



# ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

Events-News-Politics-Projects-Environment-ClimateChange-Neighbourhoods-Cooperation-Disputes-Scarcity and more



## ORSAM WATER BULLETIN

18 August – 24 August 2014

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❖ **After Mosul dam, Kurds launch attack to retake Jalawla from IS**

Sulaimaniyah: Iraq's Kurdish peshmerga forces on Friday launched an operation to retake the flashpoint town of Jalawla from Islamic State jihadist fighters, Kurdish officials said.

Patriotic Union of Kurdistan (PUK) party official Shirko Mirwais said the battle to reclaim the town lost to IS fighters on August 11 had already left several dead on both sides.

"The peshmerga advanced on Jalawla from several directions" before dawn, he said, adding that they had already taken back several positions, cutting off the militants. He said nine peshmerga had been wounded in the fighting but could not say how many had been killed.

Another PUK official, Mullah Bakhtiar, confirmed the operation was under way and said it had already achieved some of its goals.

Kurdish forces lost at least 10 fighters when IS took the town, a strategic choke-point 130 kilometres (80 miles) northeast of Baghdad and only 30 (18 miles) from the border with Iran. Jalawla has consistently been one of the deadliest flashpoints along the peshmerga's 1,000-kilometre front.

"After Mosul dam, Kurds launch attack to retake Jalawla from IS", 22/08/2014, online at: [http://zeenews.india.com/news/world/after-mosul-dam-kurds-launch-attack-to-retake-jalawla-from-is\\_956437.html](http://zeenews.india.com/news/world/after-mosul-dam-kurds-launch-attack-to-retake-jalawla-from-is_956437.html)

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### ❖ **Kurds say they have taken Mosul Dam**

(CNN) -- Kurdish forces have control of Mosul Dam, said Hemin Hawrami, the foreign relations head for the Kurdistan Democratic Party. Kurdish forces had been battling to retake the dam, which ISIS militants had seized.

The dam has been the center of an intense battle in northern Iraq between the Islamic extremists and Kurdish forces that were trying to retake it with the help of U.S. airstrikes.

The stakes are huge for the millions of Iraqis who live downstream from the dam, the largest in the country.

"If you control the Mosul dam, you can threaten just about everybody -- a very substantial part of Iraq -- with flooding, with lack of electricity, with lack of water," Daniel Pipes, president of the Middle East Forum, told CNN. "It's a horrendous prospect."

Built in the early 1980s under former Iraqi dictator Saddam Hussein, the dam sits on the Tigris River about 50 kilometers (30 miles) north of the city of Mosul. It serves as a key source of electricity, irrigation and flood protection.

When ISIS militants seized the dam this month, many feared it could be used as a weapon.

Water in war

ISIS has a track record of attacking its enemies with water.

This year, its fighters opened the gates on the Falluja Dam in central Iraq after seizing it in an effort to stop an Iraqi military advance. The water from the dam flooded a number of villages.

"ISIS has already used other smaller dams to gain control of territory, to pressure Sunnis to support them and to punish the Shiites," Pipes said this month.

The 3.2-kilometer-long Mosul Dam holds back as much as 12.5 million cubic meters of water, according to Engineering News-Record, a construction industry website.

If the structure were to give way, it would unleash a wall of water tens of feet tall that would race down the Tigris toward Mosul and its 1.7 million inhabitants. It would also bring flooding to major cities farther downstream, including Baghdad.

"The failure of the Mosul Dam could threaten the lives of large numbers of civilians, endanger U.S. personnel and facilities, including the U.S. Embassy in Baghdad, and prevent the Iraqi government from providing critical services to the Iraqi populace," U.S. President Barack Obama said in a letter to Congress on Sunday, explaining the airstrikes near the dam.

'A source of influence'

Pipes compared the scenario of the dam being destroyed to the Chinese Nationalist government's decision to destroy a crucial dike on the Yellow River in 1938 to try to halt the advance of Japanese troops. The move caused a flood that is estimated to have killed hundreds of thousands of Chinese people.

Some analysts, however, say they think it's unlikely ISIS would go as far as breaching the dam, putting in danger Mosul, a city the militants control.

"You don't want to have the cataclysmic event where, if this dam were to break, you would run the risk of flooding downstream along the Tigris," said retired Maj. Gen. James "Spider" Marks, a CNN military analyst.

"I would think that ISIS wants to retain control of that dam and would want to maintain its integrity, because it generates this electric power and they want to be able to use that as a weapon system to those who are under their control," he said.

Water is in increasingly short supply across the Middle East and has been linked to a large number of conflicts worldwide.

"They can use this as a source of influence," Pipes said.

'Very poor foundation'

But even if the militant group doesn't try to destroy the dam, concerns remain about its sturdiness.

A U.S. Army Corps of Engineers report in 2006 said that what made the dam especially dangerous was the risk of internal erosion of its foundations.

The structure is built on layers of soil that dissolve or erode in water.

The Army Corps said the dam was "constructed on a very poor foundation" that wasn't designed for the conditions.

Seepage has plagued the structure since the reservoir behind it was filled, according to a U.S. government report in 2007, and sinkholes have appeared near the structure, suggesting problems beneath the surface.

During the American military occupation of Iraq, U.S. authorities spent tens of millions of dollars on short-term repairs on the dam.

But with the immense structure now in the midst of a conflict zone, it remains unclear if it will get the maintenance it needs anytime soon.

“Kurds say they have taken Mosul Dam”,18/08/2014, online at: <http://www.cbs19.tv/story/26308430/kurds-say-they-have-taken-mosul-dam>

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❖ **Iraq crisis: Mosul dam recaptured from militants – Obama**

*Kurdish Peshmerga fighters and Iraqi troops have retaken Mosul dam from Islamic State (IS) militants, US President Barack Obama has said.*

Mr Obama said the US helped in the operation. Air strikes targeted IS around the dam, Iraq's largest.

He said the move was a "major step forward", and the US had begun a long-term strategy to defeat the militants.

The statement followed Iraqi claims that the dam had been "fully cleansed", but IS said it was still in control.

Separately, Pope Francis said action to stop IS attacking religious minorities should be agreed by the UN.

He said intervention should not be carried out by "one nation alone".

BBC Rome correspondent Alan Johnston says that up until now the Pope has taken a resolutely pacifist view, but on this occasion he seemed a little less emphatic in his opposition to a more muscular approach.

Christians have been among religious groups persecuted by IS since the militants captured a swathe of north-western Iraq.

The Pope said he was considering a visit to the region to show solidarity with its Christians.

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**At the scene: Paul Wood, BBC News, near the Mosul Dam**

We drove towards the dam, following a path cleared by the Kurdish forces. Until a few days ago, the road, and the villages either side were in the hands of Islamic State. There were several burnt-out vehicles and blackened buildings, evidence of the fighting, and that the jihadists did not leave easily.

We reached a Kurdish forward artillery position. The jihadists were just two miles (3km) away from the battery, the soldiers said. They fired a Grad rocket launcher to push them back still further.

A plume of smoke of the horizon was a village burning, set alight by the jihadists as they retreated, a Kurdish special forces officer told me. He was confident they had Islamic State was on the run. Shortly after he told us this, a mortar shell came in, landing about 50m (160ft) away in the soft earth.

"Don't worry, they're running out of ammunition," said the officer. Five minutes later, another round landed. We decided to leave.

Still, the Kurds are making progress - assisted by American air power overhead. The fight for the city of Mosul itself will, of course, be much, much harder. And the Mosul dam is just one of many battlefronts against Islamic State throughout Iraq.

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### **'Long-term strategy'**

Speaking to journalists on his return from holiday, Mr Obama praised the joint operation to recapture the dam, saying that if it had been breached it could have had catastrophic consequences.

The mission had also demonstrated that Iraqi and Kurdish forces were capable of working together, and they had "performed with courage and determination".

He said that the US had provided urgent assistance to the Iraqi forces, and air strikes had stopped the militant advance.

"We will continue to pursue a long-term strategy to turn the tide against [the militants] by supporting the new Iraqi government and working with key partners in the region," he said.

The dam, captured by IS on 7 August, is located on the River Tigris about 50km (30 miles) upstream from the city of Mosul.

It controls the water and power supply to a large surrounding area in northern Iraq.

Earlier, Kurdish officials said the Peshmerga had recaptured most of the area around the dam, but still had more to do to achieve full control.

They said IS fighters had put up stiff resistance, and had planted many roadside bombs and other explosive devices, which their special forces were now trying to clear.

US bombers, fighter jets and unmanned drones carried out a total of 25 air strikes over the weekend, with 15 more on Monday.

On Monday, the UK said its mission in Iraq would be stepped up to go beyond the provision of humanitarian aid.

Defence Secretary Michael Fallon said the mission could last for months and now involved the transport of ammunition and weapons from third countries to the Peshmerga.

The BBC's Jim Muir, who is in the northern city of Irbil, says Kurdish forces are planning to advance eastwards from the Mosul dam to the plains of Nineveh and westwards towards Sinjar.

Thousands of members of the Yazidi religious minority were forced to flee Sinjar when jihadists overran the town two weeks ago, prompting an international aid operation and helping to trigger the US air strikes.

“Iraq crisis: Mosul dam recaptured from militants – Obama”, 18/08/2014, online at: <http://www.bbc.com/news/world-middle-east-28833519>

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❖ **Mosul dam: A life source in northern Iraq**

Completed in 1984, Mosul Dam is the largest in Iraq and provides water and electricity to over a million people

The Mosul dam is the biggest in Iraq and a strategic site that provides water and electricity to more than a million people in the north of the country.

Islamic State (IS) extremists seized the dam on 7 August but Kurdish peshmerga fighters took it back on Sunday with support from US air strikes.

Completed in 1984, it suffers from structural problems that caused the US Army Corps of Engineers to once call it "the most dangerous dam in the world," an accusation rejected by Iraqi authorities.

It is built on water soluble soils that must be constantly reinforced to prevent a collapse that could send a wall of water 20 metres (65 feet) high surging towards Mosul, a city of some 1.7 million inhabitants.

The dam lies about 50 kilometres (30 miles) north of Mosul on the Tigris River and can provide up to 1,010 megawatts of electricity according to the BBC, which cited the Iraqi State Commission for Dams and Reservoirs.

A 2007 study by US inspectors rated its output at a more modest 750 megawatts, said then to be enough power for 675,000 Iraqi homes.

The dam also holds back more than 12 billion cubic metres (425 billion cubic feet) of water needed for drinking and irrigation throughout the Nineveh province, and forms part of a regional flood control system as well.

One of former Iraqi dictator Saddam Hussein's prestigious projects, the dam is the fourth largest in the Middle East according to an investment study presented to the Organisation for Economic Co-operation and Development (OECD) in 2010.

The main dam is 3.4 kilometres (2.1 miles) long and stands 113 metres (370 feet) high according to an October 2007 report by the US Office of the Special Inspector General for Iraq Reconstruction.

Construction required approximately 37.7 million cubic metres (1.3 billion cubic feet) of materials, mainly earth and concrete.

That paper and the study presented to the OECD underscored the dam's structural instability, because it was built on gypsum and limestone soils that erode with exposure to water, leaving cavities underground.

Leaks must be filled almost constantly with grout, estimated in 2007 at 200 tonnes per year.

Since US forces invaded Iraq in 2003, the United States has invested more than \$30 million (22 million euros) in surveillance and maintenance by Iraqi personnel, the BBC said.

Iraqi officials dismissed the US report as alarmist, however, with the dam's manager telling AFP at the time that "the overall structure is sound."

