe that the drinking water we get is not healthy at all."

And they seem to be right: 90 percent of the water from the aquifer is not safe for drinking without additional treatment, the UN report says.

Polluted

"The water supplied to people here does not meet any health criteria that exist in this world," Mohamed al-Kashef told IRIN. "The pollution of the water leads to many diseases, especially for children."

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One source of pollution is the intrusion of sea water into the aquifer, while some 90,000 cubic metres of sewage pumped into the sea every year and fertilizers from farmland irrigation further contaminate the water with nitrates.

"The UN is optimistic in saying that 90 percent of the water is not usable. I would say 95 percent", said Munther Shoblak, general director of the Gaza Strip's Coastal Municipalities Water Utility (CMWU).

He added that nitrate levels are reaching up to 500mg per litre in some areas, or 100-150mg per litre on average, compared to the international standard of 50mg.

About [half a million people](#) in the Gaza Strip are not connected to the sewage system, forcing them to use cesspits and open channel flows which often contaminate the environment and pollute the aquifer.

Because the water provided through the municipal systems is polluted, some [83 percent of households](#) buy desalinated water, spending up to a third of household income. But even this water is often not clean enough. And those who cannot afford to buy water use private and agricultural wells, which are often contaminated and polluted.

Desalination plans

Efforts are under way to improve the situation through desalination of seawater, which would decrease the amount of water that needs to be extracted from the aquifer, while providing cleaner drinking water.

"Solutions are on track", said CMWU's Shoblak. "As a short-term goal, 13 million cubic litres should be desalinated by 2015. We will focus on the most vulnerable areas where pollution is particularly high. And in the long run, large desalination plants should produce at least 100 million cubic litres a year, before 2020."

Funding for the short-term goal is partly provided by the Islamic Development Bank and the European Union, Shoblak said, adding that the Union for the Mediterranean (UfM) has been pushing the long-term plan forward. It is [planning](#) to set up a desalination plant with a capacity of 55mcm annually in a first phase, and 110mcm in a second phase.

But despite efforts to solve the crisis, a real cure might yet be far away. "Even with remedial action now to cease abstraction, the aquifer will take decades to recover," says the UN report.

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