



# 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**

*23 February 2015 – 01 March 2015*

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## ❖ Cholera feared in Syria due to dirty water, WHO warns

(Reuters) - A cholera outbreak is feared in coming months in Syria, where other water-borne diseases such as hepatitis A and typhoid are on the rise due to poor sanitation, the World Health Organization (WHO) warned on Tuesday.

Safe drinking water is available at about one-third of the level it was before the conflict erupted nearly five years ago, and supplies are cut-off to punish civilians at times, it said.

Some 31,460 cases of hepatitis A were reported in Syria last year and more than 1,000 cases have been recorded per week since January, said Dr. Elizabeth Hoff, WHO representative in Syria.

"This normally we see when the weather is warmer and so on. But it just tells you people no longer have the same access to safe drinking water as before," Hoff told a news briefing.

"Going into the warmer season, what we are particularly concerned about ... is cholera, this is our main fear, but so far we haven't seen it.

"But quite clearly the situation is going much more critical," she added. "Water has been used for political dividends and has been turned off to certain areas and that leads people to drink water from unsafe areas,"

Cholera, an intestinal infection often linked to contaminated drinking water, causes severe diarrhoea and vomiting, leaving small children especially vulnerable to death from dehydration, according to the U.N. health agency.

Infectious diseases thrive in overcrowded conditions and poor hygiene. The WHO appealed for \$116 million to provide medicines and health care services to 12.2 million people across Syria this year.

Some 25,000 people are wounded each month, requiring surgical supplies, safe blood transfusion and anaesthetics, it said. On Sunday, WHO delivered critical medicines and supplies to the eastern part of Aleppo.

More than 2.7 million people live in areas controlled by the Islamic State, whose forces have sought some medicines from the WHO through non-governmental organisations, although the Syrian Arab Red Crescent delivers more aid, Hoff said.

A further 4.8 million reside in hard-to-reach areas which are inaccessible due to fighting, she said.

"We are moving towards a worse situation and some of the areas going back to being besieged. Here I would like to mention for example Deir al-Zor city, this is now government-controlled but being besieged, with a population of 150,000," Hoff said.

Moadimiya, a Damascus suburb with 35,000 people, and Mharda, a government-held town of 10,000 in Hama province, are now considered besieged, she said.

"Cholera feared in Syria due to dirty water, WHO warns ", 24/02/2015, online at:

[http://in.reuters.com/article/2015/02/24/syria-crisis-health-idINKBN0LS23G20150224?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=0a34f83627-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-0a34f83627-250657169](http://in.reuters.com/article/2015/02/24/syria-crisis-health-idINKBN0LS23G20150224?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=0a34f83627-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-0a34f83627-250657169)

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### ❖ Iran urges Armenia to stop polluting Aras River

Iran expressed deep concerns over the pollution of the Aras River by Armenia, warning it needed to stop.

Masoumeh Ebtekar, Head of Department of Environment told Sorkhab newspaper that Iran voiced its concerns over Armenia's industrial pollution of the Aras River, one of the largest rivers in the Caucasus.

Iran, which has experienced heavy droughts in recent years, attaches great importance to the Aras River and wishes to ensure that pollution does not further disrupt the ecosystem.

Rising pollution levels in the border river have been blamed mainly on the discharge of untreated sewage into the river water by an Armenia-based copper factory.

Armenian Zangezur Copper Molybdenum Combine, which produces some 40,000 tons of copper each year, has been identified as the main culprit. Armenia claimed it established a wastewater recycling plant beside the Zangezur copper factory earlier to prevent the river's pollution in February 2014, but the industrial pollution of the river has continued.

Earlier, Hamid Chitchian, Iran's energy minister said Iran and Armenia will cooperate to prevent further pollution of the Aras River. He noted that Armenia will establish a waste water recycling plant beside its copper producing factory which is located near the Aras River to address the issue.

The Aras River runs through Turkey, Armenia, Azerbaijan, and Iran. Its total length stretches across 1,072 kilometers. It joins with the Kura River at Azerbaijan's Sabirabad region and then directly flows into the Caspian Sea.

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More than 350 million cubic meters of chemically and biologically polluted water annually are injected into the river (without neutralization) from Armenian territory.

Heavy metals, phenols, oil products, radioactive and other harmful substances were observed in water samples, Azerbaijani Environment and Natural Resources Ministry reports periodically.

“Iran urges Armenia to stop polluting Aras River”, 27/02/2015, online at: <http://www.azernews.az/region/78386.html>

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## ❖ Heavy rain floods Syrian refugee tents in south Lebanon

ZAHRANI, Lebanon: A deluge of rainwater flooded the streets of [Zahrani](#) Wednesday, forcing Syrian refugees to abandon their swamped tents in the southern village.

Sleiman Ammar, a refugee child, told [The Daily Star](#) that he “I heard her [his cat] meowing so rushed to save her,” while clutching his cat to his chest.

The rainwater flooded the streets at the intersection between Zahrani and Nabatieh, stalling traffic as the sewage system struggled to cope with the extraordinary amounts of water.

Mohammad Ammar, father of Sleiman, who hails originally from [Hama](#) in Syria, described how the water poured into their tent.

“The water entered and soaked the all the mattresses, bed sheets and couches,” he said, as his children used small pots to clear floodwater from inside their temporary home.

Rain fell heavily all morning in many areas of south Lebanon, flooding fields and increasing the height of the Zahrani River.

“Heavy rain floods Syrian refugee tents in south Lebanon”, Daily Star, 25/02/2015, online at: <http://www.dailystar.com.lb/News/Lebanon-News/2015/Feb-25/288752-heavy-rain-floods-syrian-refugee-tents-in-south-lebanon.ashx>

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## ❖ Gaza floods: dispelling the myth about Israeli dams

[Israel-Palestine](#) Once again this winter, following days of very heavy rainfall across the region, the banks of a riverbed running through central Gaza were breached, flooding dozens of Palestinian homes.

For the residents, there was no doubt: Israel was responsible after deliberately opening "a dam" to flood the enclave.

But an examination of the facts on the Israeli side tells another story, shattering a long-held Palestinian myth.

People living in Wadi Gaza say flooding happens every year after heavy rain, creating yet another challenge for those struggling to survive in the tiny coastal territory.

Residents of the Gaza Strip have lived through three wars in the past six years and are unable to leave due to an Israeli blockade.