The OECD report three years later nonetheless concluded that "a need for total reconstruction cannot be ruled out."

“Mosul dam: A life source in northern Iraq”, 18/08/2014, online at: <http://www.middleeasteye.net/news/mosul-dam-life-source-northern-iraq-324132719>

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❖ **Obama says Iraqi forces retake Mosul Dam, seized by Islamic militants earlier this month**

BAGHDAD (AP) — Iraqi and Kurdish forces recaptured Iraq's largest dam from Islamic militants Monday following dozens of U.S. airstrikes, President Barack Obama said, in the first major defeat for the extremists since they swept across the country this summer.

Militants from the Islamic State group had seized the Mosul Dam on Aug. 7, giving them access and control of enormous power and water reserves and threatening to deny those resources to much of Iraq.

Iraqi forces suffered a string of humiliating defeats at the hands of the Islamic State as the extremists took over large parts of northern and western Iraq and sent religious minorities fleeing.

The militants' battlefield victories brought U.S. forces back into the conflict for the first time since it withdrew its troops in 2011 and reflected the growing international concern about the Sunni extremist group. Washington launched attacks from its warplanes and drones on Aug. 8.

Pope Francis endorsed the use of force to stop the Islamic militants from attacking religious minorities in Iraq, although he said the international community — not just one country — should decide how to intervene.

Obama called recapturing the dam by Iraqi and Kurdish forces a "major step forward" in the battle against Islamic State militants.

Had the dam been breached, it could have had catastrophic consequences and endangered U.S. Embassy personnel in Baghdad, Obama said at the White House. He said the U.S. is urgently providing arms and assistance to Iraqi security forces as well as Kurdish fighters fighting the extremists.

"We've got a national security interest in making sure our people are protected and in making sure that a savage group that seems willing to slaughter people for no rhyme or reason other than they

have not kowtowed — that a group like that is contained, because ultimately it can pose a threat to us," Obama told reporters.

He also urged the badly fractured and largely dysfunctional Iraqi government to move quickly to forge a united front. He noted last week's decision by Nouri al-Maliki to step down as Iraq's prime minister, a move that raised hopes a new government could roll back Iraq's powerful Sunni insurgency and prevent the country from splitting apart.

"They've got to get this done because the wolf's at the door," Obama said.

There were conflicting statements throughout the day from the Kurdish commanders, the Iraqi military in Baghdad, the Pentagon and the militants of the Islamic State group over who was in control of the strategic 2.1-mile dam that spans the Tigris River. Completed in 1986 under Saddam Hussein, it includes a sprawling complex with power generators, offices and employee housing. The southern end is mostly reserved for housing and offices.

Before Obama spoke, Kurdish forces spokesman Halgurd Hekmat said the peshmerga regained full control of the dam and its surrounding facilities following two days of fierce clashes. But Iraq's Defense Ministry said security forces only "liberated a large part of the Mosul Dam" with the help of U.S. airstrikes, adding that forces had not freed the entire complex.

Iraqi army spokesman Lt. Gen. Qassim al-Moussawi said at least 170 bombs have been dismantled around the dam but many more remain. He added that militants fled to areas near the south of the complex, hiding in homes and offices on the premises.

The Islamic State group denied it had lost control of the facility, saying on a website frequently used by the militants that the Iraqi government claim was a "mere propaganda war."

The U.S. Central Command said it carried out 15 airstrikes near the dam Monday with fighter jets, bombers and drones. There were 25 U.S. airstrikes on Saturday and Sunday, it said.

The Obama administration has also agreed to supply peshmerga forces with light weapons and ammunition, as have the French.

“Obama says Iraqi forces retake Mosul Dam, seized by Islamic militants earlier this month”,18/08/2014, online at:  
<http://www.usnews.com/news/world/articles/2014/08/18/iraqi-forces-reclaim-control-of-mosul-dam>

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## ❖ The Mosul Dam is a 'ticking time-bomb' for more reasons than you might think

President Barack Obama announced Monday afternoon that Kurdish and Iraqi forces had regained control of the critical Mosul Dam in northern Iraq. But the dam remains under threat — and not just because of ISIS. And make no mistake, it is a critical piece of Iraqi infrastructure.

"It is the largest dam in Iraq," says Azzam Alwash, a civil engineer based in Irbil, the de facto capital of Kurdish Iraq. "The reservoir capacity is about 11 billion cubic meters. That's about 12 billion yards. It's a heck of a lot of water."

He says all the cities along the Tigris River south of Mosul — including Baghdad, the Iraqi capital — depend on this dam. The water irrigates the country's farms and keeps the lights running via hydroelectricity.

If you really want to understand how important this dam is for Iraq as a whole, you have to go back to the 1980s. That's when Turkey started building its own dams on the Tigris and Euphrates Rivers, leaving less water for its Iraqi neighbors to the south.

"So we have a lot less water coming into Iraq from the Tigris," Alwash explains. "And, more importantly, the quality of water is deteriorating." The Mosul Dam was built to fix the poor water quality and make sure Iraq was getting enough water altogether.

But it was an imperfect solution: The dam rests on a layer of gypsum, a soft mineral that dissolves as water percolates through it. As soon as Iraq started filling the dam, its foundation began to cave. "A United States Army Corps of Engineers report designated Mosul Dam as the most dangerous dam in the world," Alwash says.

So, since 1982, workers at the dam have been constantly grouting the holes and cracks with cement. And that's why experts like Azzam Alwash are worried about the recent battles for control of the dam.

"If the grouting operations that [have] been going on 24/7 since 1982 is interrupted, you're going to have gaping holes underneath the foundations of this dam, which will cause settlement," Alwash

explains. "Settlement will cause cracks and the cracks will become a breach of the dam, releasing the reservoir water in a tsunami-like wave."

Alwash says the water could flood the city of Mosul within three hours and reach Baghdad in three or four days. That's why he calls the dam a ticking time bomb. Not only could militants decide to blow it up, but it could breach in as little as three months without proper maintenance.

And there's still that other age-old concern as well: Water scarcity. Alwash says if ISIS militants were to retain control of the Mosul Dam, they could also "run the tap dry" by using too *much* water.

"We don't want to lose too much water," he says. "Because if we operate at capacity the way ISIS has operated Tabaqa Dam in Syria, we could run out of water. We could be looking at a very severe drought next year."

So no matter what the threat, he says, it's vital to make sure that the Mosul Dam is once again under the control of the Iraqi government.

"The Mosul Dam is a 'ticking time-bomb' for more reasons than you might think", 18/08/2014, online at: <http://www.pri.org/stories/2014-08-18/mosul-dam-ticking-time-bomb-more-reasons-you-might-think>

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## ❖ Mideast Water Wars: In Iraq, A Battle for Control of Water

*Conflicts over water have long haunted the Middle East. Yet in the current fighting in Iraq, the major dams on the Tigris and Euphrates rivers are seen not just as strategic targets but as powerful weapons of war.*

There is a water war going on in the Middle East this summer. Behind the headline stories of brutal slaughter as Sunni militants carve out a religious state covering Iraq and Syria, there lies a battle for the water supplies that sustain these desert nations.

Blood is being spilled to capture the giant dams that control the region's two great rivers, the Tigris and Euphrates. These structures hold back vast volumes of water. With their engineers fleeing as the Islamic State (ISIS) advances, the danger is that the result could be catastrophe — either deliberate or accidental.

“Managing water works along the Tigris and Euphrates requires a highly specialized skill set, but there is no indication that the Islamic State possesses it,” says Russell Sticklor, a water researcher for the CGIAR, a global agricultural research partnership, who has followed events closely.

The stakes are especially high since the Islamic State's capture earlier this month of the structurally unstable Mosul Dam on the Tigris, which Iraqi and Kurdish forces, supported by U.S. airstrikes, succeeded in retaking last week. Without constant repair work, say engineers, the Mosul Dam could collapse and send a wall of water downstream, killing tens of thousands of people.

Fights over water have pervaded the Middle East for a long time now. Water matters at least as much as land. It is at the heart of the siege of Gaza – the River Jordan is the big prize for Israel and the Palestinians. And over the years, water has brought Iraq, Syria and Turkey close to war over their shared rivers, the Euphrates and Tigris.

The Euphrates flows out of Turkey, and through Syria and into Iraq, before entering the Persian Gulf via the Mesopotamian marshes. The Tigris rises further east in Turkey and flows through territory currently controlled by the Kurdish army in Iraq. There, it follows a parallel path to the Euphrates before the two rivers mingle their waters in the southern marshes.

The two rivers water a region long known as the “Fertile Crescent,” which sustained ancient Mesopotamian civilizations. They were the first rivers to be used for large-scale irrigation, beginning about 7500 years ago. The first water war was also recorded here, when the king of Umma cut the banks of irrigation canals alongside the Euphrates dug by his neighbor, the king of Girsu.

Not much has changed. The dependence persists, and so do the disputes. The main difference today is that the diversion dams are bigger, and supply hydroelectric power as well as water. And that is why in recent months, many of the key battles in Iraq’s civil war have been over large dams.

The Islamic State’s quest for hydrological control began in northern Syria, where in early 2013, it captured the old Russian-built Tabqa Dam, which barricades the Euphrates as it flows out of Turkey. The dam, which is the

world’s largest earthen dam, is a major source of water and electricity for five million people, including Syria’s largest city Aleppo. It also irrigates a thousand square kilometers of farmland.

The Islamic State’s control of the Tabqa Dam has been haphazard, to say the least. In May, the reservoir behind it, Lake Assad, dramatically emptied. Many blamed Turkey for holding Euphrates water back behind its own dams upstream. But the Arab news service *Al Jazeera* quoted engineers at the dam as saying that their new masters had ordered them to maximize the supply of electricity. That required emptying the reservoir’s water through the dam’s hydroelectric turbines.

Since late May, the Islamic State has been trying to refill the reservoir by rationing electricity from the dam, with blackouts in Aleppo for 16 to 20 hours a day. Meanwhile, other fighting groups have shut down a water pumping station, cutting off clean water supplies for a million people in Aleppo. The UN’s under-secretary for humanitarian affairs, Valerie Amos, condemned this as a “flagrant

violation of international law.”

From the Tabqa Dam, the Euphrates flows downstream through Iraq. Close to Baghdad, in the center of the country, it meets the Fallujah Dam, which diverts water for massive irrigation projects that produce the crops that feed the country. In early April, Islamic State forces captured the dam. Reports of what happened next are confused, but it appears that the troops immediately shut the dam and stopped flow downstream.

This left towns such as Karbala and Najaf, a Shiite holy city 160 kilometers away, without water. But it also caused the reservoir behind the dam to overflow east, flooding some 500 square kilometers of farmland and thousands of homes as far as Abu Ghraib, about 40 kilometers away on the outskirts of Baghdad. Later, the rebels reopened the dam, causing flooding downstream.

This mayhem may have been a simple failure by Islamic State fighters to understand the hydrology of the river and the consequences of how it operated the dam. It may initially have been an attempt to deprive Shiite communities downstream of water. But Ariel Ahram, a security analyst at Virginia Tech University, suggests the eastward flooding was a deliberate act to repel Iraqi government forces attempting to retake the dam.

The UN secretary-general’s special representative in Iraq, Nickolay Mladenov, [called the flooding deliberate](#), and demanded the restoration of “legitimate” control of the river. The Iraqi government says it has [sincerecaptured the Fallujah Dam](#). But the conflict in the area continues, and events remain very worrying for anyone downstream.

