



# 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

06 October – 12 October 2014

- ❖ **Islamic State Aiming to Seize Iraq's Water Infrastructure: Reports**
- ❖ **Islamic State jihadists are using water as a weapon in Iraq**
- ❖ **ISIS Is Cutting Off Water to Uncooperative Villages**
- ❖ **Op-Ed: Mosul Dam operation could be a precedent for Kobani**
- ❖ **Islamic State jihadists using water as a weapon in Iraq**
- ❖ **Islamic State close to seizing Iraq's Anbar province**
- ❖ **Israelis, Jordanians, Palestinians advancing on trilateral water swapping arrangements**
- ❖ **Gaza: Donors, UN Should Press Israel on Blockade**
- ❖ **Cross-border environmental group urges Israel to increase water supply to Gaza**
- ❖ **Egypt to host donor conference for war-hit Gaza**
- ❖ **The Case For The 'Water-First' Approach**
- ❖ **War and Water**
- ❖ **Abu Dhabi to recycle 100% of waste water within 3 years**
- ❖ **Ethiopia: Nile Basin Survives Better With Cooperation**
- ❖ **Ethiopia Welcomes Tanzania's Move to Ratify the Nile Treaty**
- ❖ **Tanzanian cabinet ratifies Nile deal**
- ❖ **Nile Basin Development Forum opens in Kenya**
- ❖ **The Nile Basin: Egypt's Role in Africa's Development – Part III**
- ❖ **Dam Rising in Ethiopia Stirs Hope and Tension**

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- ❖ **Are Middle Eastern Plants Climate Change Deniers?**
  - ❖ **Central Asian States Are World's Leading Water Wasters**
  - ❖ **Kenya Plans 10% Water Levy to Raise Network Funds, Daily Says**
  - ❖ **Farmers Fight Coca-Cola as India's Groundwater Dries Up**
  - ❖ **Big Water Users Should Pay Higher Price: Nestle Chairman**
  - ❖ **Mexico's construction firm ICA signs contract to build aqueduct**



### ❖ Islamic State Aiming to Seize Iraq's Water Infrastructure: Reports

MOSCOW, October 7 (RIA Novosti) - Islamic State (IS) militants are cutting off water supplies to villages in northern Iraq in an attempt to assume control of Iraq's water infrastructure, The Washington Post stated Tuesday.

"We are in a conflict with the Islamic State over water in Iraq. They want to control it at any price. They can threaten many parts of the country if they control the [water](#)," Abdul Majid Satar, the minister of agriculture and water resources for the [Kurdistan](#) Regional Government, was quoted by the newspaper as saying.

According to The Washington Post, this April IS militants closed the gates of the Fallujah dam in Iraq's western Anbar Province in order to slow the water flowing into the Shiite-dominated southern provinces.

The IS, also known as the Islamic State of Iraq and Greater Syria (ISIS) or the Islamic State of Iraq and the Levant (ISIL), has been fighting the Syrian government since 2012. In June 2014, the group extended its attacks to northern and western Iraq, declaring a caliphate on the territories over which it had control.

"Islamic State Aiming to Seize Iraq's Water Infrastructure: Reports", 07/10/2014, online at:  
<http://en.ria.ru/world/20141007/193777870/Islamic-State-Aiming-to-Seize-Iraqs-Water-Infrastructure-Reports.html>

BACK TO TOP

### ❖ Islamic State jihadists are using water as a weapon in Iraq

BAGHDAD — The Islamic State militants who have rampaged across northern Iraq are increasingly using water as a weapon, cutting off supplies to villages that resist their rule and pressing to expand their control over the country's water infrastructure.

The threat is so critical that U.S. forces are bombing the jihadists close to the Mosul and Haditha dams — Iraq's largest — on a near-daily basis. But the radical Islamists continue to menace both facilities, clashing Tuesday with Iraqi troops near the Haditha Dam.

The Sunni militants want to seize the dams to bolster their claim that they are building an actual state. They have already taken over large swaths of Iraq and Syria and, as part of their latest offensive, have been besieging the Syrian town of Kobane in an effort to secure another piece of the border with Turkey. The U.S.-led coalition escalated its airstrikes Tuesday around Kobane, blunting the assailants' offensive.

Controlling the dams is important because of their role in irrigating the country's vast wheat fields and providing Iraqis with electricity. More ominously, the Islamic State has used its control of other water facilities — including as many as four dams along the Tigris and Euphrates rivers — to displace communities or deprive them of crucial water supplies.

The Islamic State “understands how powerful water is as a tool, and they are not afraid to use it,” said Michael Stephens, a Middle East expert at the Royal United Services Institute, a London-based security studies think tank.

“A lot of effort has been expended to control resources in Iraq in a way not seen in other conflicts,” he added.

A particular concern

Water has long played a role in armed struggle, from the Allied bombing of German dams during World War II to Saddam Hussein's draining of Iraq's southern marshes in the 1990s to punish residents for a rebellion.

But the idea of a radical, non-state group gaining authority over critical water infrastructure has raised particular worry. The White House was so alarmed in August when Islamic State fighters briefly seized the Mosul Dam — located on the Tigris River, which runs through Baghdad — that it backed a major operation by Iraqi and Kurdish forces to wrest it back.

“If that dam was breached, it could have proven catastrophic, with floods that would have threatened the lives of thousands of civilians and endangered our embassy compound in Baghdad,” President Obama said Aug. 18, the day Iraqi forces retook the structure.

Having nurtured the world’s first civilizations in the Fertile Crescent — the ancient strip of food-bearing land that arcs across the Middle East — Iraq’s Tigris and Euphrates rivers remain the lifeblood of the nation’s agricultural life. They also generate its electricity and provide water that is piped into households.

But water levels in Iraq have fallen in recent years because of decreased rainfall, heavy water use and other factors, the United Nations says. According to the world body, the flow of the Euphrates is expected to decline by more than 50 percent by 2025. By then, Iraq could be suffering from a shortage of 33 billion cubic meters of water per year, U.N. officials say.

“The country does not have enough [water], and shortages have been huge economic — and thus political — problems for several years now,” said Kenneth Pollack, an expert on Middle Eastern military affairs at the Brookings Institution. Any attempts by the Islamic State to cut flows “would be enormously damaging,” he said.

The Sunni extremists of the Islamic State say Shiite Muslims are apostates. In Iraq, the militants accuse the Shiite population of backing a sectarian government that has oppressed Sunnis.

In April, Islamic State jihadists controlling the Fallujah Dam in western Anbar province closed its gates, a move that some Iraqi officials say was meant to slow the flow of water to the Shiite-dominated provinces in the south.

But the subsequent buildup of water at the Fallujah Dam ended up flooding an irrigation channel in a Sunni area nearby, sending a wave of water into homes, schools and farmland. The deluge — which also swept away livestock and sent residents scrambling for makeshift rafts — affected as many as 40,000 people, aid workers said.

Last month, the Islamic State used its control of the Sudur mini-dam, north of Baghdad, to cut off water to Balad Ruz, a predominantly Shiite area of Diyala province. According to the town's mayor, who spoke to an Iraqi news agency in September, the militants lined the roads to the dam with improvised explosive devices, and the government was forced to hire trucks to bring potable water to residents.

Last month, a local official in Diyala province said Islamic State militants flooded nine villages in the Shirwain area by diverting water from nearby rivers, in order to prevent the advance of Iraqi security forces. Tuesday, the head of a local municipal council in the same province accused the Islamic State of tampering with water streams to submerge more than 60 homes and 200 acres of farmland in a bid to again halt gains by Iraqi forces on the militants' position.

“We are in a conflict with the Islamic State over water in Iraq. They want to control it at any price,” said Abdul Majid Satar, the minister of agriculture and water resources for the Kurdistan Regional Government, which administers a semi-autonomous area in northern Iraq.

“They can threaten many parts of the country if they control the water,” Satar said.

#### Cutting villages' resources

The Islamic State militants captured Mosul, Iraq's second-largest city, in June, and two months later expanded their offensive even further into northern Iraqi territory.

Many of the areas occupied in that August offensive have since been retaken by Kurdish pesh merga forces with the help of U.S. airstrikes. But when the jihadists departed, they used their control of the water and power networks in Mosul to shut off water and electricity to those areas, which are connected to the same grids.

“We came back to our villages, and when we saw there was no power or water, we left again,” said Mazoot Shaqer Mohammad, a Kurdish farmer from the northern Iraqi district of Gwer, one of the areas that Kurdish fighters took back.

“Even when they withdraw, they are still in power,” Mohammad said of the militants. “They are not occupying land. But now they are controlling the return of people to these villages.”

In a telephone interview, a longtime employee of the Mosul water directorate, now under the control of Islamic State, was guarded in talking about the shutoff of water to certain villages.

“All I know is that we always supplied these villages with water, and now we can’t,” said the employee, who gave his name only as Salah. “But I do believe the armed group [the Islamic State] is using water as a weapon.”

In another small village near Gwer, the Islamic State took a different approach.

In the wheat-farming hamlet of Talkhaneim, the jihadists retreated but shut off the power used to draw water from the two local wells. Then the militants contacted a local official to say they would turn it back on if there was payment, according to a Kurdish resident and farmer, Ibrahim Ismail Rasool.

“They asked for 4 million dinars [\$3,500] to turn the electricity back on. They are acting like a government, collecting bills,” said Rasool, his face bronzed from years toiling in the sun, in a recent interview.

Without water, none of the residents could return home, nor could they maintain their livestock. Rasool said he and the other villagers asked Kurdish officials if they could pay the Islamic State to get their power and water back.

“The government said no. That they don’t want to deal with Daiish,” he said, using the Arabic acronym for the Islamic State. “But it’s fair that if they supply me with electricity, I should pay them.”



Salar Salim in Irbil, Iraq, contributed to this report.

“Islamic State jihadists are using water as a weapon in Iraq”, 07/10/2014, online at:  
[http://www.washingtonpost.com/world/middle\\_east/islamic-state-jihadists-are-using-water-as-a-weapon-in-iraq/2014/10/06/aead6792-79ec-4c7c-8f2f-fd7b95765d09\\_story.html](http://www.washingtonpost.com/world/middle_east/islamic-state-jihadists-are-using-water-as-a-weapon-in-iraq/2014/10/06/aead6792-79ec-4c7c-8f2f-fd7b95765d09_story.html)

**BACK TO TOP**

## ❖ ISIS Is Cutting Off Water to Uncooperative Villages

*In parched Syria and Iraq, water is a weapon*

As the Islamic State pushes through Syria and Iraq, the group has adopted an alarming tactic—it works hard to [gain control over a region's water supplies](#) and then uses access to food and water to control the local population.

Over the summer, the group starved around 12,000 people in Amerli, Iraq, of water, food, and medicine for months, [says CNN](#), [before the siege was broken by the Iraq army](#). ISIS has also used its control over four dams that block the Tigris and Euphrates rivers—two of the most important rivers in the region—to “displace communities or deprive them of crucial water supplies,” [says the Washington Post](#).

In August, the group took control of the Mosul Dam, blocking the Tigris. That dam produced electricity for the region, [says Business Insider](#), and its “destruction would wash away Mosul in a matter of hours and send 15-foot high floods to Baghdad within three days.” That dam was soon reclaimed by Iraqi and Kurdish troops, [with American support, says the Post](#).

In September, the group cut off the water to Balad Ruz, says the *Post*. “According to the town’s mayor... the militants lined the roads to the dam with improvised explosive devices, and the government was forced to hire trucks to bring potable water to the residents.” In other cases, ISIS loosed the water rather than held it back, drowning uncooperative towns.

Iraq and Syria are prone to severe water shortages, making control over water an even more important strategic factor, [says the Guardian](#). “One could claim that controlling water resources in Iraq is even more important than controlling the oil refineries,” [researcher Matthew Machowski](#) to told the *Guardian*.

“Is Cutting Off Water to Uncooperative Villages”, 07/10/2014, online at: <http://www.smithsonianmag.com/smart-news/isis-cutting-water-uncooperative-villages-180952959/?no-ist>

BACK TO TOP

❖ **Op-Ed: Mosul Dam operation could be a precedent for Kobani**

*Air power alone obviously will not defeat Islamic State (IS) in Syria, but when coordinated with local ground forces it can surely set back that group's gains.*

That is essentially what was done around Mosul Dam. When Islamic State were set to capture that important installation in Northern Iraq they were attacked by both United States air power and Kurdish ground Peshmerga forces. Both these allied forces coordinated their different forces against IS and prevented that group from capturing the dam. U.S. air power was able to concentrate on targeting vehicles IS were using while the Peshmerga combated their other forces in firefights.

Air power alone would likely not have stopped IS from capturing that dam at the time. But would have instead simply disrupted it. The combination of ground forces and air power was what stopped them. In neighbouring Syria the U.S. and its coalition of the Gulf Arab state air forces of the Persian Gulf are presently failing to prevent IS from besieging the Syrian border-town of Kobani. And predictably so, they only have air power fighting against that group which according to the Pentagon's top brass will not be enough in and of itself to defeat it.

From the get-go of the United States operations against IS over the summer I argued air power alone certainly will not stop this force. What was different in Iraq was that the United States had a battle-hardened Kurdish ally, the Peshmerga, on the ground who were defending their homeland and had their backs to the wall so to speak. Coordinating closely with them they were able to secure most of the Iraqi Kurdish region and continue to coordinate operations against IS.

In Syria the Syrian Kurds also have their backs to the wall. They also have a local battle-hardened force, the YPG, who are spilling their blood in the fight against IS. The difference around Kobani however is that it is clear that the United States isn't coordinating its strikes around that area with the

local forces on the ground. This is for a number of reasons, but first and foremost it is because Syria's Kurds are not an ally primarily because the umbrella government that runs Syria's now autonomous Kurdish region, the Kurdish Supreme Committee, has within its ranks the Kurdish Democratic Party (PYD) which is an affiliate of the Kurdistan Workers Party (PKK), a terrorist organization. The other primary coalition of parties under the Kurdish Supreme Committee umbrella is the Kurdish National Council, a friend of Massoud Barzani who in turn is of course an ally of the United States.

So they aren't perfect. But they also aren't stupid. Given the state of Syria at the moment the Kurds there need to be unified if they have any chance of surviving. Ad hoc coordination with Syria's Kurds for the purpose of defending and securing that Kurdish region is necessary given what is at stake here. The Obama administration is presently discussing [the prospect of establishing a buffer zone in Syria](#). Well the Kurdish province is free from Syrian government control and is currently struggling to prevent itself from being overrun by IS. Surely if successfully defended now it would make the perfect buffer zone, especially given the fact that it is situated in the northeast of Syria where IS have had the most successes in that country to date.

Furthermore the administration and many policy analysts speak about training thousands of moderate forces to establish a new Syrian army that they could coordinate a campaign against IS with. Surely the Kurds constitute a potentially viable anti-IS force given the fact they also are not aligned with the Assad regime.

Last April a very important development transpired in Palestine. Fatah and Hamas agreed to sink its differences and form a unity government ending their lengthy rift. The Israeli government said that it was proof that their Fatah-Palestinian Authority negotiating partner Mahmoud Abbas wasn't serious



about peace talks. The U.S. was taken aback by this and many simply viewed it as an excuse on the part of Israeli Prime Minister Benjamin Netanyahu to withdraw from John Kerry's peace talks.

