WATER HAS OFTEN PLAYED A CATALYSING ROLE IN WARS AND UPRISINGS. WITH POPULATIONS, GROUNDWATER DEPLETION AND CLIMATE CHANGE ALL INCREASING, MANY FEAR MORE TO COME.

By Wided Khadraoui

 Shortly before 8am on a Monday morning in 1967, the Israeli Air Force launched almost every single one of its jets skyward. Minutes later, they streaked across the Egyptian border from multiple directions, targeting military airfields and laying waste to close to the entirety of Egypt’s military aircraft arsenal. By the following Sunday, the Six-Day War had ended with a ceasefire; close to 20,000 people had been killed, about 400,000 Palestinians and Syrians were displaced, and Israel had tripped the area it controlled.

Though the exact causes of the conflict are still under debate, Israel emerged from it with control of the West Bank’s mountain aquifer and the Sea of Galilee, supplying Israel about 60% of its water supply.

Water, and conflict over its control, has helped ignite conflicts for millennia, said Dr Peter Gleick, president of California’s Pacific Institute, which maintains a sprawling database of water conflicts, historical and contemporary.

“Most concerning, however, is an uptick in the numbers of such incidents in recent years, and especially an increase in both violence related to fundamental access to basic water services and intentional attacks on water infrastructure in conflicts that begin for other reasons, especially in the Middle East,” Gleick said.

“Pressures on water resources around the world continue to grow. The growing threat of conflicts over these resources is both disturbing and a call to action.

“Researchers, water experts, diplomats and the military need to improve their understanding of the links between water and security and work to reduce the risks of conflict.”

The risks have attracted the attention of the US intelligence community, with a 2012 report by the Office of the Director of National Intelligence finding that by 2022, water pressures could escalate. “Historically, water tensions have led to more water-sharing agreements than violent conflicts,” the report found. “However, we judge that as water shortages become...”
Water wars

more acute beyond [2022], water in shared basins will increasingly be used as leverage; the use of water as a weapon or to further terrorist objectives also will become more likely.

“We have high confidence in our judgements because there are excellent all-source reports on future water shortages and a well-established pattern of water problems aggravating regional tensions.”

But as dangerous a catalyst as water can be for conflict, cooperation over the resource can also be an extremely powerful tool for peace across national boundaries.

THE CLIMATE SPARK

“All of human civilisation is, in some sense, a struggle for the control of water,” said Alok Jha, author of The Water Book: The Extraordinary Story of Our Most Ordinary Substance.

“There is a power structure with water. The location of water supplies and control of that water plays an important factor in political power. Control of water how it flows and who has access to it, it’s an incredibly important thing. You need access to ports, clean water to drink, to build microchips and computers – we need it for everything.”

Water crises is the top global risk of highest concern for the next 10 years, according to a 2016 World Economic Forum survey, followed closely by climate-change mitigation and adaption, extreme weather events, food crises, and profound social instability. Many of those causes are of course linked, as demonstrated by the ongoing crisis in Syria.

Research published in 2015 in Proceedings of the National Academy of Sciences found that an extreme drought between 2006 and 2009 was likely due to climate change. That drought – the worst in modern times – caused crop failures that spurred 1.5 million Syrians to migrate from rural to urban areas, sparking the violent uprising that has so far caused almost half a million deaths. It has also destabilised much of the surrounding region. Since the civil war broke out, hundreds of thousands of refugees, many of them farmers, have fled southern Syria. As a result, much more water now flows through the Yarmouk River, the largest tributary of the Jordan River, meaning greater quantities of water are flowing through Jordan, and eventually into Israel.

Besides further complicating transboundary water management issues in the region, there are now more than half a million Syrian refugees living in Jordan, one of the world’s driest countries.

“Through climate change, there will be climate-induced movement of people,” Jha said. “People will have to move elsewhere as some parts of the world will dry up and others will get very wet. Humans will have to make some fundamental changes to infrastructure.”

The ongoing conflict in Syria also highlights another aspect of water in conflict – its use as a weapon. From the outset of its campaign, ISIS treated water access and control as a primary goal. The group commandeered canals, dams, reservoirs and other water infrastructure to cement territorial gains, at one point threatening to flood Mosul and Baghdad by destroying the Mosul Dam, which they had briefly captured.

Meanwhile, in 2016, protesters in northern India sabotaged the Munak canal, which supplies New Delhi with three fifths of its water, leaving more than 10 million people in the capital without water. At least 16 people were killed and 200 injured after the Indian Army intervened to reopen the canal.

In South Africa, early 2018 was marked by angry protesters in Cape Town chanting “Water for all or the city must fall”, in response to a water crisis that has left the city of almost half a million set to run out of water by mid-April. Violence has already marred the use of a natural spring opened to the public, while elected officials have come under intense scrutiny for allowing the situation to deteriorate.

