

# Middle East Environment

## Jordan water crisis worsens as Mideast tensions slow action

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From a hillside in northern Jordan, the Yarmouk River is barely visible in the steep valley below, reduced from a once important water source to a sluggish trickle overgrown with vegetation. Jordan's reservoirs are one-fifth full, a record low, and vital winter rains are more erratic.

Jordanians don't need scientists to tell them that they live in one of the world's driest countries in the centre of the planet's most water-poor region. But recent studies suggest the kingdom, a Western ally and refugee host country with a growing population, is being hit particularly hard by climate change, getting hotter and drier than anticipated. One forecast predicts 30% less rain by 2100.

"We are really in trouble if we don't take action in time," said Ali Subah, a senior Water Ministry official.

Addressing the problem would require cross-border cooperation, a commodity as scarce as water in the Jordan River basin is shared by Jordan, Israel, the Palestinians, Syria and Lebanon.

Jordan's flagship Red Sea desalination project, which includes a water trade with Israel, has faced repeated delays, most recently because of a diplomatic crisis that led to a scaling back of cross-border contacts since the summer.

A master plan by the regional advocacy group EcoPeace that seeks to transform the Jordan River Valley into an economically vibrant green oasis by 2050 is based, in part, on a state of Palestine being established on Israeli-occupied lands. Palestinian independence remains distant and Israeli Prime Minister Binyamin Netanyahu recently asserted that Israel will never leave the stretch of the Jordan Valley in the occupied West Bank.

Warning signs abound of what a failure to act looks like.

The Dead Sea and Jordan River, global treasures with religious significance as the cradle of Christian-

ity, have been devastated by dropping water levels due to decades of water diversion to urban areas. Some experts suggest civil war in Syria, which led to a large influx of refugees to Jordan and other neighbouring countries, may have been triggered in part and indirectly by a mismanaged drought.

EcoPeace President Munqeth Mehyar said water scarcity urgently requires cooperation.

"People need to be aware of their water situation and try to compromise between their water reality and their nationalistic politics," he said at his group's lush, formerly arid 270-hectare reserve in the Jordan Valley, a witness to nature's power to bounce back.

Stanford University researchers predicted that in the absence of international climate policy action, the kingdom would have 30% less rainfall by 2100. Annual average temperatures would increase 4.5 degrees Celsius and the number and duration of droughts would double, compared to the 1981-2010 period.

Water flows to Jordan from the Yarmouk River, which originates in Syria, would remain low due to droughts and diversion, regardless of when the civil war ends.

The results, published in the journal *Science Advances* and based on improved data analysis tools, suggest the effect of climate change is likely to be more severe than anticipated, said Steven Gorelick, head of the university's internationally supported Jordan Water Project.

Another study found that man-made climate change was a major force behind an extreme drought in the area in early 2014, said co-author Rachael McDonnell of the International Centre for Biosaline Agriculture in Dubai.

"The findings are more severe than anticipated and more imminent," she said.

The World Bank named Jordan, Iraq, Lebanon, Morocco and Syria as the countries in the Middle East and North Africa that would experience significantly increased water stress driven by climate change. The bank's report in August described the region as the "global hotspot of unsustainable water use."

Israel is on the road to resolving



Scarce commodity. A stretch of the King Abdullah Canal, the largest irrigation system near the town of Northern Shouneh in Jordan. (AP)

its water scarcity, producing close to 75% of water for domestic use in desalination plants and recycling more than half of its wastewater for agricultural use, said Yacov Tsur, a professor of environmental economics at the Hebrew University of Jerusalem.

Israel is being aided by technological advances, easy access to seawater and a strong economy that can afford large-scale projects, he said.

Jordan, which pulls 160% more water from the ground than nature puts in, views desalination as the main answer.

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A Jordan-only option would be costly. Jordan's main population centre is about 300km from the only coastline, making it prohibitively expensive to deliver desalinated Red Sea water to Amman.

In recent years, a water trade plan was developed to get around high transport costs.

Jordan would desalinate Red Sea water, sell some to southern Israel and pump the brine into the Dead Sea to raise water levels there. Separately, water from northern Israel would be sold to northern Jordan and to Palestinian communities.

Israel has a strategic interest in

the stability of security ally Jordan, a land buffer against the region's turmoil.

The Red Sea-Dead Sea project, however, has hit snags, in part over funding, and Jordan hasn't approached five short-listed consortiums to submit their bids.

The diplomatic crisis, triggered by the fatal shooting of two Jordanians by an Israeli Embassy guard in Amman in July, contributed to delays by reducing cross-border contacts, said Subah.

He said Jordan remains committed to the regional project but would look at fallback options. "The Jordanian solution for water in the future is desalination," he said. "If it's regional, if it's on our own, we will go in this direction."

Some say the government's focus on desalination is linked to reluctance to implement politically painful conservation measures. For example, more than 50% of Jordan's water is used for agriculture, which produces only a small share of the local food supply.