But the battle for the Fallujah Dam may be a sideshow compared to that for much bigger Haditha Dam, further upstream on the Euphrates. This is the first Iraqi structure on the river after it flows out of Syria. At eight kilometers across, it is Iraq’s second largest dam. It regulates the river for the whole of Iraq, providing the majority of water for irrigation, as well as generating a third of the country’s electricity. It keeps the lights on in Baghdad.

Islamic State fighters controls nearby towns, and in recent weeks have launched repeated offensives

to capture the Haditha Dam, which the Iraqi government is equally determined to hold onto. “If the dam fell, then a large source of electricity for the capital could be shut down,” says Sticklor.

If the Sunni rebels want to use water as a weapon of war against the Shiite south of the country, the Haditha Dam would be a potent weapon. “They could disrupt downstream flow, either by withholding water or releasing a wall of floodwater, as they did from Fallujah this spring,” says Sticklor. “It would have a potentially crippling effect on food production and economic activity in central and southern parts of the country.”

It could also be lethal. The water behind Haditha has long been recognized as a potential weapon of war. In late June, employees at the dam [told the New York Times](#) that Iraqi government generals were prepared to open the floodgates against Islamic State forces rather than giving up the dam.

A decade ago, invading U.S. troops made the Haditha Dam their first target, fearing that Saddam Hussein would release a catastrophic flood. (He had a history of making hydrological war. After the first Gulf War, he built huge earthworks to divert both the Tigris and Euphrates away from the Mesopotamian marshes, where rebellious Shiites were hiding.)

The Islamic State fighters have also at times gained control of the other great river, the Tigris. Early on in their offensive, they grabbed the Samarra Barrage, just upstream of Baghdad, which diverts water to fields for irrigation. Messing that up could cripple the country’s breadbasket.

Much worse could happen at the Mosul Dam, which Iraqi and Kurdish forces recaptured from the rebels last week. That dam is the largest in Iraq. It barricades the Tigris about 40 kilometers upstream of Mosul, Iraq’s second largest city. Living downstream of the Mosul Dam on the River Tigris looks particularly risky right now.

The Mosul Dam is an engineering disaster waiting to happen. Back in 2007, the U.S. Army Corps of Engineers called it “the most dangerous dam in the world.” Its foundations are built on porous gypsum that is constantly being dissolved by water in the reservoir, creating sinkholes that [threaten the structural integrity of the dam](#).

In 2011, the Iraqi government decided to let a two billion Euro contract to the Bauer Group, a Germany-based engineering company, to make the dam safe by constructing underground walls around its foundations. But the scheme has been on hold ever since, because of what the company has called the “political disturbances.” Nor is there progress on a plan to build another dam a little way downstream as a safety net to catch any moving wall of floodwater.

Despite the concerns, Iraqi government engineers have so far managed to keep the Mosul Dam working and the reservoir behind it full. To keep it intact, they have worked around the clock for years, pouring tens of thousands of tons of cement into grouting holes beneath the dam.

Last week, I contacted an Iraqi civil engineer, Nadhir Al-Ansari, now based at the Lulea University of Technology in Sweden, who had been planning to visit the dam this month to check on its state. He told me: “I had to cancel the trip. I tried to call the director of the dam on his personal mobile and there is no answer.”

The reservoir can hold more than 11 cubic kilometers of water. The U.S. Army Corps of Engineers’ report cited a 2004 study by Mark Wheeler of the U.S.-based engineering firm Black and Veatch that predicted a failure of the dam would flood Mosul city within three hours. The flood wave would peak at 20 meters high. Within 72 hours, it would hit Baghdad, still about four meters high.

Despite such disasters in the making, many more dams are on the drawing boards. The Kurds want to complete the half-built Bekhme Dam on a tributary of the Tigris in Iraq close to the Turkish border. At 230 meters high, it would be the largest yet in Iraq. And both Turkey and Iran are capturing ever more of the flows of rivers that drain into Iraq, with Turkey building dams on both the Tigris and Euphrates.

Last month British researchers Furat Al-Faraj and Miklas Scholz of the University of Salford reported the demise of the Diyala River. Called the Sirwan in Iran, it is a major tributary of the Tigris, watering crops east of Baghdad. But in the past 15 years, the Iranians have reduced its flow by more than half. And worse is to come in 2018, when the Iranians [plan to complete a new dam](#). The

Karkeh River once helped fill the Mesopotamian marshes. But Iran now takes so much of its water for irrigation that the river rarely crosses the border.

This dam-building flies in the face of growing evidence that the entire region is becoming drier. Below average rainfall has persisted for almost a decade now. Less rainfall combined with water diversions have reduced the flow of both the Tigris and Euphrates by more than 40 percent in recent years, says Al-Ansari. Some analysts say that the intense drought of 2007-2009, and the resulting failed crops, helped trigger Syria's civil war by creating social breakdown as farmers became refugees and food prices soared in cities.

Japanese and Israeli climatologists predicted in 2009 that the drought is likely to be permanent and the Fertile Crescent, which has sustained the region for thousands of years, “will disappear this century.”

As the rivers empty, the temptation to fight over what remains can only grow. It is a true tragedy of the commons.

“Mideast Water Wars: In Iraq, A Battle for Control of Water”, 25/08/2014, online at:

[http://e360.yale.edu/feature/mideast\\_water\\_wars\\_in\\_iraq\\_a\\_battle\\_for\\_control\\_of\\_water/2796/](http://e360.yale.edu/feature/mideast_water_wars_in_iraq_a_battle_for_control_of_water/2796/)

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### ❖ Syrian forces hit ISIL in Raqqa, destroy water plant

Syrian government forces struck ISIL positions in and around the eastern Syrian city of Raqqa, residents said on Monday, part of a growing campaign against militants who control a third of the country.

Raqqa is a major stronghold of the ISIL, which took one of the Syrian army's last outposts in the city this week to extend its gains across both Iraq and Syria.

Residents said there had been some 16 air raids on Monday on Raqqa and in nearby areas, including close to the al-Tabqa military base to the west of the city, a government-controlled airport that is surrounded by militants.

One attack destroyed the city's water plant, locals said, cutting water supplies to homes and businesses.

More than 170,000 people have been killed in Syria's three-year-old civil war, with ISIL fighters gaining momentum in recent weeks, boosted by equipment seized in a rapid offensive in neighbouring Iraq.

In response, the Syrian army has become more aggressive, using air strikes to attack their positions.

"The bombardment increases then falls off, but when they are not bombing al-Tabqa airport they are bombing the surrounding towns or bombing Raqqa. The sound of aircraft is constant," a Raqqa resident said, asking to remain anonymous to protect his identity.

Locals in Raqqa say civilian casualties have been kept to a minimum because many residents have fled to nearby villages and rural areas, while those remaining spend their days in shelters.

The ISIL's Syria headquarters are situated in what used to be Raqqa's municipality buildings in densely populated civilian areas. "It is these buildings that are now targeted in the air raids," said an opposition activist living in the city, who opposes both the ISIL and the government.

He said that the air force was now using Russian-made Sukhoi bombers, which carry bigger munitions than MiG fighter jets.

Until this summer, President Bashar al-Assad's forces held off from targeting the al Qaeda offshoot, allowing the group to thrive, while weakening less hardline opposition groups that are backed by the West.

Assad has long painted the uprising in Syria as a foreign-backed conspiracy and his enemies say he has allowed the ISIL to grow to promote that idea.

Damascus has not commented on why it was now focusing on ISIL fighters rather than other rebel groups.

The Syrian Observatory for Human Rights, which has tracked violence on all sides of the conflict that began in March 2011, said government forces and ISIL fighters fought in two villages in Raqqa province on Monday, al-Ajeel and al-Khazaneh near the Tabqa airport.

The conflict in Syria started when Assad cracked down on a pro-democracy uprising, which then armed itself. The war pits overwhelmingly Sunni Muslim rebels against Assad, a member of the Shi'ite-derived Alawite minority, backed by Shi'ite militias from Iraq and Lebanon.

“Syrian forces hit ISIL in Raqqa, destroy water plant”, 18/08/2014, online at: <http://www.worldbulletin.net/todays-news/142737/syrian-forces-hit-isil-in-raqqa-destroy-water-plant>

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## ❖ Raqqa airstrikes knock out water plant

BEIRUT: Government forces struck ISIS positions in and around the northeastern Syrian city of Raqqa, residents said Monday, part of a growing campaign against hard-line militants – but one attack destroyed the city’s water plant, cutting supplies to homes and businesses.

Residents said there had been some 16 air raids on Raqqa and in nearby areas, including close to the Tabqa military base to the west of the city, a government-controlled airport that is surrounded by militants.

“The bombardment increases then falls off, but when they are not bombing Tabqa airport they are bombing the surrounding towns or bombing Raqqa. The sound of aircraft is constant,” a Raqqa resident said, asking to remain anonymous to protect his identity.

Locals in Raqqa say civilian casualties have been kept to a minimum because many residents have fled to nearby villages and rural areas, while those remaining spend their days in shelters.

The headquarters of ISIS in Syria are situated in what used to be Raqqa’s municipality buildings in densely populated civilian areas.

“It is these buildings that are now targeted in the air raids,” said an opposition activist living in the city, who opposes both ISIS and the government. He said that the air force was now using Russian-made Sukhoi bombers, which carry bigger munitions than MiG fighter jets.

A stepped-up campaign of airstrikes on Raqqa province Sunday killed 31 ISIS fighters and eight civilians, according to the Syrian Observatory for Human Rights, a Britain-based, anti-regime monitoring group.

Syrian President Bashar Assad has long painted the uprising in Syria as a foreign-backed Islamist conspiracy and his enemies say he has allowed ISIS to grow to promote that idea. Damascus has not commented on why it was now focusing on ISIS fighters rather than other rebel groups.

Until this summer, Assad’s forces held off from targeting the Al-Qaeda offshoot, allowing the group to thrive, while weakening less hardline opposition groups that are backed by the West. But the government has stepped up air raids against ISIS-held areas in several provinces in the north and east in recent weeks, while anti-regime activists say that many of the casualties in the strikes are civilians.

The Observatory said government forces and ISIS fighters clashed in two villages in Raqqa province Monday, al-Ajl and al-Khazaneh near the Tabqa airport.

It said both sides suffered an unspecified number of casualties in the fighting.

In northern Aleppo province, meanwhile, another ISIS stronghold, eight civilians were killed by two airstrikes on the town of Mambij. The strikes wounded dozens of people, the Observatory said, and left at least 10 people in critical condition. Other airstrikes pounded the city of al-Bab, killing three ISIS militants and a number of civilians, the Observatory said.

In Deir al-Zor province to the east, ISIS militants continued to inflict summary punishments on locals and declared a set of strict guidelines for social behavior in areas under its control.

An anti-regime activist from Deir al-Zor told The Daily Star that a dentist from the city of Mayadin was summarily executed for allegedly working with the regime. The Observatory said the woman had been detained 10 days earlier along with four colleagues, whose whereabouts remained unknown.

ISIS also informed shopkeepers in the city that they must close their establishments during prayer time and told residents they must abandon all forms of smoking. A third order, distributed throughout the city, ordered women to adopt ultra-conservative religious clothing.

In Hama province, and on a separate military front, the Observatory said Islamist rebel groups had downed a warplane near the military airport adjacent to the provincial capital, and that its pilot was killed. They also targeted the facility with mortar fire, the Observatory added.

Other, pro-opposition news outlets said that the plane might have crashed due to mechanical failure.

Rebels have seized several villages in rural Hama in recent weeks, and have vowed to target the city's military airport.