That Israel, the invisible enemy on the other side of the fence, would flood Gaza in a bid to make life even worse is therefore accepted as fact -- as is the alleged existence of one or more dams upstream controlled by the Jewish state.

Following the latest flood at the weekend, the local authorities in Gaza on Sunday published an "urgent" statement which reiterated the claim that Israel was to blame.

AFP reported these allegations on Sunday February 22, in the form of a video and photos showing the flooding in the village of Al-Mughraqa in central Gaza.

The script of the video and the photo captions said Israel had opened the sluice gates of a dam. And the video included interviews with residents openly accusing the Jewish state.

But no such dam exists in Israel that could control the flow of water into Gaza, according to a team of AFP reporters on the ground as well as interviews with Israeli and international experts.

## 'NO ISRAELI DAMS'

The AFP images, in particular the video, unleashed a scathing response on social networks.

The Israeli authorities denied the information and said they had allowed four high-power water pumps into Gaza ahead of the storm in order to cope with any potential flooding.

The criticism was even more acute because Israel itself had suffered from flooding in the south.

Al-Mughraqa is located on the edge of Wadi Gaza, a river which is dry most of the year and that has its source in the southern West Bank. The watercourse then runs through the Negev desert and Gaza before reaching the Mediterranean.

In Israel, the section which links up with Gaza is known as Nahal Besor.

"In Nahal Besor, there are no dams that can be opened or closed, meaning that there is nothing that can cause or prevent a flood," said Nehemia Shahaf, head of the Drainage and Rivers Authority in the Negev area.

Julie Trottier, a Belgian hydrology expert, also said there were no dams over the border.

"To my knowledge there is no dam on the Israeli side and terrain is not suited to the construction of a dam," she told AFP.

Trottier believes that due to the heavy rains, "the waters gathered naturally and it flooded."

She said there were "a lot of myths about the question of water in the Palestinian territories and Israel."

Israeli experts say that the volume of water which flooded the river last week was unusually large due to the heavy rainfall, with an estimated five million cubic metres passing through Nahal Besor. The last time it happened was in 2010.

## UNUSUALLY HEAVY RAINFALL

"It was a lot for one storm," explained Boaz Kretschmer, head of strategy at Eshkol Regional Council, the local authority in an area of Israel flanking central and southern Gaza.

"We had 30-40mm of rain across the whole region, in the Negev, in Hebron, across the whole drainage basin and of course, the water ended up in Gaza."

Standing in a section of Nahal Besor about 30 kilometres (19 miles) from Wadi Gaza, much of the vegetation has been flattened and only a small flow of water remains.

What does exist here is a low stone structure, barely a metre high, next to a shallow concrete channel, which is sometimes referred to as a "diversion dam" -- whose purpose is to slow the flow of water so some of it can be diverted into a nearby reservoir for irrigation purposes, Kretschmer explained.

It has no gates, nor openings, and when the flood waters hit, they simply glide over it as if it did not exist.

"If it does anything, it actually reduces the quantity of water flowing towards Gaza, and not the opposite," Shahaf said.

"We don't try and stop the flow of water. That would be impossible -- it has incredible power," explained Kretschmer.

"There have been many dreams and plans in the past about how to stop the water because it comes in such a quantity that it could save the Negev. But all attempts to channel the floodwaters have failed. It's just not possible."

## INFRASTRUCTURE PROBLEMS

Experts believe that the flooding in the impoverished Gaza Strip, which is home to 1.8 million people and has been languishing under an Israel blockade since 2006, was likely exacerbated by chronic infrastructure problems and a flurry of illegal construction close to the riverbed.

But Munther Shoblak, a senior official in Gaza's water utility, said the Israelis "are not free from responsibility".

"They know people live on the other side of the border and they could have informed us that the water was coming.

"As usual, they didn't."

But he also acknowledged "some Palestinian responsibility" for the flooding.

"Wadi Gaza is liable to flood in an area which is about 70-100 metres wide but in some of these places, there has been illegal construction and cultivation, which has reduced this area to 15 or 20 metres," he told AFP.

Israel has learned about flooding the hard way, Kretschmer said.

"We have learned that you cannot live or build on the river banks because once every 10 years, it all gets washed away."

"Gaza floods: dispelling the myth about Israeli dams", 28/02/2015, online at: [http://www.yourmiddleeast.com/news/gaza-floods-dispelling-the-myth-about-israeli-dams\\_30221](http://www.yourmiddleeast.com/news/gaza-floods-dispelling-the-myth-about-israeli-dams_30221)

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## ❖ AFP Lies, Claims Israel 'Flooded Gaza' with Nonexistent Dam

AFP video report alleges that Gaza has been deliberately flooded by Israel - despite the fact Israel has no dams in the south.

Agence France Presse (AFP) has been caught publishing a blatant lie against Israel after similar cases in the past, posting a video this week claiming "Gaza village floods after Israel opens dam gates," in a claim of deliberate flooding disproved by the fact that Israel has no dams in the south.

In the video a resident of Gaza, Ead Zino from Al-Maghraqa, claims "every four years there is a war but here in Maghraqa every year there is a flood. This water comes from Israel. This is political. All Israel wants is to destroy us."

No Israeli source was brought into the report to refute the blatant lie.

CAMERA spoke with a spokesperson for the Coordinator of Government Activities in the Territories (COGAT), who clarified "the claim is entirely false, and southern Israel does not have any dams. Due to the recent rain, streams were flooded throughout the region with no connection to actions taken by the State of Israel."

The spokesperson added that before the heavy storm that struck last Thursday, COGAT "allowed the transfer of four water pumps belonging to the Palestinian Water Authority from Israel into Gaza to supplement the 13 pumps already in the Gaza Strip in dealing with any potential flooding throughout the area."

Likewise Nechemia Shahaf, head of the Drainage Authority in the Shakma-Besor Region outside Gaza in the Negev, clarified to CAMERA that while there is a small diverting dam in the south, it cannot be opened or closed and is the only dam of any sort in the region.

"There is a diverting dam one meter high which directs water to reservoirs. This is a low dam which cannot be opened or closed," said Shahaf, adding that the dam is located next to Kibbutz Gvulot around 20 kilometers (over 12 miles) away from Gaza.

CAMERA points out this is far from the first time *AFP* has run a false story slandering Israel.

Three years ago it refused to clarify an unsubstantiated allegation that an IDF soldier had run over a Palestinian Arab worker with a construction vehicle, notes the group, and later the same year didn't correct the false claim that an IAF airstrike killed 11-year-old Mahmoud Sadallah even after numerous other outlets clarified that it was Hamas's weapons that killed him.