Obviously the two situations are hugely different. But there is one very striking commonality. The primary reason the Netanyahu government is continuing to give for not negotiating an agreement with Abbas's Palestinian Authority is because he now has integrated a terrorist organization into it. Similarly the only apparent reason that the United States isn't seriously engaging and coordinating operations with an important force on the ground fighting against IS is because that force has elements within it the U.S. finds distasteful, for good reason, given those elements affiliation with the PKK.

But the question is, is it a good enough reason to cease even attempting temporary ad hoc cooperation to prevent more successful IS territorial gains?

“Op-Ed: Mosul Dam operation could be a precedent for Kobani”, 09/10/2014, online at: <http://www.digitaljournal.com/news/politics/mosul-dam-operation-could-be-precedent-for-kobani/article/407639>

**BACK TO TOP**

### ❖ Islamic State jihadists using water as a weapon in Iraq

BAGHDAD — The Islamic State militants who have rampaged across northern Iraq are increasingly using water as a weapon, cutting off supplies to villages resisting their rule and pressing to expand their control over the country's water infrastructure.

The threat from the jihadists is so critical that US forces are bombing the militants close to both the Mosul and Haditha dams — Iraq's largest — on a near-daily basis. But the radical Islamists continue to menace both facilities.

The Sunni militants want to seize the dams to bolster their claim they are building an actual state; the dams are key to irrigating the country's vast wheat fields and providing Iraqis with electricity. More ominously, the Islamic State has used its control over water facilities — including as many as four dams along the Tigris and Euphrates rivers — to displace communities or deprive them of crucial water supplies.

The Islamic State “understands how powerful water is as a tool, and they are not afraid to use it,” said Michael Stephens, a Middle East specialist and deputy director of the Royal United Services Institute, a London-based security studies think tank.

“A lot of effort has been expended to control resources in Iraq in a way not seen in other conflicts,” he added.

Water has long played a role in armed struggle, from the Allied bombing of German dams during World War II to Saddam Hussein's draining of Iraq's southern marshes in the 1990s to punish residents for an antigovernment rebellion.

But the idea of a radical, nonstate group gaining authority over critical water infrastructure has raised particular worry. The White House was so alarmed in August when Islamic State fighters briefly seized the Mosul Dam — located on the Tigris River that runs through Baghdad — that it backed a major operation by Iraqi and Kurdish forces to wrest it back.

“If that dam was breached, it could have proven catastrophic, with floods that would have threatened the lives of thousands of civilians and endangered our embassy compound in Baghdad,” President Obama said on Aug. 18, the day Iraqi forces retook the structure.

Having nurtured the world’s first civilizations along the Fertile Crescent — the ancient strip of food-bearing land that arced across the Middle East — Iraq’s Tigris and Euphrates rivers remain the lifeblood of Iraq’s agricultural life. They also generate its electricity and provide water that is piped in to households.

But water levels in Iraq have fallen in recent years because of decreased rainfall, heavy water use, and other factors, the United Nations says. According to the world body, the flow of the Euphrates is expected to decline by more than 50 percent by 2025. By then, Iraq could already be suffering from a shortage of 33 billion cubic meters of water per year, UN officials say.

“The country does not have enough [water], and shortages have been huge economic — and thus political — problems for several years now,” said Kenneth Pollack, an expert on Middle Eastern military affairs at the Brookings Institution. Any attempts by the Islamic State to cut flows “would be enormously damaging,” he said.

The Sunni extremists of the Islamic State say Shi’ite Muslims are apostates. In Iraq, the militants accuse the Shi’ite population of backing a sectarian government that has oppressed Sunnis.

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“We are in a conflict with the Islamic State over water in Iraq. They want to control it at any price,” said Abdul Majid Satar, the minister of agriculture and water resources for the Kurdistan Regional Government, which administers a semi-autonomous area in northern Iraq.

“They can threaten many parts of the country if they control the water,” Satar said.

“Islamic State jihadists using water as a weapon in Iraq”, 08/10/2014, online at:

<http://www.bostonglobe.com/news/world/2014/10/07/islamic-state-jihadists-are-using-water-weapon-iraq/ndLP5lmxd59epqJBkfXUJ/story.html>

**BACK TO TOP**



### ❖ Islamic State close to seizing Iraq's Anbar province

**Baghdad:** Islamic State militants are threatening to overrun a key province in western Iraq in what would be a major victory for the jihadists and an embarrassing setback for the US-led coalition targeting the group.

A win for IS in Anbar province would give the militants control of one of the country's most important dams and several large army installations, potentially adding to their abundant stockpile of weapons. It would also allow them to establish a supply line from Syria almost to Baghdad, and give them a valuable position from which to launch attacks on the Iraqi capital.

The IS offensive in Anbar has received less attention than its assault on the Syrian border city of Kobane. But in recent weeks, IS fighters have systematically invaded towns and villages in western Iraq, besieged army posts and police stations, and mounted attacks on government troops in Ramadi, the provincial capital.

IS had already secured a major foothold in Anbar province in January, when it seized the city of Fallujah and parts of Ramadi.

Iraqi forces have suffered numerous reverses in the latest offensive, including the loss of two army bases. US air strikes helped fend off an assault last month on the Haditha dam, part of the militants' drive to control Iraq's water supplies. But overall, the strikes have failed to curb IS momentum.

"If the Islamic State controls Anbar, they would be able to threaten serious targets in Baghdad," said an Iraqi security expert, Saeed al-Jayashi. "The government would lose the Haditha dam, and the security forces would have to retreat," he said. "There would be a bloodbath."

Anbar province - Iraq's largest, a vast expanse of desert criss-crossed by truck routes leading to Jordan, Saudi Arabia and Syria - was the epicentre of the Sunni insurgency against US forces that

raged after the invasion in 2003. In 2006, Anbar's numerous Sunni tribes decided to back the Iraqi government against al-Qaeda in Iraq, in what later became known as the Sunni Awakening.

But in recent years, the sectarian policies of former prime minister Nouri al-Maliki, a Shiite, alienated the Sunni tribes and their constituencies.

Since the beginning of the US campaign against Islamic State in August, US warplanes and helicopters have struck more than 40 targets in Anbar province, according to data from the US military's Central Command.

In talks this week with retired US General John Allen, Sunni tribal leaders said "they will not confront the Islamic State while Shiite militias exist in Sunni areas", tribal chief Samil al-Muhammadi told the Saudi-owned London newspaper *al-Hayat*.

"All of the areas around Ramadi are controlled by Islamic State," said Ahmed Abu Risha, a prominent tribal sheikh who commands pro-government fighters in the area.

Mr Abu Risha said his forces, who are lightly armed, have received no air support.

"If Ramadi falls, all of Anbar falls," he said. "Ramadi is the head. If you cut the head, the rest of the body will die, too."

"Islamic State close to seizing Iraq's Anbar province", 10/10/2014, online at: <http://www.smh.com.au/world/islamic-state-close-to-seizing-iraqs-anbar-province-20141010-1143v5.html>

**BACK TO TOP**

❖ **Israelis, Jordanians, Palestinians advancing on trilateral water swapping arrangements**

AMMONNEWS - A major trilateral water understanding signed by Israeli, Jordanian and Palestinian parties in December is moving forward slowly but surely – as tender preparations for an Aqaba desalination facility begin to materialize .

The project in question involves a memorandum of understanding signed on December 9, 2013, in which senior officials from the three governments met at the World Bank headquarters in Washington to advance cross-border water swaps and an eventual funneling of Red Sea brines to a shrinking Dead Sea.

A key component of the agreement is the development of an 80 million cubic meter desalination plant in Aqaba, from which Israel would be able to buy 50 to 60 percent of the water. In return, Jordan would be able to buy an additional 50 million cu.m. of water from Lake Kinneret (the Sea of Galilee) annually, roughly double the current allocation, and Israel would allow the direct sale of an additional 20-30 million cu.m. of water from the Mekorot national water company to the Palestinian Authority.

The understanding also calls for a 200-kilometer pipeline to carry residual salt brines from the desalination process to the Dead Sea, in order to boost the water levels in a depleted reservoir.

Israeli sources directly involved in the efforts spoke the Post on the sidelines of a water conference in England last week. Follow-up on the memorandum and negotiations with the Jordanian parties about the details of the project are ongoing, and the cross-border team is beginning to prepare the tender to select an executor for the desalination plant, the sources explained.

While such an advance might seem insignificant in a traditional business arena, this step forward is considerable within the framework of Israeli-Jordanian-Palestinian cooperation, the sources emphasized.

“The fact that we managed to make it a joint project is not trivial at all,” they said

Israeli sources estimated that two years will be required for the creation of the desalination plant tender, followed by three or four years for the facility’s completion. Building the desalination plant can occur simultaneously with the Red Sea to Dead Sea pipeline construction.

In an interview with the Post at a conference in Jordan in May, secretary- general of the Jordan Valley Authority Saad Abu Hammour – who served as Jordan’s representative to December’s negotiations – confirmed that his government was working with international consultants to prepare a build-operate- transfer tender for the desalination facility. Jordan hopes to increase the desalination capacity of the plant in the future, according to Abu Hammour.

While the Israeli purchase of the desalinated water generated by the future Aqaba facility can largely pay for the plant’s establishment, the creation of the 200-kilometer pipeline will be provide a much greater financial challenge. Abu Hammour said in May that Jordanian government officials were actively seeking the \$350 million needed for the pipeline from a variety of countries.

At last week’s conference in England, the Israeli sources told the Post that Israel has already begun enforcing its contribution to the memorandum of understanding, by increasing sales of Lake Kinneret water to Jordan by an additional 12 million cu.m.

At this point, the transfer of the additional 50 million cu.m. is still impossible due to the need for an infrastructural upgrade on the Jordanian side.

In May, Abu Hammour stressed that despite the failing peace negotiations between the Israelis and the Palestinians, it was crucial for environmental cooperation among the region’s players to move forward.

The water project, he explained at the time, “should not go to the level of politics.”

Dr. Hakam Alami, water and sanitation adviser to Jordanian Prince Hassan bin Talal, likewise spoke with the Post at last week’s conference in England about water cooperation as a driver for peace. While peace and water cooperation should ideally move forward simultaneously, he said, Alami stressed how urgent the need to solve water scarcity issues in the region remains.

The creation of a trilateral committee potentially under the supervision of the United Nations and/ or non-governmental organizations could be the ideal mechanism to solve urgent water crises, he said.

While a Joint Water Committee including Israeli, Palestinian and Jordanian representatives was established following the 1994 Oslo II Accord – originally as a temporary bridge among the parties – today experts from all sides slam the committee as largely dysfunctional.



“I want us to reach a certain aim, which is a peaceful environment, a green economy,” Alami said.

Looking at December’s memorandum of understanding for cross-border water swapping and sharing, he stressed he felt confident that the parties could “still get a win-win situation.”

“Let Israel benefit, let Palestine benefit, let Jordan benefit as well,” Alami added.

Although agreeing that many cross-border projects on water can and should take place, MK Avishay Braverman (Labor) told the Post that water issues cannot be solved separately from the region’s political issues.

“The political question will to move to a two-state solution,” Braverman said on the sidelines of the conference. “The water issue is only a derivative.”

Once a political agreement occurs, solutions for water management and distribution will be much easier to solve, he explained.

“Water is an excuse for war,” Braverman said. “It’s not a reason for war.”

“Israelis, Jordanians, Palestinians advancing on trilateral water swapping arrangements”, 10/10/2014, online at:  
<http://en.ammonnews.net/article.aspx?articleno=26884#.VDvQevmsVz8>

**BACK TO TOP**

❖ **Gaza: Donors, UN Should Press Israel on Blockade**

(Jerusalem) – Donor countries at the October 12, 2014 conference on assistance to Palestine should press Israel to lift sweeping, unjustified restrictions on the movement of people and goods into and out of the Gaza Strip, Human Rights Watch said today. The United Nations Security Council should reinforce previous resolutions ignored by Israel calling for the removal of unjustified restrictions.

Blanket Israeli restrictions unconnected or disproportionate to security considerations unnecessarily harm people's access to food, water, education, and other fundamental rights in Gaza. Israel's unwillingness to lift such restrictions will seriously hinder a sustainable recovery after a seven-year blockade and the July-August fighting that damaged much of Gaza, Human Rights Watch said.

“Donors who keep footing the bill to rebuild Gaza should insist that Israel lift unjustified restrictions that are worsening a grim humanitarian situation and needlessly punishing civilians,” said Sarah Leah Whitson, Middle East director at Human Rights Watch. “The Security Council needs to condemn Israeli restrictions that are unnecessary for security.”

Israel's blockade of Gaza, reinforced by Egypt, has largely prevented the export and import of commercial and agricultural goods, crippling Gaza's economy, as well as travel for personal, educational, and health reasons. The blockade has had a disastrous impact on the health and wellbeing of Gaza's civilians, curtailing the delivery of food, medicine, fuel, and other necessities. Hundreds of thousands of people have little or no access to clean water. Hospitals, even before the recent fighting, were desperately overstretched. To the extent that the blockade went beyond justifications of military necessity, it constitutes unlawful collective punishment of the civilian population.

Israel has sought to justify its broad restrictions by citing security concerns. Since the beginning of the second intifada in 2000, Israel has imposed blanket restrictions banning Palestinians in Gaza from traveling to the West Bank – including to study, work, or reunite with their families – instead of assessing any security concerns with individual checks. Since Hamas took power in Gaza in 2007, Israel has generally barred imports of steel rebar, gravel, and cement, which it considers “dual-use

goods” that can be diverted for military uses. Palestinian armed groups did use building materials smuggled from Egypt to build military tunnels into Israel, but Israel’s security concerns could be met by a monitoring regime rather than a blanket prohibition on imports, Human Rights Watch said.

The hostilities in July and August significantly worsened a humanitarian crisis in Gaza. They left 108,000 people homeless, completely destroyed 26 schools and 4 primary health centers, and destroyed or damaged 350 businesses and 17,000 hectares of agricultural land, according to a UN assessment. Unemployment in Gaza, already at 45 percent, climbed even higher since the fighting, the United Nations Development Programme (UNDP) reported.

Apparent Israeli attacks that repeatedly hit Gaza’s only power plant left it inoperable. Even when it was operating, fuel shortages triggered rolling power outages of up to 12 hours per day; current outages last 18 hours per day. Attacks also destroyed or damaged two major sewage treatment plants and 20 to 30 percent of sewage and water networks, leaving nearly half a million people without running water.

The Palestinian government of President Mahmoud Abbas, based in the West Bank, prepared a reconstruction plan for Gaza that will be the basis for many donor pledges at the October 12 conference, to be held in Cairo. Separately, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) is seeking to raise another US\$570 million to meet its goal of nearly \$1 billion to meet Gaza’s needs.

The only proposed change to Israeli restrictions on Gaza since the recent fighting relates to imports of construction materials for the private market. In mid-September, the Israeli and Palestinian governments agreed to a UN-assisted “temporary mechanism” to transfer construction materials into Gaza and ensure they are used for civilian purposes. Under the agreement, the Palestinian government will purchase construction materials from pre-approved vendors, track the materials from their source to secured warehouses to their destination, and update all information in a database accessible to Israeli authorities.

However, even if the agreement is implemented and achieves its stated goals of facilitating the

construction of 5000 housing units and 120 other projects, it will still be grossly insufficient to meet Gaza's reconstruction needs, Human Rights Watch said. In addition, the agreement would facilitate import materials to reconstruct water, sanitation, and power infrastructure, but does not address the need for a regular, sustained supply of water, fuel, and electricity to function.