Also in Hama province, the town of Morek, located on the highway leading to Aleppo, saw fierce fighting. The Observatory said a rebel and an army colonel were killed in the clashes, while pro-opposition news outlets said that the regime side had suffered dozens of casualties in fighting over recent days.

In the mountainous Qalamoun region, on the border with Lebanon, clashes pitting army troops, paramilitaries and Hezbollah fighters against rebel groups raged throughout the days killed at least seven rebels and a number of pro-regime fighters, local anti-regime activists said.

Pro-regime sources, meanwhile, said the rebels lost around 25 fighters.

“Raqqa airstrikes knock out water plant”, 19/08/2014, online at: <http://www.dailystar.com.lb/News/Middle-East/2014/Aug-19/267640-raqqa-airstrikes-knock-out-water-plant.ashx#axzz3BIUY1fQi>

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### ❖ Iran halts dam construction to save dying lake

*TEHRAN (Tasnim) – Construction of three dams around the drying Lake Oroumیه in northwest of Iran has been shelved in a bid to save one of the world’s largest saltwater lakes from disappearing, Iranian Energy Minister announced.*

Speaking at a provincial meeting in Iran’s West Azarbaijan province on Saturday, Hamid Chitchian said “save Lake Oroumیه task force” has ordered a halt to construction of Nazlou, Simineh and Barandouz dams, noting that any further decision to resume the projects will be within the purview of that task force.

The minister also noted that he “feels deeply responsible” for the dire situation of Lake Oroumیه.

“Drying of Lake Oroumیه will jeopardize the lives of many people (living) around it,” said Chitchian.

The decision to stop building the three dams came after President Hassan Rouhani issued a decree in late June on the start of an environmental operation to save Lake Oroumیه, which has lost quite a large surface in recent years.

The president also assigned members of ‘save Lake Oroumیه task force’ the job of conducting supplementary studies to accelerate implementation of the plan to save the shrinking lake.

“The administration is prepared to cover whatever costs necessary to resuscitate the lake,” Rouhai said at the time.

As Lake Oroumیه is shrinking and deserts of salt expanding, Iranian officials are trying to find ways to avert an imminent disaster and to stop the salt lake from drying up.

One of the largest salt lakes in the world and classified as a Biosphere Reserve by UNESCO, Lake Oroumیه has lost more than 60 percent of its surface over the last two decades due to drought and the damming of rivers feeding it.

The disappearance of the lake could leave behind billions of tons of salt which in turn displace millions of people and endanger the ecosystem of all surrounding areas, whose economy relies on agriculture and tourism.

“Iran halts dam construction to save dying lake”, 16/08/2014, online at: <http://theiranproject.com/blog/2014/08/16/iran-halts-dam-construction-to-save-dying-lake/>

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### ❖ Iran facing acute water shortages

The Iranian regime's Supreme Leader Ali Khamenei has ordered officials to find a solution to the regime's acute water shortage before the crisis triggers street protests across the country.

Khamenei's military advisor Rahim Safavi said plans were underway to exchange water and oil with Tajikistan, adding: "The crisis of water and energy is closely related to national security and defense."

A UN resident coordinator for Iran was recently quoted by Reuters as saying: "Water scarcity poses the most severe human security challenge in Iran today."

And the regime's energy Minister said in parliament: "We are in the stage of water crisis and our acute situation will become more acute."

An energy ministry official added: "Currently out of some 1,200 cities in Iran, only 500 can provide enough for normal consumption, and with a drought and the summer heat special attention is needed."

The director of Tehran's Water and Wastewater said on August 14 that there is only enough water in Tehran's dams to last one month.

Five of the six existing dams in [North Khorasan](#) Province have now totally dried up and there is the possibility of water cuts in several cities in the province.

The situation of Khuzestan, Sistan and Baluchestan Provinces is reportedly even more acute.

The average rainfall in Tehran is approximately 149mm a year, but 90 percent of it is lost due to mismanagement.

Other factors such as the excessive damming of rivers, bad irrigation practices, drought and climate change have all contributed to Iran's water crisis which is now considered to be a national security issue.

"Iran facing acute water shortages", 21/08/2014, online at: <http://www.mojahedin.org/newsen/30315>

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### ❖ **Tehran water reserves down 40 percent**

The total volume of the water in Tehran's five reservoirs has decreased by 40 percent in comparison with last year, Iran's energy minister, Hamid Chitchian said.

He added that the administration limited water supply to the agriculture sector in some regions in Tehran to deal with the shortage, Iran's official IRIB news agency reported Aug. 19.

"However the current situation is unstable and the residents have no choice rather than decreasing the water consumption trend," the minister said.

Iranian media outlets quoted Mohammad Parvaresh, the managing director of Tehran Water and Wastewater Company as saying, Aug.18 that Tehran's reservoirs will run out of water in 30 days.

The official asked residents of the capital to decrease their water consumption by 20 percent to get through the crisis.

Parvaresh noted that high consumption and a lack of precipitation are leading to a complete loss of water in Tehran's reservoirs, in particular Lar and Latian.

Iran is located in an arid zone and the country has been repeatedly faced with drought in the past 40 years.

The drought of 1992-2002 caused a major blow to agriculture. There were quotas imposed for fresh water in several cities including Tehran.

Hamidreza Janbaz, an Advisor to Iranian energy minister, said that currently 517 cities are struggling with water shortage across the country.

"At present, a special program is being worked out to solve the water shortage problem in the next three years," he added.

"A drought has been observed in the country for nearly 13 years," Janbaz said.

Earlier Chitchian said water shortage has turned into a serious problem for the country.

"Tehran water reserves down 40 percent", 19/08/2014, online at: <http://en.trend.az/azerbaijan/society/2303899.html>

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### ❖ Syrian refugees aggravate water scarcity in Jordan- Minister

AMMAN, Aug 23 (KUNA) -- Per capita share of water in Jordan is on the decline owing to the flow of refugees from Syria into the Kingdom, falling to a minimal 120 cubic metres (cm) annually, said Water and Irrigation Minister Hazem Nasser.

This is below the international water poverty line of about 1,000 set by the World Health Organization (WHO), the Minister told the Jordan Radio on Saturday.

He noted that Jordan is the second or third poorest country in the world regarding water resources, according to international figures. He stressed the serious effect by the refugees' influx in that respect.

According to the Minister, scarcity of water has been posing socio-economic and political pressures, pushing the authorities to allocate extra funding to find water sources through high-cost projects such as the Disi water conveyance project, building dams and desalinating water to ensure "acceptable minimum levels" of supplies that meet WHO standards.

Other factors leading to water poverty in the Kingdom are the rising population, drought and scarce rain that feed springs, particularly in remote areas of the country.

The Kingdom's annual consumption of water for drinking, agriculture and industry purposes is 800-900 million cm in the average. The level has been stable over the past decade, he said.

As for the Wadi Araba water, Nasser said that the peace treaty with Israel defined the Kingdom's share of the Yarmouk river water, depending on the rain season. This year Jordan received 25 million cm extra from the Israeli side, from Tabaria Lake. The Minister said that the Jordanian people have become aware of the water poverty, which raised hopes the Kingdom will be on a good level of water supply over the coming years.

“Syrian refugees aggravate water scarcity in Jordan- Minister”, 23/08/2014, online at:  
<http://www.kuna.net.kw/ArticleDetails.aspx?id=2393268&Language=en>

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[WWW.ORSAM.ORG.TR](http://WWW.ORSAM.ORG.TR)

### ❖ Starve or surrender: Cut off all food and water to Gaza, says Israeli general

Israeli Major-General Giora Eiland has urged that all food and water be cut off to Gaza's nearly 1.8 million Palestinian residents – a major war crime and precisely the “starve or surrender” policy which the United States has condemned when used in Syria.

Eiland, the Israeli government's former national security advisor, argues that Gaza should be considered an enemy “state.”

“Since Gaza is in fact a state in a military confrontation with us, the proper way to put pressure on them is to bring to a full stop the supplies from Israel to Gaza, not only of electricity and fuel, but also of food and water,” he wrote in a Hebrew-language op-ed on *Mako*, a website affiliated with Israel's Channel 2 television.

“A state cannot simultaneously attack and feed the enemy, while he is shooting at you, because this gives the other country a breathing space – and again I am referring to Gaza as a country, because the regime there is supported by its people,” Eiland adds.

#### **Israel legally obliged to supply Gaza population**

Eiland appears to believe that the fiction that Gaza is a sovereign “state” would somehow lessen culpability for what would amount to massive war crimes and crimes against humanity.

Under Article 55 of the Fourth Geneva Convention, “the Occupying Power has the duty of ensuring the food and medical supplies of the population; it should, in particular, bring in the necessary foodstuffs, medical stores and other articles if the resources of the occupied territory are inadequate.”

Under international law, Israel's 2005 “disengagement” from Gaza has not ended its military occupation of the territory because Gaza remains under the “effective control” of Israel.

Yet Israel has long violated its obligation by deliberately restricting the basic needs of Gaza's population and deliberately destroying their food sources including agricultural land, poultry and dairy farms.

While Eiland's proposal calls to cut all food and water, strictly regulating the food intake of Palestinians in Gaza to achieve political ends has long been the Israeli occupation's actual policy.

Israel's deliberate attacks on Gaza's civilian infrastructure have created a “water disaster,” already depriving every single person of access to a safe and secure supply of water.

Israel's brutal siege is precisely what the Palestinian resistance in Gaza is currently fighting to end.

## Possible genocidal intent

Eiland recently argued in *Yedioth Ahronoth*, Israel's largest newspaper, that because they elected Hamas, the people of Gaza as a whole "are to blame for this situation just like Germany's residents were to blame for electing Hitler as their leader and paid a heavy price for that, and rightfully so."

General Eiland's call – which may amount to incitement to genocide as well as to war crimes and crimes against humanity – is only the latest exterminationist proposal from an Israeli leader.

Moshe Feiglin, deputy speaker of the Knesset, Israel's parliament, for instance, recently called for the population of Gaza to be moved to concentration camps and then expelled so that Gaza could be resettled with Jews.

"Starve or surrender" mirrors Syria policy

The United States government, Israel's chief sponsor, has not expressed any criticism of Eiland's proposals, nor done anything to end Israel's siege. However, it views "starve or surrender" as a grave crime when used against opposition-held areas by the government in Syria.

This has been the case in several areas including Yarmouk refugee camp where, Amnesty International has said, the Syrian government is "using starvation as a weapon of war to achieve its ends."

Last month, the UN Security Council adopted a resolution demanding that "all Syrian parties to the conflict," including the government and the opposition, "shall enable the immediate and unhindered delivery of humanitarian assistance directly to people throughout Syria," immediately "removing all impediments to the provision of humanitarian assistance."

By contrast, the so-called "international community," led by the United States, has supported and justified Israel's siege of Gaza for almost eight years.

"Starve or surrender: Cut off all food and water to Gaza, says Israeli general", 23/08/2014, online at: <http://electronicintifada.net/blogs/ali-abunimah/starve-or-surrender-cut-all-food-and-water-gaza-says-israeli-general>

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### ❖ Pilot project helps Jordanian farmers thrive

The Jordan River Foundation recently announced it intends to expand its successful pilot agricultural project in the Wadi Araba area of Qureiqra to other parts of the country.

The project helps farmers replace their agricultural patterns and traditional crops with new techniques and crops and has improved agricultural conditions in the region, officials told Al-Shorfa.

"The foundation has recently helped several farmers in the Qureiqra area to adopt new agricultural patterns," said foundation director general Ghalib al-Qudhat.