Two months ago *AFP* did not clarify an article claiming Israelis were behind a fire in a mosque in Samaria, even after investigations clarified it was an [electrical fire](#) and numerous other outlets clarified the false report.

"AFP Lies, Claims Israel 'Flooded Gaza' with Nonexistent Dam", 23/02/2015, online at:  
<http://www.israelnationalnews.com/News/News.aspx/191719#.VPX6q455at8>

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## ❖ Jordan, Israel sign deal to help save Dead Sea

Jordan and Israel signed a deal on Thursday to build a pipeline linking the Red Sea with the shrinking Dead Sea and combat regional water shortages.

Jordan's official Petra news agency said that the agreement signed in Amman, would set in motion the implementation of the first phase of a long-awaited project.

It follows a letter of intent signed in Washington in December 2013 by representatives from Israel, Jordan and the Palestinian Authority that capped more than a decade of negotiations.

Jordanian Water Minister Hazem Nasser said that 300 million cubic metres of water would be pumped annually from the Red Sea during the first phase of the project.

If all four pipelines are built, they could eventually pump two billion cubic metres of water away from the Red Sea.

The Dead Sea, the lowest and saltiest body of water in the world, is on course to dry out by 2050 and could become no more than a small lake.

It is a major tourist attraction, with people coming to bathe in its buoyant, mineral-heavy water and roll around in surrounding mud, believed to have therapeutic qualities

The degradation of the Dead Sea, however, started in the 1960s when Israel, Jordan and Syria began to divert water from the Jordan River, the Dead Sea's main supplier for agricultural and private consumption. In recent decades the Dead Sea is estimated to have been losing about a meter of water a year, with inflows from the Jordan River down a [staggering 95 percent in less than 50 years](#).

The local environment has suffered, with sink holes – caused by the depletion of underground salt pockets – now lining much of the shore. There are now some 3,000 of these potential sink holes, with [reports of visitors](#) plunging several feet popping up over the years and [discouraging touristic investment](#) and development.

As part of the project, some of the water pumped from the Red Sea would enter the Dead Sea while the rest would be desalinated and shared with Israel and the Palestinian Authority.

The Palestinians are expected to obtain 30 million cubic metres of potable water annually thanks to the project.

Nasser said Jordan will start drawing up documents in the next few weeks calling for international tenders.

He said the deal, signed for Israel by Energy and Water Resources Minister Silvan Shalom, safeguards Jordan's national interests.

Shalom, who is also minister of regional cooperation, hailed the agreement as a landmark deal between Israel and Jordan, which signed a peace treaty in 1994.

Tensions between Amman and Israel flared up last year due to settler incursions into the al-Aqsa compound in Jerusalem, of which Jordan is the official guardian. While Amman pulled its ambassador in the wake of the violence that flared up in East Jerusalem, it announced earlier this month that he would be returning to his duties.

He said the deal will help rehabilitate the Dead Sea and provide solutions to Jordan's chronic water problems, a statement said.

Two years ago, Jordan's water ministry said that the tiny kingdom, where 92 percent of the land is desert, would need 1.6 billion cubic metres of water a year to meet its requirements by 2015.

Water is an essential and rare resource for Jordan which has a population of around seven million and growing, as the country takes in refugees from the Syria war. The country is considered one of the most water poor on the planet.

However, several environmental groups have warned that the project could undermine the fragile ecosystem of the Dead Sea, which they fear could be contaminated by water from the Red Sea.

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Environmentalists have long been lobbying to try and have the sea classified as a UNESCO protected heritage site which would prompt authorities on both sides – the sea straddles both Jordan and Israel – to do more to protect the area.

“Jordan, Israel sign deal to help save Dead Sea”, 27/02/2015, online at: <http://www.middleeasteye.net/news/jordan-israel-sign-deal-help-save-dead-sea-1488766450>

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## ❖ Israel and Jordan Sign ‘Historic’ \$900 Million Deal to Save the Dead Sea

Israel and Jordan have agreed on a “historic” \$900 million water sharing project which will replenish the Dead Sea with water from the Red Sea and also supply both Israel and Palestine with water.

The ‘Red-Dead’ project will include a desalination plant in the port of Aqaba on the Red Sea in south Jordan. The plant will produce at least 80 million cubic metres of water annually, which will be desalinated and shared by Israelis and Palestinians.

The agreement has been hailed as the most significant development in relations between the two countries since the 1995 peace treaty. Maya Eldar, an advisor to Israeli energy minister Silvan Shalom, [told The Jerusalem Post](#): “We’ve been working for so many years on this, and this is the first cooperation that is real – it’s for many years ahead.”

The brine byproduct of the desalination will be pumped along a 112 mile pipeline to the Dead Sea, which is receding at a rate of more than one metre per year. The agreement was signed yesterday in Jordan by Shalom and Jordan’s water minister Hazem al Nasser.

“This is the culmination of a productive cooperation between the nations, that will help restore the Dead Sea, and provide solutions to Jordan’s water problems,” Shalom told Israeli economic outlet The Marker, [according to the Times of Israel](#).

“The deal will help satisfy Jordan’s increasing water needs for development,” [said](#) al Nasser.

The project is being sponsored by the World Bank and will take about three years to complete.

Of the water produced by the plant, Israel will buy 40 million cubic metres at cost, with the rest remaining in Jordan. The agreement will also see Israel release 50 million cubic metres more water from the Sea of Galilee to Jordan.

The Dead Sea is located in the Jordan Rift Valley and bordered by Jordan to the east and Palestine and Israel to the west. The lake is the lowest point on earth and the saltiest water body in the world.

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[According to Friends of the Earth Middle East](#), the Dead Sea has already lost over a third of its surface area which has led to the formation of dangerous sinkholes on its shores.

“Israel and Jordan Sign ‘Historic’ \$900 Million Deal to Save the Dead Sea”, 27/02/2015, online at:  
<http://www.newsweek.com/israel-and-jordan-sign-historic-900-million-deal-save-dead-sea-310084>

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## ❖ Israel and Jordan Agree to Share Water, But Fall Short of Saving Dead Sea

A long-awaited binational agreement to supply fresh water to Jordan and Israel, and to transport water to the drying Dead Sea, was reached on Thursday in Jordan. Provisions for Palestine to be part of the agreement, though, were not included. Israeli officials said they were being dealt with separately.