The agreement also does not address the wider restrictions on the movement of people and goods imposed by Israel's blockade of the Gaza Strip. That includes a near-total ban on exports enforced by both Israel and Egypt which has crippled the economy, and a prohibition on almost all Gaza residents moving to or even visiting the West Bank.

"There is no plan on the table that adequately meets the basic needs of Gaza's population, much less envisions a sustainable Gaza that is not perilously dependent on foreign donations," Whitson said. "Donors should stop acquiescing to unjustified Israeli restrictions and insist on reconstruction plans that can be reasonably expected to meet Gaza's humanitarian needs."

Under international law, parties to an armed conflict that commit violations of the laws of war may be responsible to states or individuals for reparations for damage done. Donor-funded projects were among those destroyed or damaged in the recent fighting; donors should assess the damage caused by unlawful attacks and press the party responsible to pay for compensation and reconstruction. Such reparations could assist in the funding of new projects and deter future unlawful attacks, Human Rights Watch said.

The Security Council and other inter-governmental bodies have long called on Israel to ease its restrictions on Gaza. On August 15, European Union foreign ministers called for "a fundamental improvement in the living conditions for the Palestinian people in the Gaza Strip through the lifting of the Gaza closure regime."

The US government, which opposes the Hamas government in Gaza, has been reluctant to press Israel to lift the blockade. However, the Obama administration has said that returning to the status quo in Gaza would be unsustainable. Secretary of State John Kerry said on August 1 that Palestinians in Gaza "need to be able to ... move freely and share in the rest of the world, and to lead a life that is



different from the one they have long suffered.”

The UN Security Council and donors should condemn Israel’s punitive closure regime and press Israel to tailor restrictions narrowly to explicit security needs, Human Rights Watch said. The Security Council and donors should press Israel and Egypt to allow the import of construction materials needed for reconstruction subject to monitoring, reverse the near-total blocking of exports from Gaza, and lift travel prohibitions against Gaza residents who pose no security risk. The Security Council should reinforce previous resolutions calling for the removal of unjustified restrictions that Israel has ignored. It should require Israel to pay compensation and reconstruction costs for civilian property, including internationally funded projects, that Israeli forces destroyed or damaged in unlawful attacks.

“US opposition to Hamas has long been allowed to trump concern for Israel’s punitive blockade of Gaza,” Whitson said. “As Israel’s closest ally and current president of the Security Council, the US should ensure that the current ceasefire translates into genuine relief for Gaza’s civilians.”

## **Israel’s Blockade of Gaza**

### *Implementing the Ceasefire*

The Israel-Hamas ceasefire announced on August 26, 2014, provides an opportunity to end Israel’s punitive measures against Gaza’s civilian population. Israel committed to allow humanitarian aid and reconstruction material into Gaza and to re-extend the fishing zone to six nautical miles off the coast.

Israel made virtually the same commitments after the previous round of fighting in November 2012, but then re-imposed a broad closure. The absence of condemnation from Israel’s US and EU allies has helped create an environment in which Israel can maintain the blockade without cost.

### *Punitive Restrictions*

Israel grants permits allowing Gaza residents to exit through Erez crossing point only in the case of “exceptional humanitarian situations,” according to government policy, and to a small number of businesspeople. An average of fewer than 200 people per day were allowed out of Gaza via Israel in

the first half of 2014, compared with 26,000 in the equivalent period of 2000, before the second Intifada, according to official Israeli and Palestinian data compiled by Gisha, an Israeli rights group. Israel has permitted only three students from Gaza to study in the West Bank in the past 14 years. For most of that time, Israel has also refused to process applications of residents of Gaza requesting to join spouses and family members in the West Bank.

In 2010, the Israeli Defense Ministry's coordinator of government activities in the territories, Eitan Dangot, acknowledged that the purpose of Israel's policy blocking the movement of Palestinians from Gaza to the West Bank was to pressure Hamas and support the Palestinian Authority.

Egypt's military-backed government tightened restrictions on the movement of Palestinians through the Rafah crossing between Gaza and Sinai after it took power in July 2013, cutting the number of Gaza residents passing through the crossing by two-thirds, to an average of 6,444 per month in the first half of 2014, according to Gisha.

All movement of goods from Israel to Gaza takes place at Kerem Shalom crossing point. Israel tightly restricts the types and amount of goods that may enter Gaza, and currently allows construction materials to be brought in by only international organizations. Israel bans the sale of goods from Gaza in the West Bank and Israel.

At various times since Hamas won Palestinian parliamentary elections in 2006, Israeli military authorities have limited the “daily humanitarian portion” of food they calculated that Gaza's residents need, apparently following a policy to “put them on a diet,” as one senior Israeli official said in 2006. Israel has banned or restricted imports of items that pose no conceivable threat to Israeli security, including, among many others: tea, jam, lentils, and other goods it deemed “luxury items”; cooking gas; and radiotherapy equipment and medicines used in cancer treatments. It unjustifiably delayed for months or years imports of spare parts needed to repair Gaza's damaged and decrepit electricity grid.

Years of Israeli restrictions, and Egypt's destruction in 2013 of nearly all the smuggling tunnels that had been used to supply Gaza with many commercial goods, had a devastating impact on Gaza's economy. As of June 2014, more than half of Gaza households were unable to obtain adequate food –

even though two-thirds of Gaza residents received food assistance, according to OCHA. The UN reported before the recent fighting that the contamination of Gaza’s aquifer, its rapidly growing population, its decrepit infrastructure, and other factors, meant it would not be “a livable place” by 2020.

In 2010 Israel agreed to ease some restrictions – including on imports of food – under international pressure following the killing by Israeli forces of nine civilians on a ship trying to break Israel’s naval blockade of Gaza. However, OCHA found that the reforms did not lead to any “significant improvement” for Gaza residents. Some measures were too modest, while others were never implemented. Israel left in place restrictions on Gaza exports to the West Bank and Israel.

#### *Restrictions on Construction Materials*

On September 16, 2014, the UN special coordinator in the region, Robert Serry, told the Security Council that Israel and the Palestinian Authority had agreed to a “temporary mechanism” for delivering increased reconstruction materials to Gaza under UN monitoring.

The agreement’s annex states an intention to facilitate the construction of 5,000 housing units and 120 larger projects, such as factories and schools, over one year. Approximately 18,000 homes are uninhabitable from the recent fighting, and another 5,000 homes that had been destroyed during previous Israeli military operations were never rebuilt. Population growth in Gaza has created a shortage of 71,000 additional homes and 250 schools, according to UN estimates. The agreement would facilitate import materials to reconstruct water, sanitation, and power infrastructure, but does not address the need for a regular, sustained supply of water, fuel and, electricity to function.

The agreement requires the UN and the Palestinian government to satisfy Israel’s concerns that construction materials are not diverted for military purposes, but does not place any responsibility on Israel to ensure that civilian construction needs are fulfilled. Under the agreement, the UN, the Palestinian government, and Palestinian businesses are required to track construction materials at each step – from source, transfer, and storage to end-use for an intended civilian purpose – ensuring Israel’s security concerns are met.

But the agreement grants the Israeli authorities discretion to deny imports to Gaza, and does not contain an enforcement or dispute-resolution mechanism to deal with wrongful rejection of goods by Israel. Nor does the agreement require Israel to increase capacity at Kerem Shalom, the sole operating crossing point for imports of construction materials into Gaza, or address Israel's other restrictions on Gaza. Under the agreement, Israel effectively retains the authority to determine what can be built in Gaza.

Israel already requires end-use monitoring for the building materials it allows donors to import to Gaza for humanitarian projects. However, Israel took an average of 19 months to approve humanitarian construction projects, and it froze dozens of such plans for years, according to the UN. If Israel permitted its one commercial crossing with Gaza to import the maximum current capacity of construction materials, it would take Gaza 20 years to adequately address its housing needs after the recent conflict, without accounting for population growth, humanitarian agencies that focus on shelter and housing reported.

A recent EuropeAid evaluation of EU development support to Palestine concluded that the EU's flow of aid – €2.5 billion over the last five years – “has reached its limits in the absence of a parallel political track” that addresses these and other constraints.

A fundamental change in Israeli policy, rather than exceptional emergency measures, is needed for donor countries to confidently contribute to Gaza's reconstruction, since unexpected Israeli restrictions undermine international investment in Gaza, Human Rights Watch said.

### *Restrictions on Exports*

Gaza's economy formerly relied on exports to Israel and the West Bank. After Hamas won Palestinian parliamentary elections in 2006, Israel restricted exports, and barred them altogether after Hamas violently retained control over Gaza in 2007. Monthly exports from Gaza during the first half of 2014 amounted to less than 1 percent of levels before 2006.

Since 2010, Israel has allowed only an extremely limited amount of goods produced in Gaza to transit through Israel en route to third markets. It does not, however, allow access to those same

goods to Israeli or West Bank markets, in order to “separate Gaza from West Bank merchants, who are allowed to sell in Israel” or to prevent Hamas from “hid[ing] things in the merchandise that scanners can’t detect.”

Donor countries, including the Netherlands and the US, have donated advanced scanning equipment to allow relatively rapid monitoring of goods at Gaza’s border crossing to ensure military materiel is not smuggled in or out. Yet Israel refused to use these scanners to allow Gaza exports, because doing so would contradict Israel’s policy of isolating Gaza from the West Bank, according to the Israeli daily *Haaretz*, which cited “Defense Ministry officials.”

“Gaza: Donors, UN Should Press Israel on Blockade”, 12/10/2014, online at: <http://www.hrw.org/news/2014/10/12/gaza-donors-un-should-press-israel-blockade>

**BACK TO TOP**

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

### ❖ Cross-border environmental group urges Israel to increase water supply to Gaza

As parties from the region prepare to gather in Cairo next week to discuss the reconstruction of Gaza, the environmental organization Friends of the Earth Middle East is calling upon the government to take interim measures “to alleviate the water and sanitation calamity” in the Strip.

FoEME, an organization with directors based in Israel, Jordan and the Palestinian Authority, is recommending that Israel implement three key measures aimed at a near-term revival of the water quantity and quality in Gaza.

First and foremost, the group is advocating for an increase in the volume of the approximately 4.7 million cubic meters of water delivered annually to the Strip through two existing connections to match their capacity of 8.5 million cubic meters. FoEME also supports the transfer of water to Gaza through a recently completed connection at Nahal Oz, which has a capacity of 12 million cubic meters.

Thirdly, the organization is urging the government to move forward with the sale of as much as 30 million cubic meters of water to the Palestinian Authority, a measure agreed upon in December 2013 in a trilateral memorandum of understanding signed between Israel, Jordan and the PA in Washington.

“The lack of a clear Israeli strategy for interim involvement in the rehabilitation of Gaza’s ability to provide adequate water for its citizens is extremely detrimental to both the international efforts that are currently being mobilized to provide Gaza with a better future and Israel’s own best health and security interests,” said Gidon Bromberg, Israeli director for FoEME.



Bromberg, along with Michal Milner from his own organization and Dr. Oded Eran, a senior research fellow at the Institute for National Security Studies, on Thursday released a detailed report titled “The Water, Sanitation and Energy Crises in Gaza.”

While the brunt of the report was drafted prior to the summer conflict, a foreword added to the document provides recommendations for immediate measures that take the conflict under consideration.

Describing “a serious humanitarian crisis in Gaza” that involves water at its center, the authors stressed that an estimated 1.2 million Palestinians in Gaza still have no running water. In addition, insufficient electricity supplies bar them from treating or pumping sewage, causing a risk of pandemic diseases such as cholera or typhoid.

While connections provide water from Israel to Gaza at Bani Suhaila near Khan Yunis and Ben Said near Deir el-Balah, Israel could double the transfer of 4.7 million cubic meters through these pipes, infrastructural constraints permitting, the authors argued.

The third pipeline connection at Nahal Oz was completed several months ago, but an agreement between Israel and the PA’s Water Authority is needed before the conveyance of water begins, according to the report.

In order to generate enough electricity to provide for adequate sanitation, the authors also recommended that Israel directly supply an additional 3 megawatts of electricity to operate the newly completed World Bank waste-water treatment plant near Beit Lahiya.

“Gaza does not possess the water, energy or land resources to sustain itself independently,” Bromberg said.

“The international community is well aware of the dire need to facilitate large scale, long-term solutions – mainly desalination and waste-water treatment. However, until such solutions are developed, these efforts must involve interim measures by Israel in cooperation with the Palestinian Authority in Ramallah – export more water to the Strip and energy for water and sanitation facilities.”

“Cross-border environmental group urges Israel to increase water supply to Gaza”, 09/10/2014, online at: <http://www.jpost.com/Arab-Israeli-Conflict/Cross-border-environmental-group-urges-Israel-to-increase-water-supply-to-Gaza-378489>

**BACK TO TOP**

### ❖ Egypt to host donor conference for war-hit Gaza

JERUSALEM: Envoys from dozens of countries will gather Sunday for a conference that aims to raise billions of dollars to rebuild conflict-battered Gaza, despite fears of renewed violence and “donor fatigue”.

The United Nations’ Palestinian refugee agency has described the financial needs as “unprecedented” ahead of the Cairo meeting, which follows the Strip’s third war in six years.

But it is unclear how generous the world is willing to be given the intractability of the Israeli-Palestinian conflict and other priorities in the region such as the fight against militants in Syria and Iraq.

About 50 countries will be represented in Cairo for talks that will include UN Secretary-General Ban Ki-moon, US Secretary of State John Kerry, 30 foreign ministers and various international monetary and humanitarian bodies.

The Palestinians have called for more than \$4 billion (3.2 billion euros) in aid, and the Palestinian refugee agency UNRWA for \$1.6 billion.

Other estimates suggest up to \$8 billion will be needed to repair damaged infrastructure and homes, and ensure healthcare, education and clean drinking water.

The bloody 50-day conflict between Israel and Gaza militants left almost 2,200 Palestinians dead along with 73 on the Israeli side. The war, which ended with a ceasefire on August 26, also left 100,000 Gazans homeless.

More than a quarter of the Strip’s population of 1.7 million was displaced.

Even so, a Western diplomat, speaking on condition of anonymity, warned there was “considerable donor fatigue.”

“We have seen infrastructure projects that we have contributed to which have been destroyed,” the diplomat said, adding that scepticism had existed even before the recent conflict.

Money raised in Cairo will also go towards getting Gaza’s economy back on its feet.

Gross domestic product (GDP) is expected to be down 20 per cent in the first three quarters of 2014 compared with the same period last year.

Unemployment stood at 45 per cent before the war and 63 per cent among young people who make up a large part of the population.

Without immediate action to revive the economy, a return to violence “will remain a clear and present danger,” the World Bank’s Palestinian territories director Steen Lau Jorgensen warned last month.

The Palestinians sought to present a united front ahead of the meeting to assuage donor concerns that reconstruction materials might fall into the hands of militants.

The unity government on Thursday held its first cabinet meeting in Gaza, months after a reconciliation deal between rivals Fatah, which dominates the West Bank-based Palestinian Authority (PA), and Hamas, which is in de facto control of Gaza.

Palestinian foreign minister Riyad al Malki was confident the message was enough.

“Our initial predictions are that the conference will be a big success,” he said this week.

Malki also suggested Palestinian moves to seek further recognition at the UN, including joining the International Criminal Court so they could sue Israel for alleged war crimes, would not cause Israel’s allies such as the US to hold back donations.

But a second diplomat, who also did not want to be named, said the Gaza cabinet meeting was “not enough to reassure donors.”