Many farmers in the area rely on cultivating tomatoes, which are sold at very low prices, while the crop requires a large amount of water in a country that suffers from water scarcity, he said.

The foundation trained farmers to grow potatoes and use greenhouses, he told Al-Shorfa, adding that the experiment succeeded in demonstrating the feasibility of growing this crop in the area and has reduced the amount of water used for irrigation.

Based on the success of the project in Qureiqra, the foundation wants to expand the programme to help farmers in all areas "due to the importance of the agricultural sector in Jordan", he said.

The agricultural sector in Jordan contributes towards 3.6% of the GDP, based on data from the Ministry of Agriculture.

"Farmers usually prefer not to gamble and experiment with new agricultural patterns but the programme aims to change this mentality by providing training, awareness and financial and technical assistance," he said.

The foundation will expand the programme in collaboration with several local community institutions, al-Qudhat added.

### **NEW CROP IMPROVES FINANCIAL OUTLOOK**

Wadi Araba Agricultural Co-operative chairman Awadh al-Saeedain told Al-Shorfa the co-op has planted dozens of acres with potatoes instead of the tomato crop and "there has been a 100% improvement in terms of financial gain".

"We used to grow certain crops like tomatoes but unfortunately, we would throw it away in the street due to high yield and low demand, which makes switching from traditional agricultural trends to new ones very important to farmers, as well as introducing technology so that farmers can continue with their work," he said.

In the near future, the Jordan River Foundation plans to implement a project in Wadi Araba to cultivate alfalfa to be used as fodder for livestock, said Hussein al-Toura the foundation's head of project implementation in the south.

"This is a vital project and very important for the region where there are more than 40,000 heads of sheep and camels," he said. "This will allow farmers to make the best use of their land and to sell their produce to livestock breeders in the area instead of the latter having to import them from other areas."

The project will help create dozens of jobs, support hundreds of farmers and provide fodder for sheep throughout the year, he told Al-Shorfa.

"Pilot project helps Jordanian farmers thrive", 21/08/2014, online at: [http://al-shorfa.com/en\\_GB/articles/meii/features/2014/08/21/feature-02](http://al-shorfa.com/en_GB/articles/meii/features/2014/08/21/feature-02)

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❖ **Report: Palestine's water meters tend to overcharge**

PALESTINE (KYTX) -A new report shows the city-provided water meters have a tendency to overcharge people. The city says the ones sampled for the report have been replaced, but what about thousands of others?

Over a year ago, an independent report randomly sampling water meters around the city looked at 106 of them and found that most of them are measuring incorrectly.

Palestine's former mayor dropped the wet bomb-shell on an unsuspecting public last week during KNET's Meddling in the Morning show.

"Talk radio brings issues to light," KNET & KYK News Director Gary Richards said.

Richards said he's glad someone's willing to drag secrets out into the open.

"If you've been paying a very high water bill and you're paying for water you didn't use, needless to say you'd think you'd be refunded for it or the situation would be brought under control," he said.

It's all based on that water meter testing report showing most of the meters examined claimed customers were using more water than they really were. The overcharges ran as high as 208 percent--charging for two gallons when one was used.

"You're not charged for more than 5,000 gallons until you get over the 6,000 gallon mark," City Manager Wendy Ellis told KNET in a recent interview. "So there's already a thousand-gallon cushion in our billing."

We had trouble tracking down the city manager Wednesday.

"We don't know that we have an overwhelming, widespread problem," Ellis said in the KNET interview. "We do know we have the potential for some meters to register high based on the testing that was done."

People we talked with in town all said they were worried the problem is widespread and complained about high water bills. Ellis told KNET the water department will check any meter at a customer's request to make sure it is no more than 3 percent off.

"And if your meter is testing outside those parameters, we'll get it replaced," she said.

Richards said the city has its work cut out.

"They don't trust their government, whether it's city, state or federal government, so they want to know," he said. "And they want to know if it's going to be fixed and how it's going to be fixed."

"Report: Palestine's water meters tend to overcharge",21/08/2014, online at: <http://www.cbs19.tv/story/26331665/report-palestines-water-meters-tend-to-overcharge>

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## ❖ Gaza facing major water shortage due to ongoing fighting with Israel

*Israel bombing of Strip has led to major damage of water infrastructure and electrical shortages*

The Gaza Strip is facing a massive water shortage that is leaving many of the residents without water for drinking or bathing, Haaretz newspaper reported on Thursday.

According to the report, approximately 275,000 residents of Gaza are now residing in shelters. The water shortage has prevented regular bathing, and due to this, several skin infections and diseases have been spreading amongst the displaced population.

In addition to the water shortage, there has also been an electrical shortage. The combination of the two things has prevented water from being pumped through the pipelines and from being purified.

Human rights group Amnesty International is claiming that Israel has repeatedly denied their team entry into the Strip. They noted that the resumption of Israeli air strikes on the Strip makes their entry into Gaza all the more imperative.

The group's director of research and crisis response, Anne Fitzgerlad, said the resumption of air strikes "is another reminder that our access to the Gaza Strip cannot wait. Valuable time has already been lost and it is essential that human rights organizations are now able to begin the vital job of examining allegations of war crimes."

"The Israeli authorities appear to have been playing bureaucratic games with us over access to Gaza, conditioning it on entirely unreasonable criteria even as the death toll in the region has risen," she added.

In Gaza, the United Nations and Red Cross are combatting the water crisis by distributing bottles of drinking water and tanks of purified water to schools housing displaced residents.

According to the Palestinian Authority, 11 major wells and two purification plants were destroyed in Israeli strikes, with numerous other wells and plants partially destroyed.

Although some repairs have been made to wells and pipelines during the ceasefire, the resumption of fighting between Israel and Gaza is expected to lead to a continued deterioration in Gaza's water supplies.

"Gaza facing major water shortage due to ongoing fighting with Israel", 21/08/2014, online at:

<http://www.i24news.tv/en/news/international/middle-east/40949-140821-gaza-facing-major-water-shortage-due-to-ongoing-fighting-with-israel>

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## ❖ The Gaza water crisis

The latest round of fighting in Gaza, *Operation Protective Edge*, has shown that Israel cannot risk the threat of the Gaza Strip chock-full of missiles threatening the citizens of Israel and constantly disrupting the country's routine. Israel's strategic goal is to disarm Hamas. That does not mean eradicating Hamas rule; there is no certainty that the replacement would be preferable. Hamas is a problem for Israel, but it has proven that it at least constitutes a sort of address and has a reasonable capacity to exercise control.

"Destroying the terror infrastructure" in a military operation exacts a cost in casualties and in political complications while posing a risk of providing a "picture of victory" to Hamas.

The option of a military campaign is considered if there is no other alternative. There is an additional option - namely to exploit the failure of the Hamas government and of the Palestinian Authority in general, to manage Gaza's civil affairs. This is evident in an alarming collapse of Gaza's physical infrastructures even before the *Operation Protective Edge*: electricity, sewage, and most gravely, the supply of drinking water.

In talks on a ceasefire, even Hamas spokesmen emphasized the need "to lift the siege on Gaza, open the border crossings, and rehabilitate the infrastructures."

Some in Israel have taken note of this vulnerability and called for "cutting off Gaza's electricity" or "stopping the transfer of goods to Gaza." In our view, exploiting Hamas' vulnerability on this score is something that must be done wisely. To obtain international support for strategic moves, one must take care not to cause a humanitarian disaster in Gaza. To bring about such a disaster by cutting off electricity or withholding basic necessities would put Israel at a disadvantage.

The water crisis is different from the other infrastructure crises. Unlike its provision of electricity, Israel currently provides only negligible quantities of water to Gaza. Gaza's water crisis was created completely by Hamas and the Palestinian Authority before it, and was not caused by any Israeli action or misstep. On the contrary, Israel is the only actor capable of extricating Gaza from the crisis, meaning that it has a lever to help achieve strategic objectives.

Pro-Palestinian human rights organizations often approach the water crisis as another issue for which Israel bears the blame, and as ammunition to use against Israel in international tribunals.

Israel must avoid being drawn into the water issue as a "humanitarian" concern; it must instead present it as a political issue, expressing willingness to supply the residents of Gaza but only in return for the dismantling of the terror infrastructure. Gaza can manage with intermittent electricity and with sewage in the streets, but there is no life without water. By being drawn into the issue as a humanitarian one, Israel would also validate claims against it, and lose a winning card when it comes to demilitarizing Gaza.

In the reports of human rights organizations one has to distinguish between factual information, which is generally reliable, and political conclusions, which are biased against Israel. What do these organizations say?

*Solidarity*, an organization critical of Israel, stated that the water crisis "may pose an even greater threat to the well-being of the Palestinian population than the guns and bombs of the military occupation."<sup>6</sup> This group, like others of its kind, is intent on blaming Israel for the situation, and in this case, it claims the crisis is rooted in the problem of the 1948 refugees, which makes it difficult to provide water to all of the residents, with the "occupation" only aggravating the situation. *Solidarity* does not direct a word at the Hamas government, even though it was under its rule that the severe deterioration occurred. When the organization describes the crisis from a professional standpoint, however, the data show clearly that Hamas is responsible, as well as the Palestinian Authority before it, and that only Israel can rescue the residents of Gaza from dying of thirst. These conclusions are of special importance precisely because of the nature of the organization that substantiates them.

According to this report, the 1993 Oslo agreements made the Palestinian Authority responsible for water management in Gaza, and in 1995, the PA established the Palestinian Water Authority (PWA). In other words, from that point all matters involving water were in Palestinian hands. The report also states that in 1995 water experts already warned that unless measures were taken, by the year 2000 the aquifer would be seriously damaged. Gaza's drinking water comes from the coastal aquifer and from rainwater. Illegal wells and over-pumping were causing saline water to seep in. The deficit in

supply compared to consumption worsened, however, by leaking pipelines that had already by 2000 lost half of the dwindling drinking water supply.

When the PWA was established in 1995, the United States Agency for International Development (USAID) and other international organizations prepared a comprehensive plan for solving Gaza's drinking-water problem by 2000. The plan included repairing the pipelines, reducing the use of well water, treating sewage, creating institutes for the desalination of seawater, and importing drinking water from Israel. However, in 2000 the second Intifada broke out and that brought an end to the plan. If it still had a chance, the elections that brought Hamas to power in 2006 and the resulting international boycott led USAID to close its offices in Gaza and cancel the tenders with the contractors, precisely when international measures were necessary to rescue Gaza from its water calamity.

Why is the Ramallah-based Palestinian Authority poorly suited to take part in solving this problem? Solidarity asserts in its report that the essential problem with Ramallah is that in negotiations with Israel on water issues, the PLO adhered to basic positions involving "water rights" that preclude a more pragmatic approach to the problem. And that brings Solidarity to its bottom line: solving Palestine's water problems is totally dependent on cooperation with Israel.

Where do things stand at present? Several infrastructures – for drinking water, sewage, and electricity – are close to collapse, not only endangering Gazan life in the immediate context but also posing the danger of a total lack of drinking water in the near future. This state of affairs conclusively rules out the option of building seawater desalination facilities quickly due to the large quantity of sewage that has entered the seawater; the lack of an electricity network for the desalination facilities, and the lack of an array of pipelines that are not leaking. In any case, these matters are theoretical because no action has been taken, and even if it is taken, it will be too late for the rapidly deteriorating situation. The only thing that can save Gaza from disaster is the old plan to transfer drinking water from Israel.