The \$US 900 million agreement includes construction of a desalination plant in Jordan, near the Red Sea, to supply water to southern Jordan and Israel. In return, Israel will sell more water to Jordan from the Sea of Galilee in its northern region. The agreement also calls for the desalination brine byproduct to be mixed with seawater and piped 180 kilometers north to the Dead Sea, which is shrinking at a rate of 1 meter per year. Experts say that the 100 million cubic meters (26 billion gallons) of wastewater will not be enough to halt the Dead Sea's retreat, which would need 800 million cubic meters per year just to stabilize.

The Jordan-Israel water supply agreement, which comes as drying conditions mount in the Middle East, advances a negotiation process that started in 2005 under the auspices of the World Bank.

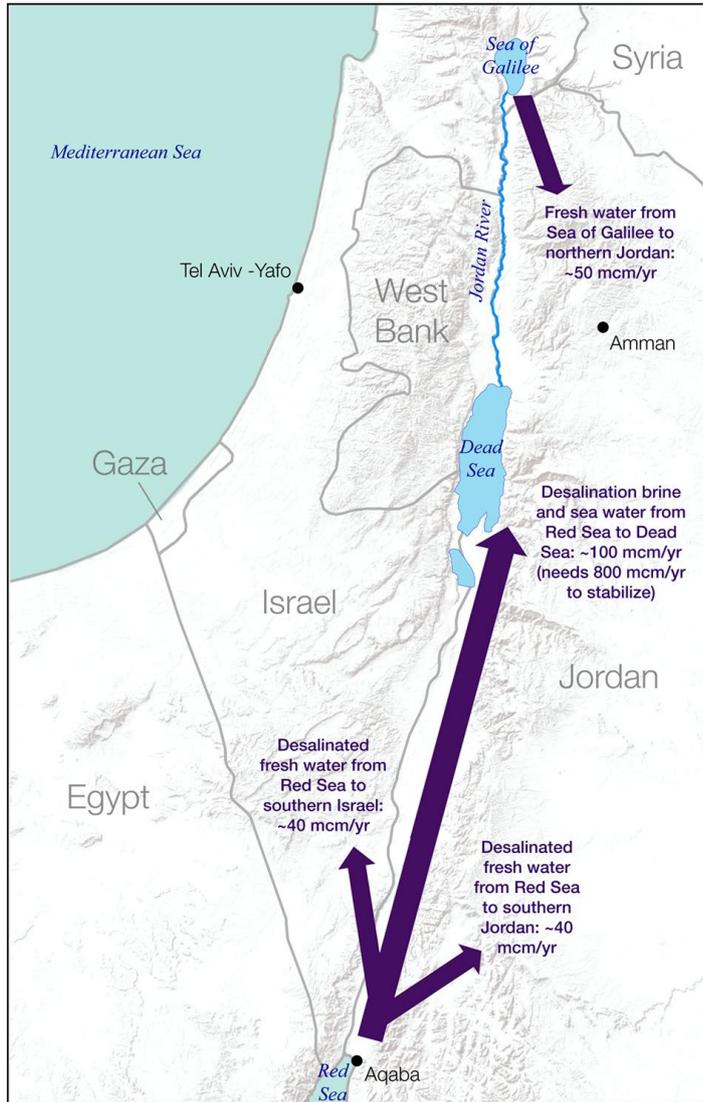
The agreement's framework, which once included an idea to produce hydroelectric power, is a study in on again, off again negotiation diplomacy mired in excessive ambition and mounting costs. The initial plan called for a pipeline capable of transporting 2 billion cubic meters of water per year (.5 trillion gallons) from the Red Sea to the Dead Sea. The estimated \$10 billion path between the two seas called for a big desalination plant at the start and a hydro-electric generating station near the end.

More than a year ago – December 9, 2013 – the process switched back on when representatives from Israel, Palestine and Jordan came together in an unusual show of cooperation and signed a Memorandum of Understanding for a smaller project to stave off the drying of the Dead Sea and provide more fresh water for the three countries. The amount of water to be transported to the Dead Sea had been reduced to less than 1/10th of the volume originally proposed in 2005.

Jordan would now build a water intake at the Port of Aqaba, and pump 200 million cubic meters (53 billion gallons) of water per year north to a desalination facility. Roughly 80 million cubic meters (21 billion gallons) of fresh water would be produced; 50 to 60 percent of it would be sold to Israel. The

remaining seawater and brine would be piped to the Dead Sea. In exchange, Israel promised to sell an extra 50 million cubic meters of water (13 billion gallons) per year to Jordan from the Sea of Galilee, and sell an extra 20 to 30 million cubic meters (up to 8 billion gallons) to the Palestinian Water Authority.

### Water Sharing and the Red-Dead Transfer



Basemap courtesy ESRI, USGS, NOAA.  
mcm = million cubic meters

 circle of blue

The scaled back version of the project formerly known as the “Red-Dead” pipeline also may mean that the ambitious work to save the Dead Sea is still decades away.

“I think it’s fair to say that the Red-Dead project as devised by the initial terms of reference developed at the World Bank no longer exists,” Gidon Bromberg, the Israeli Director of EcoPeace (formerly Friends of the Earth) Middle East, told Circle of Blue. “That project has proven to be financially impossible, and environmentally, too many enormous questions marks.”

### **Environmental and Economic Hurdles**

Once the terms of reference for the original 2 billion cubic meter per year project were established in 2005, the three involved parties sent a letter to the World Bank asking for assistance in securing donor financing and overseeing a feasibility study. In 2012, the World Bank released a [Feasibility Study](#), an [Environmental and Social Assessment \(ESA\) study](#), and a [Study of Alternatives](#) on the project.

The results of that study made it clear that there were two huge problems. The first was that the project was going to cost on the order of \$10 billion dollars. The second was that scientific modeling showed that discharging too much brine into the Dead Sea could have drastic consequences for the ecology and aesthetics of the water body.

A mix of brine and seawater would still be relatively fresh compared to the Dead Sea, and could result in stratification, or layering of water of varying salinities due to differing densities. This could cause algae blooms as well as formation of gypsum crystals on the surface of the water.