The EU, a chief aid supplier to the Palestinians, has welcomed “positive developments” while stressing that a lasting peace is needed.

“The only durable solution to Gaza is of course a political agreement between Palestinians and Israelis,” John Gatt-Rutter, the EU representative to Palestinian territories, told AFP.

The international consensus is clear – an answer to the intractable Israeli- Palestinian problem must be sought.

“Ultimately, the successful reconstruction of Gaza requires a strong Palestinian political foundation and for the parties to address the underlying issues of the conflict,” said UN spokesman Stephane Dujarric.

“Egypt to host donor conference for war-hit Gaza”, 10/10/2014, online at: <http://tribune.com.pk/story/773340/egypt-to-host-donor-conference-for-war-hit-gaza/>

**BACK TO TOP**

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

## ❖ The Case For The ‘Water-First’ Approach

*Forget the settlements and deal with issues of water supply and sewage.*

In Israel and the Jewish world, there are two common reactions to the crisis in Israeli-Palestinian relations. Both are waterlogged, so to speak.

Some of us are in denial after the Palestinian Authority president, Mahmoud Abbas, more or less eulogized the peace process recently from the podium of the United Nations. We make excuses for him, and say he just needs a bit of cajoling.

Others among us are holding told-you-so celebrations, concluding that the belief that “there’s no partner to talk to” has been proved correct once and for all.

But as both sides wait for a final reckoning judgment day on which outlook will come to define the permanent arrangements for this region, the asset that they are arguing about is undergoing serious damage.

The Israeli-Palestinian conflict is said to be about land — but land alone is not enough to support the populations that want to live on it. We humans are all utterly dependent on water.

There is still time for the politicians to spar and to blow hot and cold over a comprehensive peace treaty. We’re constantly told that the window for the two-state solution is about to slam shut once and for all. This is hyperbole, but when it comes to the threat water, the threat of devastating damage is actually understated.

Divvying up water supplies, and more importantly, formulating plans for the safe treatment of all sewage in the region, have always constituted a key component of peace negotiations. But the need for water, and the production of sewage, don’t halt while rounds of peace talks are convened and disbanded.

I would say the following to Palestinian and Israeli leaders: Fume at each other from the podium of the UN, battle for international public opinion, continue to trade threats and insults, carry on the cycle of “let’s negotiate” followed by “we’ll never again negotiate” — but stop dragging nature into all of



this. Give the region's water supply a free pass to the next generation so that even if, in a worst-case scenario, the two sides are still fighting each other, they have clean water to drink while doing so.

The leaders should do this by removing water and sewage from the shackles of the wider peace process, and deciding that, whatever else is going on between them, they will quickly reach an agreement on these issues. They are far less complex than the other big issues for negotiation, namely borders, settlements, security and refugees. Implementation and enforcement are far simpler.

For the sake of water, the international community should be prepared to drop its expectation that all issues are resolved at once, and both Israel and the Palestinians should be prepared to talk without preconditions. He who brings preconditions to negotiate about water is like the protagonist in the rabbinic story who insists on his right to bore a hole under his seat in a ship. So Israel should aim for a water agreement without demanding that the Palestinian Authority dissolves the unity government that links it to Hamas, and Palestinians should aim for a water agreement without insisting on a settlement freeze.

Honing in on the environment in the face of the big, bad Israeli-Palestinian conflict may seem parochial, but it isn't. In fact, Israel's premier security think tank, the Institute for National Security Studies, has joined Friends of the Earth-Middle East in advocating a water-first approach.

It is ironic that settlements grab all the attention. Settlement homes are just bricks and mortar and can, if the political will exists, be razed (this is a statement of fact not an apology for settlement construction). On the other hand, political initiative isn't necessarily enough to fix the polluted water supply.

The first piece of the problem that needs fixing right now is that of supply. The 20-year-old Oslo process set the Palestinian water quota, but it was meant to be in place for just five years, failed to make provision for population growth, and over-estimated how much water was available in the Eastern Aquifer. The level of water supply to the Palestinians is often used as a stick to beat Israel, but is really due to the fact that it is determined by an old agreement that urgently needs updating.

The second piece of the problem is sewage. The Oslo agreement is inadequate to manage the massively increased sewage output in the West Bank two decades on. The building of adequate

sewage infrastructure has been held back by the absence of a final peace agreement. Constructing settlement-sewage works, like all settlement construction, is controversial, while the Palestinians accuse Israel of restricting the growth of its sewage infrastructure. The bottom line is that a shocking amount of sewage runs into the environment untreated, and ground and surface water is being polluted. There are already wells formerly used by both Palestinians and Israelis where pumping has been halted. And this problem isn't limited to the West Bank — water polluted over the Green Line reaches the ground water supply within Israel's pre-1967 borders.

In December 2010, when tensions between the Palestinians and Israel were high after the collapse of a round of peace talks three months earlier, there was a forest fire in Northern Israel. Despite the angry atmosphere, Abbas talked to Israeli Prime Minister Benjamin Netanyahu, offered assistance, and sent fire trucks. If the sides can put frictions aside to save one forest, surely they can do the same to protect their region's water? Does it really take flames get them together for the environment, or can they think ahead to the kind of water-related calamities they want to avoid?

Next week, observant Jews everywhere in the world will start saying the daily prayer for rain, because the ancient rabbis understood the importance of good water supplies. Perhaps the time has come to pair prayers with a bold human initiative.

"The Case For The 'Water-First' Approach",  
08/10/2014, online at: <http://www.thejewishweek.com/editorial-opinion/editorial/case-water-first-approach>

**BACK TO TOP**

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

## ❖ War and Water

The tide of war and peace often turns on water, as is the case with the conflict in Iraq and Syria against the Islamic State of Iraq and the Levant (ISIL). These countries lack water security, which is a condition where individuals and nations have access to an adequate quantity and quality of water with acceptable costs and risks. The conflict against ISIL illustrates why water security should have a higher priority in U.S. domestic and foreign policy, as water security is a necessary precondition for peace and stability. Without water security, water often becomes a strategic target in war, either as a potential weapon or as a symbol of political legitimacy.

For example, in Iraq, the Mosul Dam has become a both a security threat and symbol of the shifting balance of power. The Mosul Dam is the largest dam in Iraq, providing electricity and drinking water to the 1.7 million residents of the city of Mosul. In August, ISIL took control of this strategically vital asset. Kurdish forces recently retook control of the Mosul Dam from ISIL, with assistance from U.S. airstrikes. Control of the dam may lend greater political legitimacy to the Kurds and protection for the citizens of Mosul, but protecting the dam from further attacks will be difficult given the dam's history of instability.

The Mosul Dam is only one example of the role of water in the war against ISIL. ISIL's growing influence in Syria was precipitated by one of the worst droughts in modern history. The drought had a destabilizing effect on President Bashar al-Assad's regime, helping ISIL consolidate power in some Syrian cities. To counter ISIL's growing political power, which has been achieved in part by improving water services to residents in drought ravaged regions, Assad's troops have targeted ISIL-controlled water infrastructure. This connection between water and war is not uncommon. It is no coincidence that the Taliban took power in Afghanistan at the same time as the Kabul River experienced a severe drought.

The role of water security could be critical in other current or potential future conflicts. The Israeli-Palestinian conflict has long included a major water dispute component, including recent debates that raged on whether Israel could cut off water supplies to Gaza without violating human rights. Ukraine has cut off water supplies from the North Crimean Canal, which provides 85 percent of fresh water to the region now controlled by the Russian Federation. In Kashmir, India developed dams on the Indus River, on territory that it is currently in dispute over with its neighbor Pakistan, leading protestors to refrain, "Water will flow, or blood will flow." New regimes in Egypt, Libya, and South Sudan will seek to establish legitimacy and security through water.

One of the United States' main foreign policy priorities should be to advance water security. The U.S. should partner with allies and development banks to establish a global water fund used to finance water infrastructure. Improved water access would help mitigate droughts like the one in Syria and help avoid catastrophic public health crises like the current Ebola outbreak. Improved water access will also enhance the political legitimacy of regimes committed to the rule of law. Droughts, famines, and plagues destabilize governments, and investments in water security will avoid or mitigate those disasters. The global water fund would oversee maintenance of safeguards to ensure public accountability, stakeholder participation, sustainable water development, and affordable water pricing.

A global water fund would also direct investments to protect water infrastructure, both domestically and internationally, from attack. The global water fund finance and provide expertise in both conventional security measures, as well as cybersecurity. Simple, inexpensive measures like firewalls and stronger passwords could yield enormous security benefits for water infrastructure. Such investments will prevent water infrastructure from being exploited as a weapon. The global water

fund could also provide a dispute resolution forum for projects involving internationally-shared water resources to prevent water disputes from escalating into violent conflicts.

A global water fund could have long-lasting domestic benefits as well. Investing in domestic water security has obvious benefits, from national security of critical infrastructure against terrorist attacks to mitigating the ongoing drought in California. But investments in global water security will have important consequences for domestic policy as well. The current immigration crisis in the U.S. is in part an example of what mankind has done for thousands of years - pursue water security. Immigrants may say that they are pursuing peace or economic opportunities, but peace and economic opportunities are outgrowths of water security. If the U.S. desires peace abroad, it would do better to invest in water security than in weapons. And if the U.S. desires to resolve its immigration crisis, it would do better to invest in the water security of its neighbors than in walls on its borders.

“War and Water”, 07/10/2014, online at: [http://www.huffingtonpost.com/rhett-b-larson/war-and-water\\_b\\_5940892.html](http://www.huffingtonpost.com/rhett-b-larson/war-and-water_b_5940892.html)

**BACK TO TOP**

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

### ❖ Abu Dhabi to recycle 100% of waste water within 3 years

Al Ain city already reuses 100% of recycled water generated within the city

Abu Dhabi: A new network of pipes will allow the UAE capital to reuse 100 per cent of recycled waste water, a senior official said.

Abu Dhabi emirate recycles 100 per cent of 850,000 cubic metres of waste water generated per day but only 60 per cent of this is reused while the remaining 40 per cent is discarded in the sea due to lack of infrastructure to utilise it.

This situation will change as the emirate is planning to install a new network to utilise the entire recycled water within three years, a senior official told *Gulf Newson* Sunday.

The plan follows the successful model in Al Ain, which has become the first city in the country to reuse 100 per cent of recycled water, said Alan Thomson, Managing Director of Abu Dhabi Sewerage Services Company (ADSSC), an Abu Dhabi government entity responsible for waste water management in the emirate.

### **Free of cost recycled water**

Consumers get the recycled water free of cost, which is used in agriculture, forestry and landscaping, he said on the sidelines of POWER-GEN Middle East (PGME) and WaterWorld Middle East (WWME) Conferences and Exhibition, a three-day event being held at the Abu Dhabi National Exhibition Centre.

Suhail Mohammad Bin Faraj Al Mazroui, Minister of Energy, officially opened the event.

Thomson, who was a keynote speaker at the inaugural session, told *Gulf Newsthat* Al Ain city recycles 190,000 cubic metres of waste water it generates a day, which is fully distributed for reuse.

“About five per cent of water may be lost during distribution but at least 95 per cent is utilised,” he said.

A separate network was built to distribute the recycled water. Similarly, consumers have to arrange their own network within their premises for using recycled water. “Fully subsidised water [free of cost] is the incentive for them,” the official said.



The reuse of recycled water minimises the pressure on generation of fresh water that is otherwise used in agriculture, forestry and landscaping.

As water generation in the UAE is through desalination with fossil fuels, the reuse of recycled water minimises carbon emissions considerably. “This environmental benefit is the major incentive,” Thomson said.

### **New network**

Now we are in touch with the Environment Agency - Abu Dhabi and Abu Dhabi Government to construct a 200-kilometre-long new pipe network to distribute recycled water in the greater Abu Dhabi region,” he said.

Once the approval is given the project can be completed within three years.

There is a huge demand for recycled water for agriculture, forestry and landscaping in greater Abu Dhabi, Abu Dhabi island and surrounding areas such as Reem Island, Yas Islands, Shahama and areas stretching along the Abu Dhabi-Dubai highway and Abu Dhabi-Al Ain highway, he said. About 650,000 cubic metres of waste water is generated and recycled in greater Abu Dhabi area but only 60 per cent is reused.

Asked about the situation in the Western Region of Abu Dhabi, Thomson said although there is a huge demand for recycled water for agriculture and forestry, the amount of waste water generation is not enough due to the low population.

Asked whether recycled water from Abu Dhabi city can be transported there, he said there is more than enough demand in greater Abu Dhabi itself.

At the conference, Yury Sentyurin, State Secretary – Deputy Minister of Energy of the Russian Federation; Dr Hesham Khatib, Honorary Vice- Chairman, World Energy Council, Jordan; and a former Jordanian Cabinet Minister also gave keynote addresses.

“Abu Dhabi to recycle 100% of waste water within 3 years”, 12/10/2014, online at: <http://gulfnews.com/news/gulf/uae/environment/abu-dhabi-to-recycle-100-of-waste-water-within-3-years-1.1397536>

**BACK TO TOP**

### ❖ **Ethiopia: Nile Basin Survives Better With Cooperation**

After a stalemate had run deep over the construction of the Great Ethiopian Renaissance Dam (GERD), the meeting of the Ethiopian Prime Minister Hailemariam Desalegn and Egyptian President Abdel Fattah al-Sisi on the sidelines of the 23rd AU Summit in Malabo, in June 26, 2014, offered a new opportunity. The meeting signalled a new era of engagement to turn the Nile from an epicentre of resource crisis to a symbol of cooperation.

It opened the gates to re-launching the Tripartite Committee on the GERD, with a view to establish ways to implement the recommendations of the report by the International Panel of Experts (IPOE). Indeed, the discussion was a welcome step towards reactivating the principles of cooperation, mutual respect and the achievement of common interests.

This scene tempted some commentators to suggest that Al-Sisi's administration had demonstrated Egypt's "change of heart" over the new developments of the Nile Basin. They also posit that the remarks of Al-Sisi over the construction of the GERD are new signs revealing the emergence of a new Egypt that renounces its "self-justified rights" and reasserts its national identity to standing up for the post-modern principle of a cooperative order, freezing out the power politics of exclusive geopolitical game.

The optimism is good news, but for any astute observer, these assertions fail to stand up as the missing ingredient of Egypt's hydro-political security architecture, implanted by British colonial rule and incapable of considering concerns, demands, views and visions of the peoples of upstream countries and the Sudan. The assertions also fail to scrutinise the remarks of Al-Sisi's road map to the use of the Nile in the years ahead.

In a 2014 presidential race, Ahram Online reported that Al-Sisi cherished Ethiopia's need for development on the Nile, but he was also quoted as saying that Nile water is a "matter of life and

death for Egypt". Al-Mal Business Daily also reported, in June, that Egypt's Minister of Agriculture, Adel Al-Beltagy, asserted that "Egypt will not give away a single drop of water of its share of the Nile".

The self-justified claim of Egypt to the so-called "historical rights" to the Nile River enshrined in the constitution, along with phrases of a "matter of life and death for Egypt" and "a single drop of water" vividly mirror Al-Sisi's return to the dictionary of Egypt's hydro-political voice, which sees the security of the Nile as a hallmark of the exclusive sustenance, sidelining the economic, political, environmental and developmental security of upstream countries. This alternative incentivises the region to mutual suspicion, destabilisation, mistrust and geopolitical competition. This shows the clear boundaries of rhetoric and reality.