Although even an organization like Solidarity understands that only Israel can save Gaza, the question is in what framework and under what rubric this aid would be provided. Pro-Palestinian organizations insist on defining this aid solely in the humanitarian context, meaning that Israel would get nothing in return for salvaging Gaza while its purported "acknowledgement" of guilt would

expose it to claims in international tribunals. Moreover, the current round of fighting gave the Palestinians a new opportunity to accuse Israel of destroying the water infrastructure and to keep the solution in the humanitarian context.

On July 12, Oxfam published a report on the damage caused by the war. The document claims the IDF destroyed wells and sewage facilities, pinning blame for the disaster on Israel and putting the solution in the humanitarian context of rehabilitating Gaza from wartime damage.

Hamas, too, grasped these implications and published a report of its own detailing the damage to the water infrastructure caused by the IDF's actions and asserting that "Gaza is facing a water disaster." In an interview with *Al Jazeera* on July 15, Hamas spokesman Sami Abu Zuhri reformulated Hamas's objectives in the war. In explaining why Hamas had rejected the initial Egyptian ceasefire initiative, he said:

We have not fought for a ceasefire. We have fought to remove the oppression from the residents of Gaza. There is a real humanitarian disaster in Gaza and we have fought for a real removal of the oppression. All the residents of Gaza are in a state of slow death. Real death. Gaza without water, without fuel, without electricity.

It is clear that Hamas' negotiations over a ceasefire will put these issues on the table. A statement made by senior Hamas official Mousa Abu Marzuq in this context is very important to note. In his interview Abu Marzuq said: "We prefer the re-occupation of Gaza by Israel . . . because it will entail the re-supplying of water, electricity and labor; all of which are the responsibility of the occupying force."

In sum, it is precisely the international organizations that are known for their anti-Israeli positions that have focused on the approaching drinking-water calamity in Gaza. Although no data are available on when the drinking water will cease to be potable, all indications are that the day is drawing near with alarming rapidity. International organizations will pin the blame for the disaster on Israel and will strive to put the solution of the problem in the humanitarian framework so that the terror infrastructure will not be harmed.

Israel's position must be clear: it is willing to help with the rehabilitation of Gaza's drinking-water system but not in a humanitarian framework. Instead, this must be done in the context of a binding political agreement entailing the rehabilitation of the civilian infrastructures in return for the destruction of the terror infrastructure. On this issue Israel must not bend.

“The Gaza water crisis”, 18/08/2014, online at: <http://www.enterstageright.com/archive/articles/0814/gazawater.htm>

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[WWW.ORSAM.ORG.TR](http://WWW.ORSAM.ORG.TR)

### ❖ Gaza experiencing severe water shortage

Gaza residents are suffering from a severe water shortage as a result of the ongoing conflict there. Damage to wells and Gaza's energy infrastructure has disrupted the pumping and distribution of water, cutting the coastal strip's water supply by half, [according to Haaretz](#). In addition, hundreds of thousands of displaced Gazans have been unable to bathe regularly. Haaretz reported that the water shortage could lead to the spread of infections and skin diseases. The Palestinian Water Authority told Haaretz that bombing destroyed 11 wells and two purification plants while damaging an additional 15 wells and four purification plants. Workers began repairs on the infrastructure during the cease-fires of recent weeks, but the repairs are expected to stop now that fighting has resumed. Ninety percent of the water in Gaza is not potable, making the purification plants crucial to the area's drinking supply.

"Gaza experiencing severe water shortage", 22/08/2014, online at:

[http://www.jewishjournal.com/israel/article/gaza\\_experiencing\\_severe\\_water\\_shortage](http://www.jewishjournal.com/israel/article/gaza_experiencing_severe_water_shortage)

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### ❖ Egypt says it has new 'vision' for Ethiopia's dam

Egypt's Irrigation Minister Hossam El-Moghazi told privately owned Mehwar channel that Egypt has a new "vision" regarding Ethiopia's planned Grand Renaissance Dam ahead of another round of talks in the Sudanese capital.

In a phone interview, El-Moghazi said the Egyptian delegation will head to Khartoum on 24 August for two days of discussions.

"Egypt has a new vision, that will not affect Egypt's water share, and we are expecting that the other party responds to it," said El-Moghazi.

Meanwhile, the minister said that Egyptian satellite images have revealed that construction has not yet begun on the part of the dam which will reserve the Nile's water.

The project has been a source of concern for the Egyptian government since May 2013, when images of the dam's construction stirred public anxiety about the possible effect on Egypt's potable water supply.

Ethiopia maintains that Egypt's water share will not be negatively affected by the successful completion of the project, set to be Africa's largest hydroelectric dam.

The upcoming tripartite talks between Egypt, Ethiopia and Sudan were initially planned to take place in Cairo but were later moved to Khartoum.

The talks are expected to develop seven main points that Egypt's President Abdel-Fattah El-Sisi and Ethiopian Prime Minister Hailemariam Desalegn previously discussed during a meeting in late June – among them fostering dialogue and cooperation between the two countries as well as regional projects to meet the growing demand for water.

“Egypt says it has new 'vision' for Ethiopia's dam”, 17/08/2014, online at:

<http://english.ahram.org.eg/NewsContent/1/64/108626/Egypt/Politics-/Egypt-says-it-has-new-vision-for-Ethiopias-dam.aspx>

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## ❖ Egypt, Ethiopia and Sudan Set For Three-Way Talks on Controversial Nile Dam

Sudan is set to host three-way talks with Egypt and Ethiopia over the construction of the Grand Renaissance Dam, according to Egyptian state news agency MENA.

The talks will address the findings of an international study into the human and economic impact of the dam, which is being built on a stretch of the Blue Nile.

Egypt is concerned the project could damage the flow of water from the river Nile. Citing treaties dating back to 1929 and 1959, Cairo says it retains its historic rights over the river.

Those treaties, agreed with the UK and Sudan, gave two-thirds of the Nile's water to Egypt, as well as the right to veto projects that could affect the river.

Egypt has accused its southern neighbour of launching a water war, which could lead to a nationwide water shortage that could lead to crop failures, electricity shortages and political instability.

"It's impossible to undertake a project on this scale without environmental impact studies to assess the consequences for downstream countries," said Mohamed Ghoneim, Egypt's representative to the African Union, as quoted by the UK's Guardian newspaper.

For its part, Ethiopia has pressed ahead with the project regardless of old agreements. Analysts have said Addis Ababa is capitalising on Egypt's relative weakness to push through the dam project.

"These treaties are now obsolete. We are entitled to build the dam," said Alemayehu Tegen, Ethiopia's minister of water.

The dam project is expected to cost more than \$4bn in total. Ethiopian officials have stressed the water will be used to generate electricity rather than irrigate fields, meaning it would eventually reach Egypt.

Egypt's leadership remains unconvinced by those kinds of assurances and will press its concerns in at the meeting set for August 25 and 26.

"Egypt, Ethiopia and Sudan Set For Three-Way Talks on Controversial Nile Dam", 18/08/2014, online at:

<http://www.ibtimes.co.uk/egypt-ethiopia-sudan-set-three-way-talks-controversial-nile-dam-1461657>

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### ❖ Ethiopia Delegation Set To Leave For Sudan For Dam Talks

An Ethiopian government delegation is set to head to Khartoum on Saturday to take part in tripartite talks with Sudan and Egypt on Ethiopia's multibillion-dollar hydroelectric dam on the Nile.

"We have agreed on the main agenda of the dialogue proposed by Egypt," Feke Ahmed Negash, director of boundary and trans-boundary rivers at the Ministry of Water, Energy and Irrigation, told Anadolu Agency on Friday.

"The Egyptians proposed [the agenda] in writing to deliberate ways of implementing the recommendations put forward by the international panel of experts," Negash said. "We responded to the proposal positively."

Egypt and Ethiopia agreed to resume tripartite dialogue over the latter's dam project after Ethiopian Prime Minister Hailemariam Desalegn and Egyptian President Abdel-Fattah al-Sisi met in Equatorial Guinea in June.

The two-day meeting is set to resume next Monday after having been postponed for eight months due to differences between Cairo and Addis Ababa.

Set up in 2011, a tripartite technical committee was tasked with studying the impact of the Grand Ethiopian Renaissance Dam on the two downstream states.

In recent years, tension has marred relations between Ethiopia and Egypt over the former's construction of the dam on the upper reaches of the Nile River, which represents Egypt's primary water source.

Ethiopia says the dam is necessary for its national development plans.

It insists the project won't impact Egypt's traditional share of Nile water, which has long been determined by a colonial-era water-sharing treaty that Addis Ababa has never acknowledged.

"Ethiopia Delegation Set To Leave For Sudan For Dam Talks", 22/08/2014, online at:  
<http://www.viewstimes.com/ethiopia-delegation-set-to-leave-for-sudan-for-dam-talks-1013>

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### ❖ Serengeti Wildlife to access Lake Victoria's water as climate change looms large

However, Bunda Legislator and a cabinet minister, Mr. Stephen Wasira, doesn't buy this idea, maintaining that the people were legitimate inhabitants in the area and should not be evicted.

Mr. Wassira, who is a Minister of State in the President's Office (Social Relations and Coordination), proposed that TANAPA in collaboration with the ministry of Tourism and Natural Resources to establish a Wildlife Management Area (WMA) in Ghuba Speke.

"What is necessary is free movement of wildlife, and formation of the WMA will facilitate the animals to access water in Lake Victoria and make people benefit too," says Mr. Wasira noted.

While the document does not indicate the alternative land for the would be evictees, the Bunda District council chairman, Mr. Joseph Malimbe also says his district has no place to settle more than 8,000 people who would be affected by the project.

There are some arguments that the country should construct huge dams in the Serengeti National park and then use technology to drain waters from Lake Victoria to feed the boreholes instead of evicting the villagers.

However, analysts say should the state buy this idea, it could spark a diplomacy row with Egypt, the major beneficiary of the Nile River agreement.

The 1929 Nile River Agreement, which was drawn up by Great Britain when it was the colonial power in north and east Africa, grants Egypt the lion's share of utilization of the Nile River and the right to veto any construction project that would harm its interests.

An amended agreement was signed in 1959 by Egypt and Sudan, and not by the other eight Nile Basin countries, allocating 55.5 billion cubic meters of water of the 84 billion estimated cubic meters of water the Nile produces every year to Egypt.

Natural Resources Law Lecturer with Tumaini University Makumira, Elifuraha Laltaika suggests a balance between rights of the local population and a need to expand the Serengeti National Park.

"Eviction should be the last resort, after authorities have provided the community with alternative land and other social amenities. With political will, this is doable given the indisputable importance of conserving the Serengeti and its natural wonders for generations yet to come." Mr. Laltaika says.

The document, however, points out that the decision constitutes a directive from the President, Jakaya Kikwete.

Laws of Tanzania allow the president, with consultation from the parliament, to declare any area of the country into a national park.

Upon such declaration, all rights come to an end, because no human habitation is allowed in a national park.

Initially, the law permitted human habitation in game controlled areas, a conservation status to which the Ghuba Speke belong. However, following enactment of a new wildlife conservation Act in 2009, settlements have been outlawed in all wildlife conservation areas namely national parks, game controlled areas and game reserves.

This may therefore mean that Tanzania could use the wildlife conservation Act of 2009, in particular its provisions that prohibit settlements in the game controlled areas to relocate the population.

"Serengeti Wildlife to access Lake Victoria's water as climate change looms large", 23/08/2014, online at: <http://www.eturbonews.com/49423/serengeti-wildlife-access-lake-victorias-water-climate-change-lo>

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### ❖ Why Must Sudan Join UN Watercourses Treaty?