Based on cost and unclear consequences for the Dead Sea, it was eventually decided that the Red-Dead pipeline would proceed as a pilot study. Alex McPhail, Task Team Leader for the World Bank, described for Circle of Blue what happened following the release of the study results:

“So the big study program gets done, and there are these two big challenges. The three governments spent a year or more trying to figure out what to do. [They’re going to] put the brine into the Dead Sea, but they’re [also] going to try to establish a scientific research center there so they can do some research on the mixing, because the scientists gave us a very good two-dimensional model for the

mixing, and a great start on a three-dimensional model, but they said ‘in order for us to move the science further we need to be able to do some scale tests.’”

Gidon Bromberg, the Israeli Director of EcoPeace, thinks that although the real Red-Dead pipeline will never materialize, the countries are loathe to waste good political capital.

“The fact that the three parties are sitting around the table, or have been for years, creates a framework that’s difficult to recreate,” Bromberg told Circle of Blue. “Launching a new committee on the water exchange, in the current political environment, is very difficult to achieve, and therefore using this framework of the Red-Dead in name in order to advance completely different projects makes it easier from a geopolitical perspective, and I think that’s the main reason why the Red-Dead name is attached.”

“ Israel and Jordan Agree to Share Water, But Fall Short of Saving Dead Sea”, 27/02/2015, online at: <http://www.circleofblue.org/waternews/2015/world/israel-jordan-agree-share-water-fall-short-saving-dead-sea/>

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❖ **Israeli, Jordanian officials signing historic agreement on water trade**

*Signing the agreement on Thursday is National Infrastructure, Energy and Water Minister Silvan Shalom, alongside his Jordanian counterpart, Water and Irrigation Minister Hazim El-Naser.*

Bringing a historic deal to fruition, Israeli and Jordanian government officials on Thursday afternoon are signing a bilateral agreement to exchange water and jointly funnel Red Sea brines to the shrinking Dead Sea.

The full-fledged agreement, which is being signed on the Jordanian side of the Dead Sea on Thursday afternoon, is the result of a memorandum of understanding signed among Israeli, Jordanian and Palestinian officials on December 9, 2013 in Washington, D.C.

According to Thursday's agreement, Jordan and Israel will share the potable water produced by a future desalination plant in Aqaba, from which salty brines will be piped to the Dead Sea. In return for its portion of the desalinated water in the South, Israel will be doubling its sales of Lake Kinneret (Sea of Galilee) water to Jordan on the countries' northern border.

Signing the agreement on Thursday is National Infrastructure, Energy and Water Minister Silvan Shalom, alongside his Jordanian counterpart, Water and Irrigation Minister Hazim El-Naser.

"In Washington, we just declared that we are going to sign an agreement," Maya Eldar, an advisor to Shalom on the project, told *The Jerusalem Post* on Thursday, over the phone from the signing ceremony. "This is a real agreement that is going to make sure the cooperation and relationship between Israel and Jordan is going to last."

More specifically, the agreement involves the construction of a 65- to 80-million cubic meter desalination plant in Aqaba, from which Israel would be able to buy some 35 m.cu.m. of water to convey to its desert south, Eldar explained. In return, Jordan would be able to buy an additional 50 m.cu.m. of water from Lake Kinneret annually, roughly doubling its current allocation and quenching of the increasingly thirsty northern portion of the country.

In addition to all of these water swaps among the neighbors, the agreement involves the construction of a 200-kilometer pipeline to carry residual salt brines from the Aqaba desalination plant to the depleting Dead Sea.

While the original December 2013 memorandum of understanding also called for Israel to enable the direct sale of an additional 20 m.cu.m. of water from Mekorot national water company to the PA, Eldar said that this issue is being worked on separately.

"We are going to provide water from the Israeli system to the Palestinians at points where they need water, and we are going to start discussing with them as soon as possible," she said.

In addition to the commitment to the water exchanges and Red Sea to Dead Sea pipeline construction, the signatories on Thursday also committed to the formation of a Joint Administration Body for the project, where relevant officials from both countries will be equally represented, Eldar explained.

Calling the agreement signing an extension of the 1995 Israel-Jordan peace treaty, Eldar stressed that "this continues the chapter on water."

"It's a very historical moment," she told the Post. "We've been working for so many years on this, and this is the first cooperation that is real – it's for many years ahead."

"Israeli, Jordanian officials signing historic agreement on water trade", 26/02/2015, online at:

<http://www.jpost.com/Israel-News/New-Tech/Israeli-Jordanian-officials-signing-historic-agreement-on-water-trade-392312>

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### ❖ Israel water ban shuts down Palestinian city

*A year and a half on, the new development has no running water. Netanyahu, on the eve of his trip to address the US Congress with elections only a few weeks away, has said that he will take the new city of Rawabi under the grid.*

Although its first batch of apartment buildings are finished, homeowners have been unable to move in for over half-a-year, the city has no running water.

On Thursday night, Prime Minister Benjamin Netanyahu's Office announced that Israel's Water Authority would hook Rawabi up to its grid.

It was one of two gestures Netanyahu made to the US on the eve of his trip to address a joint session of Congress in spite of US President Barack Obama's objections.

The Prime Minister's Office also announced that it would use funds from Palestinian Authority's tax revenues it has withheld for the last few months, to help pay a portion of the PA's NIS 1.9 billion debt to the Israel Electric Cooperation.

Earlier this month Defense Minister Moshe Ya'alon (Likud) had tried to solve Rawabi's water crisis. He ordered the Water Authority to pipe water to the city, which is located on a West Bank Samarian hilltop between Ramallah and Nablus.

But Infrastructure Minister Silvan Shalom (Likud), whose office has oversight over the Water Authority, had refused to heed Ya'alon order.

Rawabi is the brain child of Palestinian American businessmen Bashar al-Masri, who together with the Qatari Diar Real Estate Investment Company, developed the city which boasts that it offers Palestinian affordable modern living. Al-Masri says he has lost \$25 million in revenue because of the delay, with an additional \$75 million in payments frozen until he delivers the homes.

“Israel water ban shuts down Palestinian city”, 27/02/2015, online at: <http://www.worldbulletin.net/news/155854/israel-water-ban-shuts-down-palestinian-city>

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## ❖ **Tiberias wastewater heads to new treatment plant, curbing raw sewage flow in Jordan River**

As part of an ongoing project to rehabilitate the once heavily contaminated Jordan River, Tiberias sewage will soon flow to a new treatment facility, the Water Authority announced on Sunday.