This security calculation reminds the intransigence of previous Egyptian leaders' obsessive disregard to the participation of all countries of the Nile Basin over the security affairs of the resources of the Nile and neglect for the legitimate concerns of every riparian nation. This security orientation, according to Haggai Elrich (Prof) in his book - "The Cross and the River - Ethiopia, Egypt and the Nile", paved the way for Nassir to expedite the increased irrelevance of Lake Tana, Ethiopia, by introducing the construction of the Aswan High Dam in the 1950s.

Erlich went on to say that the hydro-political security definition of Nassir aimed at Egypt's divorce from Lake Tana and Africa at large by making Lake Nassir the source of the Nile River. This exclusive security narrative not only impeded politicians and strategists, but also popular artists, from seeing the correct definition of the Nile.

But Nassir's security definition was immediately proved wrong when, as author Robert Collins argued, the completed Aswan High Dam of 1971 came to be seen as "the wrong dam in the wrong

place", when frequent droughts of the 1970s and 1980s plagued the Blue Nile and basked the lives of millions of Ethiopians in the halo of stormy famines, showcasing the short-termism and singularity of Egypt's security architecture.

Rethinking is needed to decipher the missing ingredient in Egypt's hydro-political security architecture on the Nile River, in a bid not to stain the pages of tomorrow. Remaking Egypt's hydro-political security will enable it not replicate the foulest flaws of the winner-takes-all mindset perpetuated by successive rulers of Egypt. In his swearing-in ceremony on June 8, 2014, President Al-Sisi valued the need to redouble efforts in the movement for renewed engagement and a reorientation of Egypt's present and future direction, reiterating that "the new Egypt will be open to everybody and will not confine itself to a certain direction and will not stop at certain orientations". It is indeed imperative to promptly look at and apply the brakes on the water policy of Egypt.

Faced with tough traditional and non-traditional security threats, as well as immense global and regional crises in political, economic and social spheres as a result of the continuing transformation of the international political and security landscape, the 21st century espouses a new security narrative based on a cooperative order to capitalise on human development and prioritise regionalism, with the view to jointly eradicate poverty and other socio-economic ills. The Nile Basin region is witnessing positive developments on the economic, social and political fronts.

At the same time, the Basin is encountering potential challenges that fan the flames of increased instability and simmer the region into another geopolitical competition, threatening destabilisation. The region, and most importantly, Egypt, must subscribe to enabling conditions to provide fertile ground for renewed security architecture to make the Nile a nucleus of perpetual peace and sustainable development.

Egypt should spare no time. It ought to prioritise a new regional security cooperation architecture. Being blind to a Chinese saying: "A wise man changes as time and circumstances change", will succumb the region to become a tumultuous cycle of instability and push the peoples into harrowing famine and indignity. The new cooperative regional order, as Chinese President Xi Jinping illustrated at the Fourth Summit of the Conference on Interaction & Confidence Building Measures in Asia, rests on the temple of common, comprehensive, cooperative and sustainable security architecture. The concept works in every corner of the world, especially in the Nile region. Ethiopia has already exercised the art of this security narrative to secure and beef up an integrated, peaceful, stable, prosperous and cooperative regional and global landscape to fuel the agenda of human development. The deployment of cooperative security enables the region to forge a collective future built on trust, equality, mutual benefit and a win-win approach. The exclusive security of Egypt fails to firmly stand in the 21st century and proved insignificant in building a community of common destiny in the Nile Basin. To this end, countries need to cling to Ethiopia's inclusive security lens, which entrenches balancing interests of all concerned; free of arrogance and greed; peaceful negotiation; dialogue; and embark upon common security, development, democracy and peace. Indeed, Ethiopia's security concept values the security of both individual countries and the region as a whole through dialogue; promotes peace and security through cooperation; remains committed to settling disputes through peaceful negotiation; sets aside threats or intimidation; stands against greed and arrogance and renounces the export of destabilising forces to neighbours in the Nile Basin. In this context, Ethiopia's GERD is a defining element of its regional cooperative security architecture. History has shown that the exclusive journey of Egypt's security can never stand in the midst of the stormy regional and international changes of the 21st century.

Exclusivity proves ephemeral, while inclusivity becomes the master key to regional sustainable development and perpetual peace. The construction of the GERD is emblematic of Ethiopia's determined spirit to the deepening and revamping of the regionalism of the Nile Basin, through the remaking of the Nile as the natural, historical, cultural and geographical bond of human development and security of the peoples of the Basin.

Such a perspective could certainly help realise a community of common destiny in the Nile Basin, with equal participation of all its nations.

“Ethiopia: Nile Basin Survives Better With Cooperation”, 12/10/2014, online at:

<http://allafrica.com/stories/201410132814.html>

**BACK TO TOP**



### ❖ Ethiopia Welcomes Tanzania's Move to Ratify the Nile Treaty

Ethiopia's Ministry of Foreign Affairs (MoFA) has welcomed Tanzania's move to ratify the Cooperative Framework Agreement (CFA), a treaty which seeks to establish a commission to realize an equitable utilization of the Nile River.

In a move that quelled uncertainties over Tanzania's commitment to the treaty, President Jakaya Kikwete's cabinet, the most senior executive branch of Tanzania, approved and forwarded the CFA to the country's parliament.

The parliament is expected to ratify the treaty next month, Tanzania's minister of State in the President's Office, Mark Mwandosya (Prof.), said on Monday during the 4th Nile Basin Development Forum held in Nairobi, Kenya.

"The move is to be expected and we welcome it," Dina Mufti, MoFA spokesperson, told The Reporter. "We hope and expect other signatories to do the same."

Doubts as to the ratification of the CFA emerged when Tanzania's minister of foreign affairs and international cooperation, Bernard Membe, told his country's parliament in June this year that his nation would push for the renegotiation of the CFA in favour of Egypt.

However, days later the country's water minister, Jumanne Maghembe (Prof.), dismissed the foreign minister's statement saying that Tanzania remains committed to the treaty.

Ethiopia became the first country to ratify the treaty in June 2013 when the House of Peoples' Representatives unanimously voted to make the CFA part of the law of the land. The ratification was dubbed by parliamentarians as "an important step towards the realization of an equitable utilization of the Nile waters."

Rwanda is the other basin country which ratified the treaty out of the six signatories of the CFA which also included Kenya, Uganda and Burundi. These countries are reportedly on advanced stages of ratifying the protocol.

Similar to the recent move made by the Tanzanian cabinet, the Kenyan government is also set to ratify the CFA before the end of the year.

Egypt, Sudan and the Democratic Republic of Congo have not signed the CFA, also known as the Entebbe Agreement, while the now war-torn South Sudan had expressed its keenness to accede to the treaty.

Upon ratification by the respective parliaments of all the six signatories, the CFA will serve as the only legally binding document governing the Nile river. It replaces colonial-era treaties of 1929 and 1959, which Ethiopia has never recognized, and strips Egypt of veto rights over water projects in upstream countries.

“Ethiopia Welcomes Tanzania's Move to Ratify the Nile Treaty”, 11/10/2014, online at: <http://allafrica.com/stories/201410131328.html>

**BACK TO TOP**

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

### ❖ **Tanzanian cabinet ratifies Nile deal**

The Tanzanian cabinet has ratified the 2010 Comprehensive Framework Agreement (CFA) signed by upstream Nile Basin countries, known as the Entebbe Agreement.

"The Nile River Cooperation Framework will be ratified by the Tanzanian Parliament in next month," Minister of State in the President's Office, Professor Mark Mwandosya, told Anadolu Agency on Tuesday.

He said the ratification will lead to transformation on the Nile Basin Initiative (NBI), into a Nile Basin Commission that will set clear procedures of the Nile River water sharing.

"Two member states of Ethiopia and Rwanda have already ratified the CFA," Mwandosya said.

He said that policymakers, scholars, researchers and other Nile Basin stakeholders are currently meeting in Nairobi to discuss the best and sustainable ways to use Nile River waters.

In 2010, upstream states Ethiopia, Kenya, Uganda, Rwanda and Tanzania all signed the Cooperative Framework Agreement regulating Nile water use. Burundi signed on to the treaty in 2011.

The deal aims to replace a colonial-era treaty that gives Egypt and Sudan the lion's share of river water.

"The transformation from NBI which has survived for 15 years will depend upon six member states of the NBI, eight member states ratifying or acceding to the CFA," Mwandosya said.

In June, Tanzanian Minister of Foreign Affairs and International Cooperation Bernard Kamillius Membe called for a review of the 2010 agreement in order to consider Egypt's water needs.

Water distribution among Nile basin states has long been regulated by a colonial-era treaty giving Egypt and Sudan the lion's share of river water.

Ethiopia, one of the upstream countries, says it has never recognized the treaty.

Relations between Ethiopia and Egypt have been strained due to a multibillion hydroelectric dam now being built by Addis Ababa on the Nile's upper reaches.

Egypt has repeatedly voiced concern about the dam's potential impact on its traditional share of Nile water. Ethiopia, however, insists the project won't affect Egypt's water supply.

“Tanzanian cabinet ratifies Nile deal”, 08/10/2014, online at: <http://www.turkishweekly.net/news/173118/tanzanian-cabinet-ratifies-nile-deal.html>

**BACK TO TOP**

### ❖ Nile Basin Development Forum opens in Kenya

October 6, 2014 (NAIROBI) – The fourth biannual Nile Basin Development Forum (NBDF) opened in the Kenyan capital, Nairobi, with calls for trust and confidence among Nile Basin Initiative (NBI) member states.

The Nile Basin, which covers an area of 3.2 million square kilometres, across 11 basin states, which are facing growing pressures, including persistent poverty among its populations, climate change resulting in floods, prolonged droughts, low access to electricity, lack of food security and rising populations, placing increased demands on water flows.

These challenges and threats, among others, are by their very nature trans-boundary and hence require collective action among all the basin states and multiple stakeholders at national, regional and international level; with different and sometimes conflicting interests.

Judi Wakhungu, Kenya's minister for environment, water and natural resources said the NBI had advanced a cooperative process to realise tangible benefits, build trust and confidence among its members.

### **NILE INVESTMENTS AT \$6.5 BILLION**

The Sudanese minister of water resources and electricity said the overall investment preparation leveraged under the NBI currently stood at \$6.5 billion.

“The achievements notwithstanding, NBI is at a critical juncture when the resources are fast dwindling with the closure of the main funding source, the World Bank-managed Nile Basin Trust Fund in December 2014. My appeal to member states is to be steadfast in honouring their obligations to NBI,” said Mutaz Musa Abdalla Salim.

He further appealed to development partners to continue their support to NBI to enable effective implementation of its programs.

On the issue of Egypt freezing her participation in the NBI activities, Abdalla said, “The governing council is making efforts to convince Egypt to resume full participation for we know it is only through cooperation that various interests can be made”.

John Rao Nyaoro, the executive director of the NBI Secretariat, said the resources NBI was seeking from development partners were for investment projects as members states had earlier reportedly committed to provide revenues for NBI’s minimum functionality.

The forum, to be followed by a donor round table on 8 October, seeks to mobilise resources for the implementation of NBI-facilitated investment projects.

The NBI is a regional intergovernmental partnership launched by the Nile riparian countries in 1999 to develop the River Nile in a cooperative manner, share substantial socio-economic benefits and promote regional peace and security.

Its current members include Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda, with Eritrea as an observer.

Over 400 people are attending the fourth NBDF, organised on the theme, “*Building Sustainable Trans-boundary Cooperation in a Complex River Basin: Challenges, Lessons and Prospects*”.

“Nile Basin Development Forum opens in Kenya”, 07/10/2014, online at:

<http://www.sudantribune.com/spip.php?article52653>

**BACK TO TOP**



### ❖ The Nile Basin: Egypt's Role in Africa's Development – Part III

[Egyptian priest:] "Ah, Solon, Solon, you Greeks are ever children. There is not an old man among you." On hearing this Solon said, "What? What do you mean?" "You are young," the old priest replied, "young in soul, every one of you. Your souls are devoid of beliefs about antiquity handed down by ancient tradition. Your souls lack any learning made hoary by time. The reason for that is this: There have been, and there will continue to be, numerous disasters that have destroyed human life in many kinds of ways. The most serious of these involve fire and water...."

"When this happens, all those people who live in mountains or in places that are high and dry are much more likely to perish than the ones who live next to rivers or by the sea. Our Nile, always our savior, is released and at such times, too, saves us from disaster. On the other hand, whenever the gods send floods of water upon the Earth to purge it, the herdsmen and shepherds in the mountains preserve their lives, while those who live in cities, in your region, are swept by the rivers into the sea. But here, in this place, water does not flow from on high onto our fields, either at such a time or any other. On the contrary, its nature is to always rise up from below. This, then explains the fact that antiquities preserved here are said to be the most ancient."

—Plato, "Timaeus"

(translated by Donald J. Zeyl)

There is a reason why Egyptians are alarmed by any mention of dams or other water infrastructure from the source of the Nile at the Equatorial Lakes region and along its path. This cradle of ancient civilizations has always owed its existence to the flow of the water in the Nile River, and will continue so. As referenced in [Part II of this series](#) (EIR, Sept. 12), Egyptians were alarmed by Ethiopia's decision to build the Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile, the largest source and tributary of the Nile River.

Egypt is almost completely reliant on the water of the Nile, which it shares with seven other African nations, each of which has its own requirements and aspirations for development. According to the 1959 Nile Waters Agreement between Sudan and Egypt, the two countries received the right to 85% of the annual flow of the Nile, where the White Nile and Blue Nile converge in Khartoum, Sudan,

with Sudan getting 18.5 billion cubic meters, and Egypt, 55.5 billion. But this figure is misleading, as almost eight times this amount of water evaporates, or runs off along the way.

The agreement has become a contested issue, as the other riparian nations further upstream want to sign a new agreement allowing them to have more equal rights to the water of the Nile. But the real issue is not "equal share" of the water, but the right to develop the water resources so that each nation can meet its needs and future development requirements.

The 1959 agreement was signed after Sudan and Egypt became free from British colonialism. However, it has its precedence in a British imperial agreement signed by Anglo-Egyptian Sudan with the British-controlled government in Cairo in 1929. That agreement stipulated that not only do Egypt and Sudan utilize 48 and 4 billion m<sup>3</sup>, respectively, of the Nile flow per year, but that Egypt reserves the right to monitor the Nile flow in the upstream countries, and to "veto any construction projects that would affect her interests adversely"!

In 1999, the Nile Basin Initiative (NBI) was adopted by all the riparian nations,[\[1\]](#) aimed at creating a partnership mechanism to develop the river in a cooperative manner, share substantial socioeconomic benefits, and promote regional peace and security. However, lack of development and abundance of political conflicts have hampered the Initiative.

In 2010, spearheaded by Ethiopia, which has been encountering massive and unfounded international pressure due to its attempt to develop its hydropower projects, four of the eight Nile Basin states (Ethiopia, Rwanda, Tanzania, and Uganda) signed a new treaty on the equitable sharing of the Nile waters, despite strong opposition from Egypt and Sudan. "This agreement benefits all of us and harms none of us," said Ethiopia's Water Resources Minister Asfaw Dingamo. "I strongly believe all Nile Basin countries will sign the agreement." Burundi and the Democratic Republic of Congo were not represented at the meeting, while Kenya issued a support statement.