ACROSS BORDERS

However, for all the fear over water conflict, many believe it is more likely to prompt violence domestically, rather than internationally. In 2015, Dr Therese Sjömander Magnusson, Stockholm International Water Institute (SIWI) Water Boundary Management

ALL OF HUMAN CIVILISATION IS, IN SOME SENSE, A STRUGGLE FOR THE CONTROL OF WATER.

ALOK JHA, AUTHOR OF THE WATER BOOK

NOTABLE WATER CONFLICTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Region</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>1947</td>
<td>Bangladesh/India</td>
<td>Partition divided the Ganges River between Bangladesh and India. Due to construction of the Farakka barrage by India in 1962, increased tension led to constant unrest until a 30-year treaty was signed in 1996.</td>
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<tr>
<td>1947</td>
<td>India/Pakistan</td>
<td>Partition leaves the Indus basin divided between India and Pakistan. Irrigation disputes ensued and India stems flow of water into irrigation canals in Pakistan. An Indus Water Agreement was reached in 1960.</td>
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<tr>
<td>1967</td>
<td>Israel/Syria</td>
<td>Israel destroys the Arab diversion works on the Jordan River headwaters. During the Arab-Israeli War, Israel occupies the West Bank and Golan Heights, where the Banias tributary is located.</td>
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</tbody>
</table>
South African troops move into Angola to occupy and defend the Ruacana hydropower complex. Goal is to take possession of and defend water resources of southwestern Africa and Namibia.

177 civilians are killed over opposition to the Chixoy hydroelectric dam in Rio Negro.

South Africa supports a bloodless coup in Lesotho due to conflict over the ANC, anti-apartheid and water. New government signs Lesotho Highlands water agreement with South Africa after 30 years.
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WATER TREATMENT. HIGH SALT OR HIGH SOLIDS. IT’S OUR BUSINESS
KYRGYZSTAN, TAJIKISTAN AND UZBEKISTAN
The Fergana Valley is shared by the three countries and is especially vulnerable to eruptions over water access and ethnicity. In 1990, 300 people died in the Kyrgyz town of Osh on the border of Uzbekistan over competition for water, limited arable land and ethnic tensions.

IRAQ
The US deliberately pursues a policy of destroying Iraq’s water systems through withholding contracts and sanctions, following the Allied Coalition forces’ intentional and unintentional damage to Baghdad’s modern water and sanitation systems during the war.
**A MORE PERFECT UNION**

Covering more than 800,000 hectares, the Danube River Basin is the world’s most international; the catchment area takes in 80 million people and 19 countries.

The Basin has been governed by multilateral agreements and various forms of international administration almost continuously since 1856.

These historical treaties and agreements largely focused on improving navigation, commerce along the waterways, flood control and hydro power.

Despite two world wars and multiple regional conflicts, the countries have largely been able to cooperate in the Danube’s management. Today, it is governed via the Danube River Protection Convention (DRPC).

Eleven of the 19 Danube riparian states – Austria, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Romania, Slovakia, Slovenia and Ukraine – and the European Community signed the Convention in 1994, and it came into force in 1998.

The signatories to the DRPC have agreed to cooperate on fundamental water issues and ensure that surface waters and groundwater within the Danube River Basin are managed and used sustainably and equitably.

There are defined monitoring parameters, laws on liability for cross-border pollution, rules for the protection of wetland environments and guidelines for conservation areas.

The processes can help facilitate cooperation and prevent conflict over the management of international waters, and have also played a role in managing transboundary disputes.

While the strategic and integrated management of the Danube River Basin environment focuses initially on priority environmental issues, their strategy of an integrated, participatory, and coordinated group effort also impacts multinational cooperation in other sectors.

Locally rather than the imposition of a model that we are still getting to work in Australia”. McKeown says Australia has much more to offer internationally from the Australian lessons learnt through:

- national competition reforms from 1994 that led to a new regulatory approach to water management;
- water recycling systems, desalination and strategies to reduce water consumption in times of drought;
- innovative technologies and systems providing clean drinking water;
- creative partnerships between public and private water suppliers;
- integrated urban planning linking water with livability and innovative agricultural techniques and infrastructure requiring less water.

The Association actively facilitates the transfer of this Australian water expertise across Asia through its International Program that has been supported by the Department of Foreign Affairs, the Australian Water Partnership, state governments, and private sector participants.

The program has been built on reciprocal agreements with other peak national water organisations in the region.

The Association has taken more than 300 water professionals to Asia over the past three years and includes outbound and inbound trade delegations, water technology demonstrations in remote and rural areas, water utility twinning projects, and projects focused on empowering and training women through the transfer of Australian water expertise.

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**SYRIA**

During the Syrian civil war there was major damage to the key pipeline delivering water to Aleppo, causing the city of three million to suffer severe drinking water shortages.

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**RUSSIA AND UKRAINE**

During the Russia and Ukraine conflict, the water systems for the city of Donetsk was damaged and the Donbas Water company stopped three pumping stations from bringing water to the channel due to damages.

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**THE US**

Hundreds of people were arrested and injured at protests over the construction of an oil pipeline that threatened water quality on and near Native American land.
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