Construction of both a pumping station and a 12-kilometer, 710-millimeter wide pipeline has concluded, allowing for the conveyance of wastewater from Tiberias to the new Bitanya treatment plant at the southernmost tip of Lake Kinneret (the Sea of Galilee), the Water Authority said. Involving a wide range of partners, the NIS 120 million project brings an end to a situation in which raw sewage was endangering the vitality of the Jordan River.

“This is one of the key projects in the water sector in the last decade, a project that combines supply of quality water to agriculture and nature with the advantages of rehabilitating and protecting the environment,” a statement from the Water Authority said.

The many advantages of the Bitanya wastewater treatment plant and the new pipeline from Tiberias, according to the authority, involve the prevention of raw sewage flow, provision of desalinated brackish water and treated wastewater for regional agriculture, and increasing supplies of clean water to restore the flow of the Jordan River. Gradually, the authority plans to bring the discharge of water into the Jordan River up to 30 million cubic meters per year, through a combination of Kinneret water, saline water, and treated wastewater.

Conveyance of the sewage by the new pipeline is part of a NIS 40m. scheme that included the diversion of brackish water springs, as well as the transmission and disposal of brine, brackish water, and sewage to a collection point along the Kinneret’s western basin. These new systems upgrade and replace the small, open canal that previously had collected rainwater and sewage around the western portion of the lake, the Water Authority explained.

With the connection of the new pipeline, the Tiberias pumping station began operating in a trial phase, which will conclude in about three months, the Water Authority said. The pumping station

was constructed by Mei Rakat Tiberias, which received an approximately NIS 12m. grant – equivalent to about 40% of the station’s construction costs – from the Water Authority.

The opening of the Bitanya wastewater purification plant allows for the closure of an obsolete sewage treatment facility next to the Kinneret, which operated poorly and enabled the flow of sewage and effluents into the Jordan River, the Water Authority said. The Bitanya plant was established at a cost of NIS 72m. by Mei Rakat Tiberias in cooperation with the Jordan Valley Regional Council.

While at the moment, the Bitanya plant is only purifying sewage at a secondary level, by January 2016 the facility should be operating at a tertiary level, the Water Authority said. At the current stage, the facility is releasing treated wastewater to the Jordan River, and is thereby significantly improving the quality of water that has been previously discharged into the river, according to the Water Authority.

The Bitanya wastewater treatment plant can handle approximately 16,000 cubic meters of sewage per day, but is currently receiving about 9,000 cubic meters, including the amount added with the connection of the new pipeline from Tiberias, the authority said.

Although the treated wastewater is currently being released to the Jordan River, the larger regional rehabilitation plan calls for nearly all the treated effluents produced by the Bitanya plant to be distributed for agricultural use via the Jordan Valley Water Association, the Water Authority explained. At this point, however, the infrastructure in place for such a transfer is not yet suitable, a spokesman for the authority explained.

In addition, the Tiberias hot springs and other brackish water sources – water saltier than freshwater but less salty than seawater – are supposed to be diverted to a separate transmission route, in order to enable their use at the fish breeding ponds in the southern part of Emek Hama’ayanot.

This water will flow to points further down the Jordan River in accordance with determined Fishery Water Output Regulations, the Water Authority said.

Replacing much of the treated wastewater flow once this source is redirected to agriculture, the remaining brackish water will be combined with Lake Kinneret water to send down the Jordan River and increase its flow, according to the Water Authority.

The amount of water being released down the Jordan River will increase from today's 10 m.cu.m. annually to 20 m.cu.m. upon the completion of a new desalination plant in the region. Eventually, a total of 30 m.cu.m. of water total will be released down the Jordan River annually.

The Water Authority announced the completion of this portion of the project just three days after Israel and Jordan signed a bilateral agreement for the exchange of water, in which Israel will buy water from a future desalination plant in Aqaba and Jordan will purchase more water from Lake Kinneret. In addition, the two countries will be constructing a 200-kilometer pipeline to convey concentrated brine – the salty byproduct of the desalination process – to the Dead Sea, whose basin is dangerously dwindling.

Environmentalists have long argued, however, that the restoration of flow to the Jordan River is the most vital mechanism toward saving both the Dead Sea and the river itself.

“We congratulate the relevant authorities in continuing to move forward another important component in getting the various pollutants out of the Jordan river as a necessary step towards the river's rehabilitation,” said Gidon Bromberg, the Israel director for EcoPeace: Friends of the Earth Middle East.

A regional environmental organization with offices in Israel, Jordan and the Palestinian Authority, EcoPeace has long been fighting to remove pollutants from and restore clean water flow to the Jordan River.

While expressing praise for the Water Authority's advancements, Bromberg stressed that the currently proposed 30 m.cu.m. of annual discharge sets “an important precedent” but neither reflects “the needs of the river ecosystem, nor the level of effort and investment made by local municipal and water authorities in Israel.”

“A timeline for much larger quantities of water to be released from the Kinneret to the river needs to be developed if the environment and local communities are to see a real return on investment in line with Jordan river regional master planning efforts,” Bromberg said.

“Tiberias wastewater heads to new treatment plant, curbing raw sewage flow in Jordan River “, 01/03/2015, online at:  
<http://www.jpost.com/Israel-News/New-Tech/Tiberias-wastewater-heads-to-new-treatment-plant-curbing-raw-sewage-flow-in-Jordan-River-392597>

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❖ **First stage of Gaza desalination project completed**

**The European Union and UNICEF have marked the completion of the first component of their joint project with Palestine's water utilities to construct a € 10 million (US\$ 11.2 million) desalination plant which will provide over 75,000 Palestinians with drinking water in Gaza.**

The construction of the desalination plant on land adjacent to the sea north of Khan Yunis and the procurement of water-treatment equipment will be completed in the coming months. The plant is expected to start operating by the end of the year.

The first component - an 18km long pipeline - has been completed. It will transfer 6,000 m<sup>3</sup> of desalinated seawater from the planned plant to at least 35,000 Palestinians living in Khan Yunis, and 40,000 in Rafah, southern Gaza.

The European Union and UNICEF launched the construction phase of the four-stage project in March 2014. The project is led by The European Union and UNICEF in partnership with the Palestinian Water Authority and Gaza's Coastal Municipalities Water Utilities.

"The needs in Gaza for fresh water are huge. Nearly 95% of water in Gaza is considered unfit for human consumption. Enormous efforts are needed to ensure that Gazans can access fresh water," said European Union representative, John Gatt-Rutter.

Seawater desalination is one of the strategic options chosen by the Palestinian Water Authority to help provide 1.8 million Palestinians in Gaza - including nearly one million children - with clean water.