For Africa in general, and the nations of the Nile Basin in particular, to realize their aspirations for peace and development, and to cope with underdevelopment, wars generated by poverty, lack of education, and fights over allegedly "limited resources," for the benefit of Anglo-American and other foreign interests, human society's relationship to Nature in this region has to change. No longer

should civilization be subject to the whims of the "gods" and of what are called Nature's arbitrary powers. Humankind is the only creative species on the planet, and is endowed with certain capabilities to master nature's forces for its own legitimate benefit.

In addition, with the advent of a new, just world economic order, initiated by the emerging BRICS (Brazil, Russia, India, China, and South Africa) New Development Bank, and the end of the colonial era of racist British and other trans-Atlantic policies against Africa, the nations have a genuine opportunity to rise above the ashes of decades of civil wars and underdevelopment.

### ***From Linear to Geometrical Development***

In almost all academic papers and reports by international organizations, including the UN, water is treated as a closed system, with a finite amount of water and limited potential for development. The linear measurements of the water and land resources exclude creative, noetic human intervention, in the form of technology to transform these resources and multiply their effect. On the contrary, humans, whose growth in numbers and needs is not linear but geometrical, are considered a burden on the natural resources that are growing arithmetically, to cite the British Empire's genocide theorist Thomas Malthus. This is reflected, often subconsciously, in many "scientific" papers presented in conferences concerning water issues in the world, to which this author has been a witness.[\[2\]](#)

The total population of the Nile Basin nations and East Africa has quadrupled since the 1960s, from 100 million to an estimated 400 million people. This fact is considered a catastrophe by international environmental and financial institutions. But for cognitive humans, this should be considered a great source of wealth.

The linear facts:

According to the standard information, such as from the United Nations Food and Agriculture Organization (FAO), the Nile River, with an estimated length of over 6,800 km, is the longest river flowing south to north, traversing over 35° of latitude. It is fed by two main river systems: the White Nile, with its sources on the Equatorial Lake Plateau (Burundi, Rwanda, Tanzania, and Uganda—sometimes, Kenya and the Democratic Republic of Congo are also included); and the Blue Nile, with its source in the Ethiopian highlands and Lake Tana 2,100, meters above sea level.

The sources of the White and Blue Nile are located in humid regions, with rainfall varying between 1,200 and 2,600 mm/year, a relatively high level of precipitation. However, the annual average for the whole Nile Basin is 650 mm/year. That is due to the inclusion of the arid region that starts in Sudan, which was the largest country in Africa before the separation of South Sudan in the 2011 referendum. Sudan can be divided into three rainfall zones: the extreme south, where rainfall ranges from 1,200 to 1,500 mm/year; the fertile clay-plains where 400 to 800 mm of rain falls annually; and the desert in the north, where rainfall averages only 20 mm per year. Further north, in Egypt, precipitation falls to less than 20 mm per year, or as the Egyptian priest told Solon, the water comes from down below and never from above.

The total area of the Nile Basin or catchment area of the Nile is 3.2 million square kilometers, representing 10.3% of the area of the continent. As mentioned above, most of that rainfall occurs in the Equatorial Lakes region and in South Sudan, in addition to the Ethiopian highlands. The total annual precipitation in the whole basin can be estimated to be 800-1,000 billion m<sup>3</sup>. Of that, almost 70% is lost to evapotranspiration. The combined share of Egypt and Sudan of that is less than 10%!

What is also not represented in the linear facts is that, unlike the almost even flow in the White Nile that emerges from the tropical Equatorial Lakes region, the rainfall and level of water in the Blue Nile and other tributaries, like the Atbara, that originate in the Ethiopian highlands, vary dramatically from the rainy season (July-September) to the dry season (November-June). The increased flow in the Blue Nile in the rainy season usually causes catastrophic flooding in Sudan, and increased siltation in the Sudanese water reservoirs behind dams such as the Roseires and Khashm El-Girba. What this implies is the need for considerable regulation of the flow of the Blue Nile to reduce the risks of the fluctuation and to achieve the full utilization of the water, both for its own sake and for generation of hydropower.

Construction of dams on the Blue Nile and Atbara would augment the quantity of water available for Egypt eventually, because of a loss of only 3% by evaporation in this region with its moderate weather, compared with a loss of almost 16% in the Aswan Dam reservoir in Egypt. Egypt, however, would no longer be the beneficiary of additional water in years of high flood, which would then be stored and regulated in the Blue Nile reservoirs, such as the GERD under construction in Ethiopia now, instead of at Aswan.

Ironically, the lack of water infrastructure in this water-rich region exposes it to severe water shortages, due to the variability in seasonal rainfall. The capability of storing water from times of plenty for use in times of scarcity is lost, due to lack of infrastructure. Artificial storage of water in Ethiopia has been, until recently, 47 m<sup>3</sup> per capita, Kenya 114 m<sup>3</sup>, and Tanzania 142 m<sup>3</sup>, as compared to 6,150 m<sup>3</sup> per capita in North America or 4,100 in Australia (source: The Nile Basin Initiative).

Once again, it is not the availability of a "natural resource" which is the issue, but society's optimizing of its use, through science and technology, that is the key. These technologies have been available for more than a century in the industrialized world; but Africa has been denied their benefits. Environmental organizations, NGOs, and financial institutions such as the World Bank and the IMF have been used to stop such development in Africa in recent times, the same way colonial armies were used in the 19th and 20th centuries.

### ***Lost to Evaporation***

Another non-linear way of looking at the availability of water for the downstream nations such as Egypt and Sudan is the ability to reduce evaporation of the water of the White Nile. A great part of the water originating in the Equatorial Lakes Region evaporates before reaching northern Sudan. While evaporation and transpiration (through vegetation) are a natural way to balance the water cycle in such tropical locations as the misnamed Lake Victoria and Lake Albert (Lake Mobutu Sese Seko) in Uganda, evaporation from swamps and wetlands can be considered a net loss of water and, actually, arable land.

The Kagera flows into Lake Victoria, from which Nile waters then flow on to Lake Kyoga, then Lake Albert, and northward across the Uganda-Sudan border. At the town of Bor in South Sudan, the land gradient changes, and the great swamp, the Sudd, begins. The extent of the Sudd varies greatly with the volume of water received. During the great rains of 1961-64 over the Equatorial Lake district, the Sudd reached 29,800 km<sup>2</sup>, which is close to the size of Belgium.

At other times, the Sudd has averaged 16,000 kilometers, still quite vast. Through the Sudd, the Nile flow makes its way through various currents. The swamp is characterized by floating or jammed up "islands," called *sudd* in Arabic, of marsh vegetation, broken off from their moorings, and in various

states of decomposition. There are vast chunks of *sudd*, some up to 30 km long. In the sluggish waters there are many varieties of malaria mosquitoes and waterborne parasites. The Sudd is almost impassable overland or by river craft. A huge volume of Nile flow is lost to evaporation in the Sudd. The mean annual loss from evaporation from 1905 to 1980 is estimated to be 16.9 billion m<sup>3</sup>, and can reach 20 billion m<sup>3</sup>, which is nearly a third of the annual volume of the Nile at Aswan.

Another example is the swamps in Uganda, a country with numerous lakes and wetlands, and with internal renewable water resources estimated at 39 billion m<sup>3</sup>/year. However, the total annual flow into the country (at Ripon Falls and from D.R. Congo) is about equal to the total annual outflow to Sudan, which means that a lot of water disappears within the country through evaporation from the lakes and wetland. Wetlands cover about 10% of Uganda's land surface.

Like many countries in Africa that had become formally independent from British colonial rule, Uganda, which became independent in 1962, launched several large-scale drainage programs, especially in the 1970s. However, a civil war that ended with the deposing of Idi Amin in 1979, and a rebellion by the National Resistance Movement that subsequently led to the demise of the Milton Obote regime in 1985, destroyed these plans.

In 1986, the government banned further large-scale drainage, and instituted the National Wetlands Conservation and Management Program, becoming subservient to the British-inspired and controlled Ramsar Convention on Wetlands of International Importance, which has been used for decades to hamper the development of water resources in Africa, under the guise of environmentalism and biodiversity. Direct British colonialism was replaced by "green genocide," and by International Monetary Fund and World Bank genocide. Only small-scale projects were allowed, and the country was encouraged to use its water and land resources for production of cash crops for export, such as coffee.

The Ramsar Convention specifies that each country must designate on its own territory, certain sites to be locked up in the "Ramsar List," now managed by a secretariat run out of the offices of the International Union for Conservation of Nature (IUCN) in Gland, Switzerland. In 1999, a "strategic framework" was designed "to develop and maintain an international network of wetlands which are



important for the conservation of global biological diversity and for sustaining human life through the ecological and hydrological functions they perform."

Critical parts of the Sudd in South Sudan are on the Ramsar list too. This vast, marshy area, created by the White Nile, could be transformed into farmland by completing construction of the Jonglei Canal (see below). But fully 5.7 million hectares of the swamp are listed as a "Ramsar Site" to be frozen for eternity.

Large parts of the Lake Chad Basin, a world priority for upgrading through the proposed Transaqua Project for moving water from the Congo River to refill the disappearing Lake Chad, are listed as untouchable for development by Prince Philip's World Wildlife Fund and the IUCN. The specific designation is that there are wetland habitats for bird life in the Lake Chad basin that must remain off-limits to human projects. One hundred and sixty nations have signed the Ramsar Convention, and there are 1,898 sites on the list. This represents a total surface area of over 186 million hectares (more than five times the area of Germany!).

Under the Ramsar Convention, the government of Uganda undertook a "National Policy for the Conservation and Management of Wetland Resources" in 1995. It states: "7.1—Drainage of Wetlands: Uganda has experienced massive drainage of wetlands for human development activities. The effects of this drainage are visible in many parts of the country."

Uganda's "strategy" to deal with this issue is not development, but the contrary: "i) There will be no drainage of wetlands unless more important environmental management requirements supersede." Its explanation reads: "Artificial large-scale removal or exclusion of water from a wetland by whatever means constitutes drainage. This may be by pumping, by excavation of water channels and perhaps combined with excessive growing of trees. Other drainage means may include building of dams upstream of a wetland. Such modifications should be avoided."

But now that the British Empire's trans-Atlantic System is going down in bankruptcy, the suffering of the people of Uganda, among others, under the merciless forces of nature, will force governments to reverse that policy, with the help of the emerging BRICS system.

### ***The Jonglei Canal***

One of the most important drainage projects in Africa is the Jonglei Canal Project, intended to drain a portion of the Sudd swamps. The idea goes back to the British colonial period in the early 1900s. But the first serious study was carried out in 1946 by the Egyptian government, before it became really independent of the British. But it was under the progressive, republican government of Gamal Abdel Nasser that concrete plans were developed in 1954-59. An agreement with the government of Sudan in 1976 paved the way for the construction work on the canal in 1978. But a British-orchestrated, U.S.-backed rebellion halted the work in 1984. The first major military target of the Sudan People's Liberation Army under John Garang was the giant German-built excavation machine, nicknamed "Sarah." When the work was halted, 240 out of the total 360 kilometers had been completed. The canal is intended to divert a portion of the water from entering the Sudd, and send it directly, from south to north, from Bor to Malakal to provide great ecological and economic benefits to both the immediate region and downriver lands.

Sarah, a bucketwheel machine, was first used in Pakistan, where it had successfully dug the 101-km Chasma-Jhelum link canal between the Indus and Jhelum rivers (completed 1970). It was dismantled, brought to Sudan, and reassembled there. It was the largest excavator in the world, weighing over 2,100 tons. Operating at full tilt in 1981, the bucketwheel was excavating 2 km a week, and digging at a rate of 2,500-3,500 m<sup>3</sup> per hour. The great machine required 40,000 liters of gasoline per working day. The canal is designed to divert about 25 million m<sup>3</sup> a day from the upper Nile waters just north of Bor, and channel it through a cut of 360 km, which would deliver at Malakal about 4.7 billion m<sup>3</sup> annually. This would mean adding to the downriver Nile volume about 3.8 billion m<sup>3</sup> yearly, as measured at Aswan (subtracting for losses in transmission). The draw-off of 25 million m<sup>3</sup> daily from the feed waters of the Sudd would reduce the swamp area by an estimated 36%, from an average total swamp area of 16,900 km<sup>2</sup> down to 10,800 km<sup>2</sup>. The canal is designed to vary in width from 28 to 50 meters, and to vary in depth from 4 to 7 meters, to accommodate boat traffic. Parallel to the canal there was intended to be an all-season roadway, and ancillary projects include slipways, bridges, ferries, civil works for crossings and regulation, and other infrastructure.

When the South-North Sudan peace process was launched in 2000, efforts, especially by Egypt, reemerged concerning the resumption of the project. While the Egypt and Sudan governments have agreed to re-start the Jonglei Canal project, the new South Sudanese government in Juba was more

concerned about the future "independence" and separation issue. It was aided and encouraged by the U.S. and Britain to move into a confrontationist position against the central government in Khartoum. Moreover, South Sudanese politicians and the public were led to believe that the Jonglei Canal is an "Egyptian imperialist" project which would not benefit the South Sudanese people.

When independence was granted in 2011, South Sudan was left all alone by the former allies to face massive economic and social crises that led to an internal conflict among rival tribes and militias in 2014. The oil production in the South, the only source of income which was developed in the years of peace from 2000-10 by the Sudanese government, was halted due to emerging border conflicts with the North. The only exit route for the oil to the world market is the existing pipelines to Khartoum and Port Sudan on the Red Sea.

The South Sudan government and political leadership are finding themselves trapped in their newly founded state, with a massive food crisis, civil war, and physical isolation. The only solution is to resume cooperation with the North, and open new avenues of communication and trade with its neighbors in the south and east. This is fortunately becoming a reality, thanks to China's cooperation with the East African nations on development of transport corridors for the landlocked Sudan, Ethiopia, Uganda, Rwanda, Burundi, and D.R. Congo, through Kenya.[\[3\]](#)

A decision by the South Sudanese government to cooperate with Egypt and Sudan to resume Jonglei Canal reconstruction would be the real signal that South Sudan is ready to join the coming economic and social renaissance of Africa.

### ***Hydropower, Water Management, Agricultural Development***

A number of very important dam projects are currently under construction or planned, which would completely transform the Nile Basin nations' relationship to the biosphere. Sudan has recently accomplished the Merowe Dam in the north of the country, which is a hydropower and agriculture development program of great significance.[\[4\]](#) A new dam, Kajbar Dam, is planned further north, near the border with Egypt at the Third Cataract. Two dams are under construction on the Atbara and Setit rivers, two smaller tributaries emerging from northern Ethiopia. Almost all these dam projects involve Chinese construction and financing.

However, the greatest of the dam projects in the Nile Basin, and in Africa now is the Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile. The name of Ethiopia in the past decades has been associated with famine, poverty, and conflict. That is about to change. Ethiopia, with a population of 86 million, an ancient historical identity, and enormous economic potential was not, until recently, able or allowed to realize its potential for developing its human, land, and water resources. The hydropower potential is a very clear example.

Ethiopia's long-term potential for exploitable hydropower is 45,000 megawatts (MW), but it has only exploited 2,000 MW! In 2009, less than 10% of Ethiopians had access to electricity. Since the initiation in 2004 of the construction of the Gilgil Gibe dam series 1-4 on the Omo River, increasing the capacity by 2,000 MW, the Ethiopian national power grid capacity is increasing by the double. The GERD, when completed in 2018, will add 6,000 MW to the grid. While the Gilgel Gibe dams were built by or financed by China, Ethiopia faced massive financial and propaganda attack from Western environmental and financial institutions. But showing the power of a national credit-based alternative, the GERD, while being built by Italian construction giant Salini Impregino, is being financed by nationally emitted bonds available only to Ethiopian citizens at home and abroad, in addition to special taxes. This is the same method being followed by Egypt's new government under President Abdul Fattah el-Sisi to finance the new national development projects such as the New Suez Canal and Toshka Project (see *EIR*, Sept. 5 and Sept. 12).