We posted on May 25, 2014 on a number of electronic websites an article titled “Denotation of Enforcement of the UN Treaty on International Watercourses”, indicating that Vietnam became on May 24 the 35th nation to join the Treaty thus completing the number of endorsement required for the Treaty to come into force. The Treaty will therefore be effective as of August 17, 2014, that is, 90 days after lodging the 35th endorsement, acceptance or approval, as provided for in Article 36 of the Treaty.

In this article we will explain that the UN International Watercourses Treaty (UNIWCT) is a balanced framework agreement and why the Sudan should as soon as possible join the civilized nations which have enlisted to the Treaty.

We have explained in the previous article the the International Law Committee began work on the UNIWCT in early 1971, a few weeks after a resolution by the UN General Assembly on 8 December 1970 in which the international body asked the Committee to commence with studying a law relevant to using international watercourses for non-navigational purposes with an eye to gradual development and documentation of that law.

We have also indicated that the mission was extremely difficult and complicated, requiring 23 years, five rapporteurs and 15 reports to be prepared before the Committee was able to reach agreement on the final draft of the provisions of the Treaty in 1994 and submit it the the UN General Assembly in the same year. The Committee named the agreement as “the UN Treaty on utilization of the international watercourses for non-navigational purposes” which we refer to in this series of articles as “the UN Treaty on International Watercourses (UNTIWC).

Three years had elapsed since the International Committee was through with its task in 1999 before the UN General Assembly passed the UNTIWC on 21 May 1997. After protracted deliberations on the draft that was submitted by the Committee and amended by the working team, the UN General Assembly adopted Resolution No. 51/229 passed the UNTIWC with 103 nations (including Sudan) voting for the Treaty, three nations (Burundi, Turkey and China) against it and 27 nations abstaining. Another 17 years elapsed before the completion of the number of approvals required for the UNTIWC coming into force.

We have enumerated the nations which have become party to the UNTIWC which were (from Europe): Finland Norway, Hungary, Sweden Holland, France, Denmark, Luxemburg, Portugal,

Germany, Spain, Greece, Italy, Monte Negro, UK and Ireland, (from Africa): South Africa, Namibia, Guinea Bissau, Burkina Faso, Nigeria, Niger, Benin, Chad and Ivory Coast, (from the Middle East): Syria, Lebanon, Iraq, Libya, Tunisia, Qatar and Morocco, (from Asia): Uzbekistan and Vietnam. We are mentioning hereunder the reasons we believe why the Sudan must join the UNTIWC and catch up with the nation which have done so.

First: The Treaty is the cream of human experiences in the law of the international watercourses. The International Law Committee studied, over 23 years under five rapportuers, the rules and resolutions issued by the International Law Society (including the Helsinki Rules of 1966) and went through the rules which were issued by the International Law Institute. It also scrutinized all agreements on the international watercourses, the resolutions of the courts (including the national courts in federal nations where disputes over water are multiple) and resolutions of arbitration councils. Moreover, the Committee considered the outcome of the UN meeting on the resources (Mardle Plata Conference of 1977) and Rio Conference on Environment of 1992. The UNTWC preamble made reference to all those studies, reports and rules, noting that took into consideration the valuable contributions offered by the international organizations, both government and non-government, to the gradual development and documentation of the international law.

The UNTIWC was an outcome of a tremendous effort characterized by accuracy, patience, endurance, research, scrutiny and investigation granting much concern to every issue, whether tiny or colossal.

Second: The UNTIWC was based on the principle of cooperation among the lateral nations of a common watercourse and emphasized that the international watercourses law is a law for cooperation. The word ‘cooperation’ and its derivatives appeared 15 times in the Treaty. And Article 8 of it stresses that the cooperation will be based on equality of sovereignty and territorial integrity, mutual benefits and good-faith for achieving optimum benefits from the international watercourse and providing adequate protection of it.

Third: The basic principle of the UNTIWC is “the fair and rational benefitting and sharing.” Article 5 secures the right of each lateral nation the right to benefitting, each in its region, from the international watercourse in a fair and rational way. But this article also obligates those nations to use this watercourse and develop it for benefitting from it in an ideal and sustainable manner, acquiring benefits from it in observance of the other lateral nations and also obligates those nations to make the benefits in return for providing sufficient protection for the watercourse. The Treaty also imposes

responsibilities towards the other lateral nation and towards the watercourse itself.

Fourth: The 1996 Helsinki rules established the elements which define the principle of fair and rational benefits. The Treaty was based on those elements with minor amendments called for by relevant legal experiences, including the agreements and resolutions of the courts and arbitrary councils since 1966. Article 6 details specific elements and circumstances that must be taken into consideration for definition of the concept of fair and rational benefits and stipulates that benefitting from the watercourse in a fair and rational way require taking into consideration all of the relevant elements and circumstances which include the following:

- (1) The geographic, hydrological, environmental, ecological and other natural factors.
- (2) The social and economic needs of the concerned watercourse lateral nations.
- (3) The populations which depend on the watercourse in each one of the lateral nations.
- (4) The impact of the utilization of the watercourse in one nation on the other lateral nations.
- (5) The current and future utilization of the watercourse.
- (6) Preservation, protection, development and economical utilization of the water resources of the watercourse and meeting the costs of the arrangement required for those purposes.
- (7) The likelihood of finding alternatives of a relative value for present or planned utilization.

Article 6 also provides that the importance of each one of those factors is determined in comparison with the importance of the other factors.

Although the fair and rational benefits principle is the mainstay of the UNITWC (also the International Water Law), the UNTIWC also contains the principle of not causing a significant harm to other nations of the watercourse. However, it subjugated the no-harm principle to the fair and rational benefits one which grants each member nation its right in light of the above-mentioned factors. It must be emphasized that those factors are much in favor of the Sudan in any negotiations on the Nile water.

Fifth: The UNRTIWC also contained basic principles in the International Water Law, such as an advance notification to the other member nations of the Basin on projects and programmes a member nation is planning to carry out and regular exchange of information and data on the condition of the joint Basin. It also included provisions on the environmental protection of the Basin and pacific solutions to disputes.

As regards the advance notification, the Treaty stipulates that, before one lateral nation commences

or permits commencement of arrangements which may be of significant harm to other lateral nations, that nation must send the notification in an appropriate time accompanied by the available technical data and information, including the outcome of any process for evaluation of the environmental impact so as to enable the notified nations to evaluate the likely effects of the planned arrangements. It must be pointed out that commitment to the advance notification applies to all nations, whether in the upper or lower part of the watercourse. This provides full protection to the Sudan from the nations on both parts of the Basin.

Sixth: The UNTIWC was warmly welcomed by all legal organizations in the world and was adopted by the International Court of Justice less than four months after approval by the UN General Assembly in the Slovak-Hungary dispute over the Danube River. The Court made reference to the Treaty and expanded the implications of main principles contained in it, as in that Danube dispute it made emphasis on the fair and rational benefits concept when it ruled that “the multi-purpose programme be implemented in the form of a concerted separate unit for utilization, development and protection in a fair and rational way.” The International Court of Justice also stressed that each nation enjoys a basic right in the common watercourse. It did not make reference to the commitment of not causing harm as a separate principle, implying emphasis by the Court on the International Water Law being based on the principle of fair and rational benefits.

The Treaty was also supported by the International Council for Water and the International Water Partnership and has begun to be studied in faculties of law around the globe because it was regarded as documentation and development of the International Water Law. Moreover, the Treaty will become the main reference to all tribunals and committees of arbitration for resolving disputes over common water.

Seventh: The Treaty was joined by 16 European nations despite the fact that those nations have their own agreements on the international watercourses. They have joined the UNTIWC so as to stress the importance of the principles of the Treaty which does not differ from the European Watercourses agreement because it is based on cooperation. The South African Nations Group for Development amended their protocol on common watercourses to include the UNTIWC principles. The Mekong River nations adopted the advance notification rules which were quite different from UNTIWC rules. All of this demonstrates an extensive international acceptance of the Treaty.



Ethiopian Millennium Dam

Eighth: The UNTIWC is considered a framework agreement which is aimed at guaranteeing utilization, development, management and preservation of the international watercourses and ensure their ideal and sustained utilization by the present and future generations. It is regarded a framework agreement because it covers some of the basic procedural aspects and a few objective aspects and it leaves the details for the lateral nations to complete in inter-nation agreements that take in consideration the specific properties of the concerned watercourse.

Those agreements can adopt or adapt the provisions of the UN Treaty which, therefore, provides the

lateral nations a broad margin in the negotiation details of their agreements.

As we have mentioned above, the UN Treaty contains no allocations and does not include provisions on water tariffs or details on sale and purchase of the water as some Sudanese experts allege.

Ninth: Some former Sudanese consultants of the Ministry of Irrigation and Water Resources allege that the watercourse definition saying that “a regional economic integration organization which one or more of its member nations hosts a part of an international watercourse”, offers Israel the right to becoming a Nile Basin member state in its capacity as a member of a number of regional economic integration organizations which may become party to UNTIWC. This is absurdity which we were not intending to discuss if not for the likelihood of raising it once more. The UN Treaty defines the regional economic integration organization as “an organization formed by sovereign nations of a certain regional zone and its member nations transfer to it the jurisdiction concerning the issues which are regulated by this Treaty and permit it, according to its internal regulations, to sign, accept, endorse and join it.” The regional organization is dealt with, in accordance with the Treaty, as a single legal personality, not the individual nations. This text was added to enable the organizations of the European Union to assume this role.

The State of Israel is strongly opposed to the UNTIWC because it is based on the principle of fair and rational benefits while Israel occupies the water of the Palestinians and sells it to them and does not respect the principles of the international law, particularly those related to the international water

resources. It should also be brought to mind that the UN Treaty was joined by eight Arab nations, including Jordan and Lebanon whose water rights in the Jordan and Litany rivers are threatened by Israel. Those Arab nations also include Iraq and Syria with whom, according to this crooked logic will share the Tigris and Euphrates rivers.

Several years ago, a number of Egyptian technicians adopted this astonishing theory but later on retracted from it after they were ridiculed by international experts in a number of international water conferences. But the former Sudanese consultants who did not take parts in those conferences still repeat this Egyptian opinion which was dropped by Egypt itself.

Tenth: The Sudan voted in favor of the Treaty on 21 May 1997 and commended I in writing to one of its committees, but after returning home its delegation began to get confused and at a loss and failed to recommend the signing of the UNTIWC by the Sudan and take a criticizing position against it, showing incomprehension of the fundamental aspects of the Treaty.

Eleventh: It took about 17 years for the UNTIWC to come into force but many nations are now preparing to join it, something which occurs in the case of most, if not all, the international agreements, as the nations at first show hesitance but soon after the agreement becomes valid, most of them race to join, fearing international isolation. There are usually numerous parents for success but failure is always orphaned. The Sudan will in a few years find itself isolated beside few nations which fail to join the UNTIWC.

As we have indicated earlier, the UNTIWC is a framework agreement which is aimed at guaranteeing preservation, development, protection, management and utilization of the international watercourse in an ideal and sustained manner by the present and upcoming generations. The nations which have joined the Treaty have shown their belief in the importance of cooperation with regards to the international watercourses to protect and manage them in cooperation. The Sudan must foster this belief by joining the UNTIWC.