A comparative study conducted in 2011 concluded that desalination of seawater from the Mediterranean was essential to curb over-extraction of groundwater from the coastal aquifer, and to prevent an environmental disaster with the total collapse of this aquifer.

A 2012 United Nations' report warned that over-extraction could render Gaza's sole aquifer unusable by 2016.

“First stage of Gaza desalination project completed”, 27/02/2015, online at:  
[http://www.desalination.biz/news/news\\_story.asp?id=7945&channel=0&title=First+stage+of+Gaza+desalination+project+completed](http://www.desalination.biz/news/news_story.asp?id=7945&channel=0&title=First+stage+of+Gaza+desalination+project+completed)

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### ❖ View from abroad: Amman, Jordan

At the University of Rochester, International Relations majors are required to study abroad for a semester and complete at least two courses taught in a modern language in order to complete their degree.

Junior Noor Shah decided to fulfill this requirement by studying in Amman, Jordan, saying that she chose Jordan “specifically because of the Arabic language and rich culture,” which she always wanted to experience.

Shah is currently studying in the Diplomacy and Policy Studies program in Amman through the Council of International Education Exchange (CIEE), a non-profit US-based organization that offers education and exchange programs worldwide.

Through the program, students can “learn about international relations, political science, and economics with a Middle Eastern and Jordanian focus [and] engage with local experts, government officials, and diplomats through special cooperation with the Jordan Institute of Diplomacy (JID),” according to their website.

At the University of Rochester, a third of undergraduate students study abroad.

Traditionally, many of these students choose to go to European countries such as Spain, Germany or Italy, where the cultural and social aspects of the experience are more similar to those in the United States. Increasingly though, many, like Shah, choose to travel to locations in the Middle East instead.

For Shah, the application process went smoothly. She had known that she wanted to study in the Diplomacy and Policy Studies program in Amman since her freshman year, and when it came time to apply, she says that “CIEE [made] it really easy to apply and show interest.”

Shah also notes that the process of getting her visa was uncomplicated, saying that “getting into the country itself is actually quite simple, [as] there is relatively minimal security and having a US passport is looked very highly upon in Jordan.”

Once Shah arrived in Jordan, she had 10-hour long orientation days, which, when combined with jet lag, proved to be very exhausting.

She also experienced the obstacle of not being familiar with the city in the first few days, because many streets have names that sound very similar and look alike.

She has gotten lost, saying that it “can be scary sometimes if you aren’t that comfortable with the language or the city.” Also, “hardly any of the drivers speak English or know street names.”

However, Shah did not hesitate to ask for help with directions. She reveals that “a lot of Jordanians are delighted to meet Americans, and will often look for any way to help you out and welcome you into their country, especially if you attempt to speak Arabic with them.”

Moreover, she thinks that the interaction with locals proved to be one of the aspects of the experience that has gone really well.

Although one does not have to be proficient in a language to study abroad, most students who study abroad in the Middle East work to become fluent in Arabic. Shah is pursuing a minor in Arabic, and is taking a standard Arabic course as well as a Jordanian Arabic class.

Shah is taking two other courses, “Jordan: A Case Study in Diplomacy and Development” and “Arab Diplomacy,” to complement her study of International Relations.

Studying abroad in Jordan provides an opportunity to see events happening in the Middle East from a closer viewpoint than in America.

As stated in the description of the program in Amman: “Classroom learning and field trips combine to dispel the myths of the Middle East and give students unparalleled insight into one of the richest histories in the world.”

A major difference she notes between being in Jordan and in the U.S is the water scarcity in Jordan.

“It is the third-poorest country in terms of water, which made me a million more times aware of how much more we consume in America. Here, only a certain amount of water is allocated to each

household, and showering a lot less and drinking a lot less water is a huge difference that takes a lot of getting used to,” she explains.

According to the World Health Organization, the water shortage problem will worsen in the following decades as the population rises rapidly and the weather becomes more unpredictable.

The influx of Syrian refugees due to the Syrian Civil War adds to Jordan’s water worries. Shah is currently interning at Mercy Corps where she works with these Syrian refugees, and is gaining direct knowledge of the issues.

Additionally, she is learning about Jordanian culture first-hand.

Despite being very busy, “[people] are extremely friendly and polite, and often invite you over to their houses for tea and a big lunch, which you are expected to finish entirely,” Shah reveals. The hospitality is unsurprising given that Jordan is often considered one of the most comfortable and welcoming countries in the region.

In the month that she’s been in Amman, Shah has adjusted to the differences in the everyday life. One difference is that instead of walking or taking the bus for classes, she travels in a taxi.

As a female, she observed that women are expected to dress conservatively, saying that “although [wearing] a hijab is not a requirement, women are expected to cover their arms and legs while walking around in public.”

She takes every chance she got to explore important archeological sites.

Shah walked through old temples and Roman theatres on a trip to Jerash, a northern city filled with Roman ruins.

In Qasr al Abd, which translates to “Castle of the Slave,” located in western Jordan, she explored natural sites as well as old ruins.

“People are allowed to climb and hike right on the ruins without any sort of consequence, which is actually a nice change,” Shah remarks.

But even an everyday experience, which can vary from “trying a new food I’ve never heard of to hailing a cab downtown and walking around through different Mosques and souqs [marketplaces],” seems like an adventure, according to her, saying that she is “loving every second.”

On weekends and breaks, Shah likes to go the traditional souqs in downtown Amman, which have lots of fresh and relatively cheap produce as well as local stores.

Shah advises students who are thinking of going abroad but do not know where to go to start early, “It can take a lot of planning ahead of time if you don’t quite know where you want to go or why you want to go there.”

Shah adds finally that “even if my major didn’t require me to study abroad, I probably would still find some way to do it just to have this wonderful experience.”

“View from abroad: Amman, Jordan”, 26/02/2015, online at: <http://www.campustimes.org/2015/02/26/view-from-abroad-amman-jordan/>

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

### ❖ **Palestinian city plan to move forward after water deal**

RAMALLAH, West Bank: The builder of the first planned Palestinian city in the West Bank says Israel has agreed to connect Rawabi to its water grid, ending months of costly delays.

Rawabi, a state-of-the-art city, is to have 6,000 apartments, a mall and an amphitheater. It is the West Bank's largest private investment project, totaling more than \$1 billion, and is seen as a symbol of Palestinian state building.