Construction of the GERD was launched in 2011 by then-Prime Minister Meles Zinawi. Salini Construttori was awarded the contract which is worth US\$4.3 billion. Chinese banks are to finance the hydropower plant and its components for a cost of US\$1.8 billion. Neighboring countries are being solicited to contribute to the financing of the dam, in return for delivery of electricity. Djibouti is so far the largest purchaser of the GERD bond, but Egypt and Sudan have not contributed, pending a political and technical decision to be reached through a tripartite special committee studying the impact of the dam on the latter two.

The dam will be a 170-meter-high, 1,800-meter-long gravity-type, composed of roller-compacted concrete, and will have two power houses, one on either side of the spillway. The left and right power houses will each contain 8 x 350 MW Francis turbine-generators. Supporting the dam and reservoir will be a 5-km-long and 50-meter-high saddle dam. The dam's reservoir will have a volume of 63

billion m<sup>3</sup> (about a whole year's discharge of the Nile at Aswan Dam in Egypt). This, as mentioned, is a major source of concern in Egypt, as filling the reservoir in the years following the completion of the dam could reduce the flow of the Nile by 10-15% annually.

### ***Benefits and Concerns***

As noted earlier, since the Blue Nile is a highly seasonal river, the dam would help reduce flooding downstream, including on the 40-km stretch within Ethiopia, and Sudan beyond that, which has suffered from flooding almost every year.

In earlier times, the flooding was considered beneficial for the limited agriculture, as it brought minerals to the soil and helped irrigate new areas. However, with the advent of modern agriculture and irrigation methods, the ancient ways of agriculture have to give way to modern ones. The GERD, although it is not located in a densely populated region, would serve as part of the basic infrastructure for modernized agro-industrial centers. With the dam also representing a bridge over the Blue Nile, and with roads, cement factories, and industrial workshops being set up for the construction work, this region will become one of the fastest-growing in Africa.

The idea of transferring electricity over long distances to serve other parts of the country, and exporting electricity to Sudan and Egypt, sounds like a necessity, and a source of income for the country now, seen with monetarist eyes. In the long run, however, and if Ethiopia develops properly as an agro-industrial nation, then almost all that power, and even more, will be needed to meet domestic needs. For Egypt and Sudan, development of nuclear power is the alternative for the future.

The precise impact of the dam on the downstream countries remains a matter of speculation, since no common understanding is being created. Egypt fears a temporary reduction of water availability due to the filling of the dam, and a permanent reduction because of evaporation from the reservoir. The reservoir volume is about equivalent to the annual flow of the Nile at the Sudanese-Egyptian border (65.5 billion m<sup>3</sup>). This loss to downstream countries would most likely be spread over several years.

Reportedly, during the filling of the reservoir, 11 to 115 billion m<sup>3</sup> of water per year could be lost. It is also feared that this would affect Egypt's electricity supply from the Aswan Dam. The GERD could also lead to a permanent lowering of the water level in Lake Nasser, if floodwaters are stored in

Ethiopia instead. On the positive side, this would reduce the current evaporation of more than 10 billion m<sup>3</sup> per year. But it would also reduce the ability of the Aswan High Dam to produce hydropower.

The reservoir, located in the temperate Ethiopian Highlands, and up to 200 meters deep, will experience considerably less evaporation than downstream reservoirs such as Lake Nasser in Egypt, which loses 12% of its flow due to evaporation as the water sits in the lake for 10 months. Through the controlled release of water from the reservoir to downstream, this could facilitate an increase of up to 5% in Egypt's water supply, and presumably that of Sudan as well.

The GERD will also retain silt, thus increasing the useful lifetime of dams in Sudan—such as the Roseires, Sennar, and Merowe dams—and of the Aswan High Dam in Egypt.

### ***Relations with Egypt***

While the Sudanese government has declared its support for the GERD dam since 2011, in Egypt, the picture has been different. During the short rule of the Muslim Brotherhood in 2013, a massive media campaign was carried out against the GERD dam, with allegations that it would dry up the Nile River, and threaten the existence of Egypt as a nation. The tension prevented the countries from continuing the negotiations and joint studies that were initiated through a joint panel of experts.

The Egyptian leadership under el-Sisi is developing a new approach. During a visit to Ethiopia on Sept. 4, Egypt's Foreign Minister, Sameh Shoukry, discussed with his counterpart Tedros Adhanom, the avenues for political and economic levels of cooperation between the two countries. One of the key issues is the resumption of the work of the GERD tripartite joint commission of experts from Egypt, Sudan, and Ethiopia. Shoukry stated that Egypt considered ties with Ethiopia as a key component of his government's foreign policy.

Egypt's Irrigation and Water Minister, Hossam el-Moghazi, headed a delegation to Khartoum in late September, to meet with his Ethiopian and Sudanese counterparts, and to resume the work of the tripartite committee.



El-Moghazi later visited the site of the GERD construction and reported to Egyptian media that he received new documents, maps, and technical studies that he will hand over to Egyptian experts to study, and make sure that the dam has no negative impact on Egypt. He also called on the Egyptian media to use precision and objectivity in reporting about the impact of the GERD on Egypt, in order to preserve friendly relations with Ethiopia. He further emphasized that the GERD will not affect the flow of water to Egypt, as its purpose is to generate power, and not transfer water to other regions, or use it for agriculture in Ethiopia.

President el-Sisi met with Ethiopian Prime Minister Hailemariam Desalegn in June in Equatorial Guinea during the African Union Summit, and again in New York in September on the sidelines of the UN General Assembly. El-Sisi is due to visit Ethiopia before the end of this year.

For these two giants of Africa to work together would be an important step in the right direction. Political differences and intrigues among the nations of the continent have delayed Africa's development for decades. It is through sound scientific studies and creative economic thinking that they can exit the colonial era and enter the era of sovereignty and development.

[1] The Nile Basin Initiative is a political agreement of 10 nations: Tanzania, Uganda, Rwanda, Burundi, D.R. Congo, Kenya, Ethiopia, South Sudan, Sudan, and Egypt. The physical Nile Basin, or catchment area, includes Eritrea and Zaire. However, they are not members of the NBI. The eight nations that could have impact on the Nile water if they develop their infrastructure are: Tanzania, Rwanda, Burundi, Uganda, South Sudan, Sudan, Ethiopia, and Egypt.

[2] See Hussein Askary, "[World Water Week: Two Opposing Worlds Meet: Development or Death](#)," *EIR*, Sept. 14, 2012.

[3] Transportation projects for Africa will be covered in the next part of this series.

[4] See "[On Site Report: LaRouche Delegation in Sudan](#)," *EIR*, April 24, 2009.

For Part I: [http://www.larouchepub.com/other/2014/4135egypt\\_canal.html](http://www.larouchepub.com/other/2014/4135egypt_canal.html)

For Part II: [http://www.larouchepub.com/other/2014/4136egypt\\_spur\\_afn\\_dvlpmnt.html](http://www.larouchepub.com/other/2014/4136egypt_spur_afn_dvlpmnt.html)

“The Nile Basin: Egypt's Role in Africa's Development”, Hussein Askary and Dean Andromidas, 10/10/2014, online at:  
[http://www.larouchepub.com/other/2014/4140egypt\\_role\\_afr.html](http://www.larouchepub.com/other/2014/4140egypt_role_afr.html)

**BACK TO TOP**

### ❖ **Dam Rising in Ethiopia Stirs Hope and Tension**

UBA, Ethiopia — There is a remote stretch of land in Ethiopia’s forested northwest where the dust never settles. All week, day and night, thousands of workers pulverize rocks and lay concrete along a major tributary of the Nile River. It is the site of the Grand Ethiopian Renaissance Dam, the continent’s biggest hydropower plant and one of the most ambitious infrastructure projects ever in Africa.

Ethiopia is a poor country, often known best for its past famines, but officials say the dam will be paid for without foreign assistance — a point of national pride. Computer-generated images of the finished structure are framed in government offices, splashed across city billboards and broadcast in repeated specials on the state-owned television channel.

“We lean on the generousness of the rest of the world,” said Zadig Abrha, deputy director of the dam’s public mobilization office. “So there is a conviction on the part of the public to change this, to regain our lost greatness, to divorce ourselves from the status quo of poverty. And the first thing that we need to do is make use of our natural resources, like water.”

Ethiopia, one of the world’s fastest-growing economies, has poured its resources into a slew of megaprojects in recent years, including dams, factories, roads and railways across the country.

But its strong, state-driven approach has been criticized for displacing rural communities, elbowing out private investors and muzzling political dissent. The Renaissance Dam, its biggest project, has met with resistance even outside Ethiopia’s borders, setting off a heated diplomatic battle with Egypt that, at one point, led to threats of war.

In Ethiopia, Africa’s second most populous nation, constant power shortages stifle economic growth. The hydropower plant is expected to bring the country’s electricity generation to more than triple its

current capacity. Aside from a \$1 billion loan from China for a transmission line, the government projects a \$4.02 billion cost for the dam, with more than \$1.3 billion already spent.

Near the border with Sudan, the dam is inching skyward as workers apply layer after layer of concrete that will eventually create a reservoir covering nearly 650 square miles. About 8,500 workers live at the project site, served by several cafeterias, a market, a barbershop and spotty Wi-Fi access. Giant floodlights keep construction going around the clock, and employees often work the whole week through.

From the very beginning, this relentless drive has put Ethiopia at odds with Egypt. The Renaissance Dam is on the Blue Nile, a tributary that contributes most of the water flowing into the Nile River, heightening concerns that it could threaten Egypt's most vital natural resource. Fears of armed conflict surfaced during the brief tenure of Egypt's former president, Mohamed Morsi, who said last year that "Egyptian blood" would substitute for every drop of lost water.

But under Egypt's current president, Abdel Fattah el-Sisi, the icy relationship between the two countries has begun to thaw. Ethiopia's prime minister, Hailemariam Desalegn, and Mr. Sisi had a cordial first meeting in June, and water ministers from Ethiopia, Egypt and Sudan met for renewed discussions in late August. Egypt's new foreign minister, Sameh Shoukry, set a diplomatic tone during a visit last month to the Ethiopian capital, Addis Ababa, declaring "a new phase of our relationship based on mutual understanding, mutual respect and a recognition that the Nile binds us."

Ethiopia's biggest obstacle to finishing the dam is not geopolitics — it is money. The project is overseen by Ethiopian Electric Power, a state-owned utility that is helping finance the project with its own revenue and loans from state-owned banks. Though the government may raise more money by selling bonds on global markets in the coming years, the current tactic of borrowing from state banks is draining available credit. That could squeeze private enterprise in a country that already has the

world's sixth-lowest rate of private investment as a percentage of G.D.P., said Lars C. Moller, the World Bank's lead economist in Ethiopia.

"For every dollar of credit and every dollar of foreign exchange the project gets, there's less for the rest of the economy, including the private sector," he said.

"But in the long term, the investment is likely to pay off well," Mr. Moller added, noting that Ethiopia's plan to sell excess energy to neighboring counties could bring in about \$1 billion in annual export revenue starting in 2021, four years after the dam is scheduled to be completed.

Ethiopia's state finance minister, Abraham Tekeste, said it was a price worth paying. "We know that we are sacrificing in the short term, but this is for a long-term objective," he said. "We don't see any contradiction."

More than \$357 million spent so far has come from Ethiopians, both domestically and abroad, who have been encouraged to donate money or purchase bonds, according to Mr. Zadig.

Workers on the government payroll, some of whom make as little as \$32.68 per month, have been pushed to buy bonds worth a full month's salary every year through a system that deducts straight from their paychecks.

Merera Gudina, an opposition party leader who teaches political science at the government-funded Addis Ababa University, said he and colleagues had complained when their wages were siphoned off for bond purchases, leading the university to stop the program after about one year.

"People were not against the dam, but there were a lot of logistical questions," he said. "We were not paying voluntarily."

The government also leads meetings to encourage private-sector workers to buy bonds. Wossene Hailu, whose Wossi Garment Design Factory sits on the outskirts of the capital, got involved when members of her garment association were invited to one of these gatherings. "We got a lot of

information — how it’s done, how we can benefit from it, things like that — and everyone was convinced,” she said.

Ethiopia is desperate to spur manufacturing, which it sees as critical to its long-term growth. But the industry has been just 4 percent of the nation’s G.D.P. for years. Ms. Wossene’s lean enterprise fills small international orders and produces clothes and blankets for local markets, but she said whole-day power failures sometimes caused delays.

The situation is even more dire in rural areas, where most households are not connected to the grid. This is a symptom of broader developmental challenges: Despite government claims that the economy has grown at an average rate of 10.9 percent annually over the last decade, Ethiopia remains poor, with about 30 percent of the population living on less than \$1.25 per day.

Continue reading the main storyContinue reading the main storyContinue reading the main story

Officials hope the dam will chip away at that imbalance, but its first impact on poor communities will be disruptive. The project manager, Semegnew Bekele, said the reservoir would displace an estimated 3,700 households.

Other development projects have also been criticized. A smaller dam nearing completion in southern Ethiopia could threaten ecosystems affecting hundreds of thousands of people. Huge land leases to foreign commercial farms have displaced communities and left tens of thousands of acres uncultivated.

Clearing land has only just begun, but Mr. Semegnew said those displaced would be fairly compensated.

On a regional level, experts say the dam’s overall environmental effect could be positive. Though rainfall may increase in East Africa as a result of global warming, it could also become less predictable, said Matthew McCartney, a principal researcher at the International Water Management



Institute. The Renaissance Dam could mitigate this problem by regulating the flow of the Blue Nile and potentially increasing it during dry periods, he said.

Building the vast reservoir needed to generate maximum power, on the other hand, poses some risks to Egypt and Sudan, as it will temporarily lessen the flow downstream.

“Because it is such a large volume of storage, to mitigate downstream impacts, the dam will have to be filled over a period of several years,” Dr. McCartney said. “The rate of filling will need to vary depending on inflows, which will in turn depend on the rainfall.”

Two vital studies on downstream effects will be carried out over the next six months, and Egypt will be keeping a critical eye on the results. But for many Ethiopians, the dam is a testament to the abilities of a country determined to go it alone.

“It’s hope, it’s hope,” Ms. Wossene said. “When I see the dam on TV, I say: ‘Ah, very soon. We’re getting there!’ That’s the feeling I get.”

“Dam Rising in Ethiopia Stirs Hope and Tension”, 11/10/2014, online at:  
[http://www.nytimes.com/2014/10/12/world/dam-rising-in-ethiopia-stirs-hope-and-tension.html?\\_r=0](http://www.nytimes.com/2014/10/12/world/dam-rising-in-ethiopia-stirs-hope-and-tension.html?_r=0)

**BACK TO TOP**

### ❖ Are Middle Eastern Plants Climate Change Deniers?

It seems that humans aren't the only ones capable of ignoring climate change. Middle Eastern plants, too, are denying its existence, as new research shows the region's vegetation is defiant and able to withstand more than seven years without water.

Already, the Middle East is an arid region, with a relatively small amount of water available for every person living there, let alone the plants. And future estimates indicate that they can't expect even less rain in the coming years.

This not only could jeopardize ecosystems, but threaten the survival of important local species as well.