Water for irrigation remains heavily subsidised, encouraging waste and the planting of water-intensive crops such as bananas and tomatoes.

About half the water supply is lost from the network, most of it due to misuse or theft.

The government has cracked down on illegal water use, announced a slight price increase and plans to ramp up wastewater treatment for use in agriculture as budgets permit.

There are fears that draconian re-

forms could lead to instability, said Hussam Hussein, a water expert at the American University of Beirut.

"This would not be popular at all," he said. "That's why, from a political perspective, it's easier for the government to increase the supply and maintain the status quo."

At EcoPeace, Jordanian, Israeli and Palestinian activists try not to lose hope, despite what Israeli co-director Gidon Bromberg acknowledged to be "enormous" political obstacles.

The group is floating a new swap idea, in addition to the Red-Dead project, in which Jordan would sell solar energy to Israel and the Palestinian self-rule government in exchange for water.

Separately, the group's master plan outlines 127 projects with an investment value of \$4.6 billion to help rehabilitate the Jordan River and the Dead Sea and grow the Jordan Valley's economy almost 20-fold by 2050. The group recently identified 13 projects as doable now.

In a setback, the diplomatic crisis derailed a conference on the water-energy swap idea and a trilateral official meeting on how to move forward with the 13 projects.

Bromberg remains optimistic, however, and said progress would be made once all involved realise that failure to respond to the water and environmental crises poses a national security risk.

"Where national security interests are clarified, they trump," he said.

(The Associated Press)

### Viewpoint



**Fadi Farhat**  
is a lawyer in Britain.

## The MENA region is literally heating up

The Middle East and North Africa region has many problems: The Arab-Israeli conflict, the situation in Yemen, the Qatari crisis, growing Saudi-Iranian tensions, the fight against the Islamic State (ISIS) and civil war in Syria, to name a few of the woes.

The issue of climate change is not high on the collective or individual policy agenda of countries in the region. Substantive and material policies to address climate change are almost non-existent. In decades to come, however, climate change may prove to be the biggest threat to the economic, social and political stability of the region.

On June 29, Ahvaz in southern Iran registered another high temperature of 53.7 Celsius which is just below the 54.0 Celsius recorded in Mitribah, Kuwait on July 21, 2016. Such temperatures are becoming increasingly common.

Experts warn that, by 2100, Gulf countries may become inhospitable. This is a serious problem for a region where fresh water is scarce and summers are getting warmer and longer with rainfall becoming rarer.

A more worrying prospect is that

some analysts see a correlation between conflicts in the region and the seemingly changing climate.

They point to inadequate government handling of a sustained drought in Syria as a trigger for the country's civil war in 2011. Of course, deep political and economic grievances played a role and it would be simplistic to cite climate change as the source of the troubles in Syria. However, a study in 2015 from Columbia University in New York found that climate change was a major stressor.

Syrian government policy encouraged water-intensive crops, such as cotton, with the hope that this would increase exports. This policy was not necessarily fatal and was ambitious. However, unregulated and illegal drilling of irrigation wells depleted groundwater reserves, which put Syria's agricultural industry on its knees in a country where agriculture accounted for about 25% of the economy.

It is estimated that the region has warmed 1-1.2 degrees Celsius since 1900, which has reduced rainfall in the wet season an average of 10%. This is a pity in a region known in antiquity as the Fertile Crescent — an area covering large parts of Iraq,

Syria and Lebanon — where it is believed that human civilisation, with the birth of agriculture, commenced 12,000 years ago.

Despite this dark outlook, the scientific consensus is that the damage can be greatly mitigated through governmental policies and action. Such measures require political will and good governance and enforcement.

However, there has been no policy instrument, treaty or charter at the Arab League or intergovernmental level to conceive any strategy to address the problem. There was no major Arab League or Arab state involvement at the 2009 UN Climate Change Conference in Copenhagen and there is very little participation at other summits or conferences.

At the UN World Climate Change Conference in November 2016, hosted by Morocco, 18 of the 22 of the Arab League's members were absent. This policy inertia is largely because of the fact that the Arab League, for many years, has elected Saudi Arabia to represent the collective views of the Arab group at the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC). The result has been that those Arab

countries lack representatives, negotiators and policy-makers to contribute at the international policy table.

On one hand, having Saudi Arabia, a major oil-producing nation, as the key representative makes little sense when there is little incentive to clamp down on the use of fossil fuels. Saudi Arabia, however, can point out that man-induced climate change and the situation were not caused by the Arabs. The situation was caused by heavy industrialisation in the West.

Climate change may be an international problem but it is a direct product of Western industrial progress. All Arab League countries combined produce only 4.2% of global emissions of greenhouse gases, says a World Bank study. That is 4.2% across an area larger than the European Union both in size and population. Even then, 85% of all emissions within that overall 4.2% figure comes from six Gulf countries and not the wider Arab world.

Viewed from this prism, perhaps the biggest climate injustice is that the MENA region faces the biggest threat from the climate change problem — a problem not created by the MENA region.

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