“Why Must Sudan Join UN Watercourses Treaty?”, 18/08/2014, online at:  
<http://news.sudanvisiondaily.com/details.html?rsnpid=239292>

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### ❖ **Waging war for clean water**

#### *Aligarh Muslim University embarks on a holy war for waste water reuse*

In the 19th Century the great English poet Coleridge wrote, ‘Water, water everywhere, nor any drop to drink’. In our times, in the not too distant future, the lines could be rewritten ‘water, water nowhere, nor any drop to drink’. Already the world is witnessing an acute shortage of water which, according to many estimates, would develop into a major water crisis in a decade or so. India is on the brink of a major water crisis. There is every possibility that water, and not only religion or language, would be the cause of future conflicts. The need to address the water crisis was realized by the Supreme Court of India which directed the Union Ministry of Science and Technology to prepare a plan document. The plan document is appropriately subtitled ‘War for Water’.

Aligarh Muslim University has made this war for water its own holy war. The university provides the lead in an India –European Union joint water technology project which includes countries like Spain, Denmark, France and Germany.

The project SWINGS (Safeguarding Water Resources in India with Green and Sustainable Technologies), with Aligarh Muslim University its coordinating agency, has 10 partners each from Europe and India. Funded by the Department of Science and Technology, Government of India and the European Commission within the prestigious Seventh Framework Programme, SWINGS would develop ‘optimized cost-effective wastewater technologies for municipal waste water for reuse for irrigation, cleaning and aquaculture farm feed’. The technology is based on anaerobic digestion followed by constructed wetlands and solar disinfection. The treated effluent shall be free from all kinds of impurities for safe disposal or recycling. As Dr. Nadeem Khalil, Assistant Professor of Civil Engineering at the Zakir Hussain College of Engineering and Technology at the Aligarh Muslim University and the principal investigator in this project, says that “the treatment plant is based on the principle of zero energy and minimal operation maintenance making this technology perfectly suited for Indian conditions.”

The programme requires land for its operation. By a rough estimate two to three acres of land is required for the treatment of 10 lakh litres of water. Aligarh Muslim University which has a sprawling campus has provided four acres of land behind the Barula bypass on the outskirts of the

city. AMU sees the potential of recycling its millions of litres of waste water and recharge the moat around the historic Aligarh Quila.

The vice chancellor of Aligarh Muslim University Lt. General Zameer Uddin Shah, an environmentalist by temperament, is especially keen on the university participating in a big way in the cleaning of Ganga and Yamuna.

“If this could be done without energy costs with this technology so much the better,” says Shah.

The results of the three-year project would be utilized by the Government of India to make a policy for waste water treatment. Khalil, who also does the appraisal of different Government schemes for technical and financial viability, is convinced that this technology would be extremely effective for rural India where land is available.

“Waging war for clean water”, 22/08/2014, online at: <http://www.thehindu.com/features/metroplus/aligarh-muslim-university-bats-for-waste-water-reuse/article6341964.ece>

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### ❖ Villagers call for say in Laos dam Project

Northern and northeastern villagers living along the Mekong River have called on the government to include them in the "prior consultation" process for the proposed Don Sahong dam in Laos. The villagers...

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“Villagers call for say in Laos dam Project”, 23/08/2014, online at:

<http://www.bangkokpost.com/news/politics/428245/villagers-call-for-say-in-laos-dam-project>

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### ❖ **China, South Asia ignore UN watercourses convention**

The UN Convention on International Watercourses comes into effect this week: [thethirdpole.net](http://thethirdpole.net) asks experts if it can lower regional frictions over access to water.

Water has long been a source of tension in Asia. Ten major rivers originate on the Tibetan plateau in China, supplying water to roughly 1.4 billion people along their banks. But there are no multilateral agreements about how this water should be shared.

Ambitious hydropower plans in China and India have raised objections from other countries. As industrial growth demands more water, and climate change makes supplies erratic, tensions may easily heat up.

The [UN Convention on the Law of the Non-Navigational Uses of International Watercourses](#) came into effect on August 17, setting up the first global legal framework for cooperation over water resources between countries. It came into effect 90 days after the 35th country, Vietnam, signed the convention. However, it took 50 years to draft the Convention and gather support from enough member states to implement it.

China voted against the Convention when it was first passed in 1997, as did Turkey and Burundi. India abstained. Given this background, how effective can it be? We asked seven regional experts.

**thethirdpole.net: Will the Convention have any significant effect on discussions over the use of international rivers in China and South Asia?**

**Srinivas Chokkakula – researcher in inter-state water issues at the Centre for Policy Research, New Delhi**

South Asian countries and China are not legally bound to the Convention as none of them ratified it. Only party states are bound by the Convention, so arguably the Convention's entry into force has no effect on non-signatories in the region.

Geopolitical and strategic imperatives do not justify a state becoming a party to the Convention unless other states with trans-boundary water associations also become parties. For instance, India cannot find it prudent to ratify when China votes against.

However, a clear impact of Convention's entry into force is that it elevates the international customary law of transboundary water conflicts, creating a new reference point. Its status as the UN Convention draws attention to the codified principles of international customary law of transboundary water cooperation.

It offers legitimate and effective practices for data sharing, negotiation and dispute resolution that could be followed in bilateral or multilateral water sharing arrangements. The Convention provides a basis for transboundary water negotiations and enables reconsideration of existing arrangements, which tend to be fragmented and asymmetrical.

**Yu Xiaogang – environmentalist and director of Green Watershed, a NGO in Yunnan, southwest China**

The Convention is based on the principles of cooperation and mutual benefit, friendship between neighbours, development that is not significantly harmful to other watercourse states, and sustainability. It will form a sound basis for good management of international watercourses. As the number of signatories increases and examples of good practice are set, the Convention will be further improved and provide more guidance and binding force.

**Michael Kugelman – senior programme associate for South and Southeast Asia at the Woodrow Wilson Centre**

It may have a moderate, positive effect in that it will provide a template, or some sort of rough normative model, for effective transboundary water management. Mistrust runs so high among riparian pairings – countries sharing rivers – across South Asia that we shouldn't expect the Convention to miraculously produce agreement on transboundary river basins. There's a long way to go.

Many South Asian states are mired in deep cross-boundary water disputes, and they aren't ready to commit to the measures proposed by this Convention, especially as these provisions could be harmful to some states.

For example, the Convention says states can't govern their water in ways that harm other states. This means, in effect, that an upstream state building a run of the river dam that nonetheless decreases river flows downstream, could be construed as a violation.

For European countries that have fewer water tensions with their neighbours, this wouldn't be a problem because they operate in a climate of trust. By contrast, mistrust between Pakistan and India and India and Bangladesh on water suggests these countries simply aren't ready for a cooperative water sharing regime.

**Bushra Nishat – project manager, Bangladesh, Ecosystems for Life: A Bangladesh-India Initiative of the International Union for the Conservation of Nature**

It will affect the way South Asia deals with water issues. Even if a country isn't a signatory, in today's global community international discourse will always influence understanding within civil society and national and regional research communities.

At government level, the influence of this Convention cannot be avoided when countries in South Asia come to the negotiating table. Downstream countries like Bangladesh and Pakistan will refer to it to support their arguments. And of course there will always be pressure from the international community to sign it.

**Ramaswamy R. Iyer – former secretary in the Ministry of Water Resources, Government of India, and honorary professor at the Centre for Policy Research, New Delhi**

Even if India had voted for the convention, it would not have a significant effect. The Convention is in such general terms that – under the broad principle of 'equitable sharing', which no country can object to – a good deal of negotiation will be necessary in each case.

Generally speaking, customary international law requires prior notification of intention to intervene in a river, plus provision of information, consultation with downstream countries, due regard for their concerns and refraining from causing harm or injury to the co-riparian. This was so under the Helsinki rules. It continues to be so under the UN Convention. In fact, these principles underlie the 1960 Indus Waters Treaty between India and Pakistan, which predates the Helsinki Rules.

## **thethirdpole.net: Why haven't more governments signed up? Should they re-examine their stance?**

**Michael Kugelman, Woodrow Wilson Centre**

In an ideal world, South Asian countries and China would change stance and support the Convention. As we've seen from the relatively few successful transboundary water agreements in the region – such as the Indus Waters Treaty – effective water governance mechanisms can prevent conflict over water, and can help ensure some semblance of water security.

In reality though, we shouldn't expect these countries to change their positions anytime soon. There is so much mistrust, particularly among riparian pairings – such as Pakistan/India, India/Bangladesh, and India/China. It's naive to assume these countries would trust each other enough to sign on to a Convention that calls for considerable cooperation and transparency on water management.

**Chen Huiping – International Waters Law Research group, Xiamen University School of Law**

China voted against the Convention for several reasons. One is it fails to consider the interests of upstream nations. The list of factors to be considered when determining reasonable use is incomplete and the duty to not cause significant harm means upstream states bear a greater responsibility. This is why most ratifying nations are downstream, or have no international watercourses.

Second, the Convention requires nations to consult and negotiate with other nations on 'planned measures', which may damage national sovereignty. Third, the mechanisms for settlement of disputes include giving a fact-finding commission access to the respective territory. This too may damage national sovereignty and breaches China's long-held principle that third-parties should not intervene in disputes.

**Yu Xiaogang – Green Watershed**

In my personal view, for about a decade China has been developing hydropower on international watercourses. The Convention would limit that currently unfettered process. China's use of international watercourses is mainly for hydropower, which adds significant value, while the Convention stresses balancing different types of use. In cases of conflict between different types of

use, it requires that the needs of those whose lives rely on the river be given priority. That doesn't match up with China's concept of market competition.

Not accepting the treaty isn't in line with our international image as the world's second largest economy. We lose the moral high ground. It is unrealistic to think that not signing means we won't be bound by the Convention and international law – in the end we won't be able to avoid our responsibilities.

Voluntarily signing it would improve relations with our neighbours and bring opportunities for cooperation in other fields. And as a signatory we can guide revision of the Convention. It gives us room for manoeuvre when negotiating agreements under the Convention, while not breaching its principles.

### **Srinivas Chokkakula, Centre for Policy Research**

While geostrategic imperatives drive a state's decision to ratify the Convention, there is little hope that South Asian nations and China will re-examine their stance in the near future. Some specific contextual features of the region resist any change in their attitudes towards the Convention.

The uneven geographies of power among nations in the region play a role. Powerful nations like China and India will not prefer to let go of their strategic advantage. Second, the overall focus remains on development and allocation of water in transboundary rivers.

Pollution control and scarcity management are not yet dominant issues. They tend to draw better collective action, as seen with the Rhine or the Danube. China and India are just transitioning to this stage of governments taking up initiatives for cleaning up their major rivers. This also forces them to think about sharing burdens and obligations, as well as development rights. These issues are likely to make these nations rethink their stance.

The Convention also appears to presume greater economic integration than has yet happened in the South Asia-China region. This is evident from the absence of any effective platforms or institutions that can facilitate dialogue about transboundary water obligations. In Europe, greater regional integration and related organisational structures enabled transboundary water cooperation. South

Asian nations and China will be forced to re-examine their positions once such integration takes place.

**Shafqat Kakakhel – retired Pakistani diplomat and former senior UN official**

Pakistan’s reluctance to accede to the Convention is due to its reservations about the inclusion of groundwater in the definition of a watercourse, owing to practical difficulties in determining the geographic range of aquifers linked to rivers.

Pakistan is also displeased with the non-binding nature of the dispute settlement procedure, which compares badly to the binding mechanism enshrined in the Indus Waters Treaty.

Rather than saying ‘No’ to the Convention, Pakistan and developing countries should actively participate in ongoing discussions on further strengthening international water law.

“China, South Asia ignore UN watercourses convention”, 19/08/2014, online at:”<http://www.eco-business.com/news/china-south-asia-ignore-un-watercourses-convention/>

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