But lucky for Middle East vegetation, they are resilient.

Described in the journal *Nature Communications*, an area in Israel rich in plant species was subjected to artificially low rainfall - as predicted for the future - for a period of over nine years. The researchers also examined the effects of higher-than-average rainfall. Four specific arid ecosystems were chosen, ranging from extreme desert - with 90 millimeters (mm) of precipitation in a year - to much damper Mediterranean conditions of 800 mm of rain annually.

Surprisingly, the studied ecosystems barely noticed the change in rainfall. Despite the fact that they were subjected to over nine years of either extreme dryness or massive amounts of rain, there was little effect on the diversity or composition of species, their concentration, or biomass.

"This means we need to revisit the popular theory that arid regions are particularly sensitive to climate change," lead researcher Katja Tielbörger said in a [statement](#).

The reason for the region's resistance to such extreme conditions, representative of the effects of climate change, is because they lied in the vegetation's "comfort zone." These ecosystems naturally

experience various levels of precipitation, so they were amazingly comfortable with even 30 percent less annual rainfall.

"Our results are not meant to trivialize the effects of climate change," Tielbörger stresses. "But they are important in helping us invest in adaptation to climate change in the right place."

“Are Middle Eastern Plants Climate Change Deniers?”, 10/10/2014, online at: <http://www.natureworldnews.com/articles/9532/20141010/are-middle-eastern-plants-climate-change-deniers.htm>

**BACK TO TOP**

## ❖ Central Asian States Are World's Leading Water Wasters

Turkmenistan, home of the Karakum Desert, is one of the most arid places on earth; it is also the globe's biggest water waster. But before other Central Asian states start tsk-tsking, a recently published report describes the entire region as a world "leader" in the inefficient use of water resources.

The report, published by the journal [Nature](#), shows that Central Asian states consume more water per capita and per every dollar of GDP produced than residents of any other region on the planet. The story also highlights the human element in slowly unfolding ecological disasters across Central Asia. Among the environmental problems bedeviling the region are the disappearance of the Aral Sea, the rising pace of desertification in Turkmenistan and the increasing salinity of agricultural lands in Uzbekistan.

Turkmenistan consumes about 5,500 cubic meters of water per capita, which is by far the highest rate in the world. To put the number in perspective, the average Turkmen consumes four times more water than a typical US citizen and 13 times more than residents of China.

Uzbekistan and Kyrgyzstan come in 4th and 5th in the ranking of the world's worst water wasters, each consuming close to 2,000 cubic meters of water per capita. Tajikistan and Kazakhstan are not far behind, ranking 7th and 11th respectively.

Central Asian states are also the worst in the world in terms of water consumption per one dollar of GDP produced. Tajikistan takes first place in this ranking with 3.5 cubic meters of water used per every dollar of GDP. Kyrgyzstan, Uzbekistan and Turkmenistan rank 2nd, 4th and 6th accordingly. To put things in context, Turkmenistan uses 43 times more water to produce one dollar of GDP than, say, Spain.

As a result of such inefficient use of water resources, most of the Amudarya and Syrdarya rivers' water is extracted for the regional states' economies. In the meantime, the Uzbek portion of the Aral

Sea continues to dry up at fast pace.

The report suggests there is enough water in the region to cover its needs and save the sea. The notion that Central Asia is lacking in water is a fallacy, the Nature report shows. The annual availabilities of water per capita for the Amudarya basin is 2,087 cubic meters and for the Syrdarya basin is 1,744 cubic meters, well above the United Nations definitions of water shortages. By comparison, Germany manages with 1,878 cubic meters of water per capita.

If Central Asian states do not implement reforms that promote sustainable development, they will face tremendous threats, including environmental, economic and social degradation, as well as wars for dwindling resources, the Nature report cautions.

"Central Asia's water crisis echoes that in the Middle East and North Africa, where political, economic and environmental issues are also intertwined," the report states. "Central Asian countries must find joint interests and competitive advantages to build a new regional economy, with wise water use at its heart. These countries could have a much more conscious role in world politics and in the global economy by looking at their complementary strengths and merging their markets."

"Central Asian States Are World's Leading Water Wasters", 07/10/2014, online at:

<http://www.eurasianet.org/node/70336>

**BACK TO TOP**

❖ **Kenya Plans 10% Water Levy to Raise Network Funds, Daily Says**

**Kenya** plans to introduce a 10 percent water tariff to raise funds to help develop the East African nation's sewerage network, the Business Daily reported.

The charge will be levied on consumers' monthly water bills, the Nairobi-based newspaper reported, citing Robert Gakubia, chief executive officer of the Water Services Regulatory Board.

The cost of water dropped 0.5 percent in September as the annual inflation rate slowed to 6.6 percent in the month, Kenya's National Bureau of Statistics said Sept. 29.

About 18 percent of Kenya's urban population and 45 percent of rural residents lack **access** to improved water sources, according to World Bank 2012 data.

"Kenya Plans 10% Water Levy to Raise Network Funds, Daily Says", 09/10/2014, online at: [http://www.bloomberg.com/news/2014-10-09/kenya-plans-10-water-levy-to-raise-network-funds-daily-says.html?utm\\_source=Circle+of+Blue+Water+News+%26+Alerts&utm\\_campaign=64a4716bf1-RSS+EMAIL+CAMPAGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-64a4716bf1-250657169](http://www.bloomberg.com/news/2014-10-09/kenya-plans-10-water-levy-to-raise-network-funds-daily-says.html?utm_source=Circle+of+Blue+Water+News+%26+Alerts&utm_campaign=64a4716bf1-RSS+EMAIL+CAMPAGN&utm_medium=email&utm_term=0_c1265b6ed7-64a4716bf1-250657169)

**BACK TO TOP**



### ❖ Farmers Fight Coca-Cola as India's Groundwater Dries Up

Savitri Rai winces as she recounts how police beat her when she protested against groundwater extraction at a [Coca-Cola Co. \(KO\)](#) plant near her farm in India. A decade later, she said her water supplies keep dwindling.

“We have to dig ever deeper wells,” the 60-year-old said outside her mud house in Mehadiganj village in Uttar Pradesh state, blaming the beverage company’s bottling line a kilometer (0.6 miles) away. Coca-Cola, which declined to comment on Rai’s allegations, in August scrapped a \$24 million expansion at the site, citing delays in permits to extract more water.

Such flashpoints add pressure on Prime Minister [Narendra Modi](#) to improve groundwater management in the world’s biggest user of the resource as he seeks to transform India into a manufacturing hub. Growing aquifer overexploitation by farms, businesses and cities imperils India’s development goals, according to the [World Bank](#), signaling challenges for industries from mining to brewing in need of reliable water sources.

“You have unregulated use of a resource which is not easily renewed,” said [Upmanu Lall](#), a professor of earth and environmental engineering at [Columbia University](#) in [New York](#). “It’s a really significant concern over the whole country.”

India draws 230 cubic kilometers of groundwater a year, more than a quarter of the global total, [World Bank](#) data shows. Agriculture uses the most, growing about 70 percent of India’s [grains](#) with it, followed by industry.

### Arm’s Length

The \$1.9 trillion economy operates the world’s biggest food subsidy program, and about [742 million](#) people live in rural areas, making farming an economic lifeline.

While groundwater is the main drinking water for more than 1.5 billion people worldwide, pollutants such as arsenic make it unfit for humans in a third of India’s 600 districts, WWF India and [Accenture Plc said](#) last year. The country faces some of the world’s worst water challenges, they said.

In Mehadiganj, about 20 kilometers from the holy city of Varanasi, 28-year-old farmer Sabita Rai said she used to extract water with buckets attached to ropes only as long as her arm. Then the wells dried up.

“We’re too poor to drill deeper,” she said, adding that her searches for water now extend further from her home.

Her sister-in-law, 45-year-old Rajpatti Rai, said she’s traveled to cities including [Mumbai](#) and New Delhi and smashed cola bottles on roads to protest against the depletion of groundwater in the village.

### **Permit Delay**

Kamlesh Sharma, a spokesman for Hindustan Coca-Cola Beverages Pvt., Coca-Cola’s Indian business, said the company had no further comments about the plant at Mehadiganj beyond an Aug. 22 letter to the Uttar Pradesh state government.

In the letter, the company said an “inordinate” delay in getting clearances from the Central Ground Water Authority for greater extraction set back the 1.45 billion-rupee (\$24 million) expansion, causing financial losses.

The area is classified as “critical” for groundwater, according to the letter, and the company took required steps such as rainwater harvesting to recharge twice the amount of water to be abstracted.

Coca-Cola said it plans to find a new Uttar Pradesh site for the planned 600 bottle-a-minute plant while continuing to run its 15-year-old returnable glass bottle line at Mehadiganj.

Water quality and availability in India are “already interrupting operations for some companies,” said Joe Phelan, a director at the [World Business Council for Sustainable Development](#) in New Delhi. “The key is for more companies to engage with communities and fellow water users in reducing shared water risk.”

### **‘Go Dry’**

A 2009 [study](#) by the [University of California, Irvine](#), and the National Aeronautics and Space Administration showed groundwater depletion in northwestern India from 2002 to 2008 was equivalent to a net loss [triple](#) the capacity of Lake Mead, the largest manmade reservoir in the U.S.

Depletion in northwestern India, covering Rajasthan, Haryana and Punjab, has continued at about the same rate, said Matthew Rodell, chief of the Hydrological Sciences Laboratory at the NASA Goddard Space Flight Center in [Maryland](#).

“As groundwater levels decline, people’s wells will continue to go dry and they’ll have to dig deeper,” he said. “Eventually they’ll reach the bottom of the aquifer or water quality will decline to the point where it becomes unusable.”

## **Modi’s Steps**

Modi’s steps to address water shortages include initial implementation of a plan to connect 30 rivers, a project estimated a decade ago to cost \$92 billion.

[India](#)’s Central Ground Water Board said in July it plans to build rainwater harvesting and groundwater recharge [structures](#) around the country.

The central government is trying to convince states, which administer the resource, to pass a law to curb overuse. Thirteen of India’s 36 states and union territories have enacted the legislation, the federal administration [said](#) in August.

Companies such as SABMiller India Ltd. and United Breweries Ltd., both based in Bengaluru, said they are taking steps to conserve water. SABMiller is working with farmers near its units in Rajasthan, Haryana and Andhra Pradesh to raise groundwater levels, vice president Meenakshi Sharma said.

SABMiller said it uses 3 liters (0.8 gallon) of water per liter of beverage, and United Breweries said it uses about 3.5 liters. PepsiCo India Holdings Pvt. said audited reports show it uses 2.08 liters. While Atlanta-based Coca-Cola didn’t provide its usage for this article, it’s reported a 1.9 percent annual improvement in water efficiency and has trimmed water usage 8 percent since 2010.

## **Soil Moisture**

The risk is conservation steps fail to address the scale of the task. The river-linking initiative, for example, ignores the reality that groundwater dependence will last many years, the South Asian Network on Dams, Rivers and People has said.

Columbia’s Lall said technology can be part of the solution, such as soil-moisture sensors costing as little 450 rupees that help farmers prevent excessive crop watering. Once groundwater is depleted, dealing with drought becomes very difficult, he said.

Government data shows a groundwater **drop** in 56 percent of wells in 2013 compared with the average for the decade through 2012 based on levels before the July-to-September monsoon.

At the same time, tension over water is evident. Jayaji Suryavanshi, leader of Jayakwadi Pani Sangharsh Kruti Samiti, a farmers' organization, said he led protests against breweries in Aurangabad in Maharashtra state last year. He plans to contest local elections to help farmers.

In Mehadiganj, 35-year-old Urmila Vishwakarma said she takes water from 240 feet down versus 65 feet in prior years.

“Our biggest battle is for water,” she said. “Our situation has become critical.”

“Farmers Fight Coca-Cola as India's Groundwater Dries Up” 09/10/2014, online at: [http://www.bloomberg.com/news/2014-10-08/farmers-fight-coca-cola-as-india-s-groundwater-dries-up.html?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=64a4716bf1-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1268b6ed7-64a4716bf1-250657169](http://www.bloomberg.com/news/2014-10-08/farmers-fight-coca-cola-as-india-s-groundwater-dries-up.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=64a4716bf1-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1268b6ed7-64a4716bf1-250657169)

**BACK TO TOP**

### ❖ Big Water Users Should Pay Higher Price: Nestle Chairman

People who use more water should pay more for it, according to Peter Brabeck-Letmathe, chairman of [Nestle SA \(NESN\)](#), the maker of Perrier [bottled water](#).

“The more you use, the higher the price,” Brabeck-Letmathe said today at a Nestle roundtable about corporate sustainability in Lausanne, [Switzerland](#). “You have to change the scale. For rare resources, the economy of scale is the biggest mistake you can have. The less you use, the less you should be paying. This would be a very simple thing.”

While access to water is a human right, it shouldn’t be a free good and needs to be sold at the right price to avoid misuse, Brabeck-Letmathe has said. He has pointed to the example of Oman, where a 4,500-year-old system of [underground water channels](#) provides some water for free to everyone and allows farmers to trade rights over the remainder.

Global grain production might fall 30 percent below the world’s needs by 2030 if the world doesn’t reduce the amount of fresh water it uses, Brabeck-Letmathe wrote on his [blog last month](#). Nestle had revenue from water of about 6.8 billion Swiss francs (\$7.1 billion) last year.

Nestle, the world’s biggest food company, has two years to cut its water consumption by 9 percent to meet its target of a 40 percent reduction in 2005 to 2015, after the company’s water intensity per ton rose 1 percent in 2013, Bloomberg Intelligence analysts Gregory Elders and Deborah Aitken wrote in April.

“Big Water Users Should Pay Higher Price: Nestle Chairman”, 09/10/2014, online at: [http://www.bloomberg.com/news/2014-10-09big-water-users-should-pay-higher-price-nestle-chairman.html?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=cb6217981-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-cb6217981-250657169](http://www.bloomberg.com/news/2014-10-09big-water-users-should-pay-higher-price-nestle-chairman.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=cb6217981-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-cb6217981-250657169)

BACK TO TOP

❖ **Mexico's construction firm ICA signs contract to build aqueduct**

Oct 6 (Reuters) - Mexico's largest [construction](#) firm ICA said on Monday that a company subsidiary has signed a contract to take a 37.75 percent stake in a new 17.7 billion peso (\$1.32 billion) water aqueduct that will serve the northern city of Monterrey.

ICA's Controladora de Operaciones de Infraestructura unit, or CONOISA, will provide [construction](#), equipment, operation and maintenance services on the 231-mile (372-km) project which will boost Monterrey's water supply by more than 40 percent, ICA said in a filing with the Mexican stock exchange.

The project will cross four Mexican states and includes six pumping stations, seven storage tanks, a buffer reservoir as well as pretreatment and telemetry systems.

CONOISA's partner on the project is Monterrey's public water utility, Servicios de Agua y Drenaje de Monterrey.

(1 US dollar = 13.3927 Mexican peso) (Reporting by David Alire Garcia; Editing by [Alden Bentley](#))

“Mexico's construction firm ICA signs contract to build aqueduct”, 06/10/2014, online at:

[http://www.reuters.com/article/2014/10/06/mexico-ica-idUSL2N0S10SM20141006?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=106d2c554c-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-106d2c554c-250657169](http://www.reuters.com/article/2014/10/06/mexico-ica-idUSL2N0S10SM20141006?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=106d2c554c-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-106d2c554c-250657169)

BACK TO TOP