Developer Bashar Masri said Sunday that the wrangling over the water had put off potential buyers and forced him to slow construction. Masri says he now hopes to hand over 650 apartments by early summer.

Israel has said it has an interest in seeing Rawabi being built, but has caused repeated delays, prompting intervention by senior Western officials in the city's behalf.

“Palestinian city plan to move forward after water deal”, 01/03/2015, online at:

<http://www.dailystar.com.lb/News/Middle-East/2015/Mar-01/289196-palestinian-city-plan-to-move-forward-after-water-deal.ashx>

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### ❖ Israel's Control of Dead Sea Deprives Palestinians of \$962b Annually

RAMALLAH, February 15, 2015 (WAFA) – The Ministry of National Economy Sunday said the Israeli government's full control of the Dead Sea deprives the Palestinian economy from taking advantage of its natural resources and valuable metals by profiting from around \$962 billion.

The ministry said if Palestinians were allowed to make use of the natural resources found in the Dead Sea, the Palestinian general budget would receive additional annual revenue estimated at around \$962 billion.

Currently, both Israel and Jordan collect no less than \$4.2 billion annually from mineral products originated from the Dead Sea, according to the ministry.

Due to the prolonged Israeli control of the Dead Sea, the Palestinians are deprived from a variety of activities that could add billions of dollars to the Palestinian economy, it said. Such activities include, but not limited to, exploitation of valuable metals and natural resources such as oil, natural gas, shale, asphalt and bitumen.

Other related activities include tourism enhancement and agricultural investments.

Israel occupied the West Bank and the Dead Sea in 1967 and has since been preventing a Palestinians from benefiting from the Sea while granting them limited access to parts of it for tourism purposes only.

"Israel's Control of Dead Sea Deprives Palestinians of \$962b Annually", 25/02/2015, online at:  
<http://mideastenvironment.apps01.yorku.ca/2015/02/israels-control-of-dead-sea-deprives-palestinians-of-962b-annually-wafa/>

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## ❖ Water matters

Rawabi is meant to offer Palestinians a model of modern urban living but currently has no water.

‘Creating facts on the ground’ was an expression associated with the building of new Jerusalem neighborhoods following the reunification of the capital in the Six Day War. The years since 1967 have seen the welcome addition of thousands of housing units, from Pisgat Ze’ev in the city’s north to Gilo in the southwest.

The Six Day War was followed by a time of heady optimism – an era when “land for peace” was a theme that held out the possibility of reaching an equitable settlement of the conflict with the Palestinians.

The fact that such optimism has been eroded by the continuing failure of the sides to negotiate peace does not necessarily mean that the situation has become hopeless. Even during an acrimonious election campaign and the simultaneous attempt by the Palestinian Authority to prosecute Israel for alleged war crimes, there is room for small acts by both sides that could indeed offer hope.

One such move would be to turn on the water. For the past eight years, a private Palestinian initiative has been building the first planned Palestinian city, Rawabi, north of Ramallah. Entrepreneur Bashar al-Masri envisioned it as an upscale home to some 40,000 residents – mainly educated, young middle-class couples raising families.

Rawabi is meant to offer Palestinians a model of modern urban living – the antithesis of the so-called refugee camps they have been confined to by their corrupt leadership for decades. It is meant to provide a generation that has been taught it has nothing to lose with a reason to live in peace with its Israeli neighbors.

A year ago, the first 700 housing units in Rawabi came on the market and were snatched up. Since then, however, no apartment owners have been able to move in. This is because the city has no water.

The Palestinian Authority and the Israeli government share responsibility for a standoff that is stymieing the completion of a project that could contribute to fostering peaceful relations between them, not to mention a better standard of living for Palestinians.

Defense Minister Moshe Ya'alon has put off granting approval to connect Rawabi to the water system for four years, saying such a move requires prior approval by the Israeli-Palestinian Joint Water Committee, which the PA has refused to convene since 2010.

In accordance with the 1995 interim agreements, the committee is supposed to enable the supply of water to projects such as Rawabi – but also to settlements. In a cut-off-your-nose-to-spite-your-face move, the Palestinians have refused to convene the committee, since they are not willing to approve water for their model city of Rawabi if this means more water for settlements.

Meanwhile, it should come as no surprise that, while Rawabi sits high and dry above Ramallah, no Jewish community in Judea or Samaria lacks for water.

Whether or not the coming election has anything to do with it, just three weeks ago Ya'alon became persuaded that the right thing to do was to enable Rawabi to become populated. He ordered that the city be connected to the Mekorot national water company.

Maj.-Gen. Yoav Mordechai, the coordinator of government activities in the territories, heartily endorsed the decision. Before the first Rawabi homeowner could take a shower, however, Silvan Shalom, the minister of national infrastructure, energy and water who is responsible for the city's water supply, postponed implementing the decision.

Shalom's office said that, according to the 1995 interim agreement, all water and sewage projects for Israelis and Palestinians in the West Bank must be approved by the Joint Water Committee.

“Regretfully, since 2010, the Palestinians have refused to convene the committee,” it said. “We'd be happy if the Palestinians would sit in the committee, which could then discuss projects from both sides.”

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Shalom’s spokesman added that, once the committee meets, a water hookup for Rawabi could be approved fairly quickly.

While politicians on both sides stubbornly link Rawabi’s immediate need for water to the future supply of water to settlements, one voice of sanity spoke up for the thirsty city. President Reuven Rivlin declared that supplying water to Rawabi is in Israel’s national interest. We agree.

“Water matters”, Jerusalem Post, 25/02/2015, online at: <http://mideastenvironment.apps01.yorku.ca/2015/02/water-matters-jerusalem-post/>

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### ❖ Qatar initiates water projects in more than 30 African countries

A leading Qatari charity carried out 632 water projects in more than 30 African countries in th year 2014, Al-Sharq Portal reported on Wednesday.

The Qatari charity spent around QAR 9 million (\$2.5m) on the projects, which serve more than 1.3 million people in several African countries.

Sheikh Hamad Abdul-Qader, the general manager of the Qatari general office, said that the 41 Qatari missions spread across various African countries carried out numerous projects to help locals and meet their urgent needs.

Abdul-Qader noted that the most pressing need for many Africans is water, and it is the most challenging issue for many African nations. The reason, he said, is the severe drought seasons that Africa has experienced in recent years.

"The charity sought to help these people, and a number of Qatari men and women helped fulfilling these needs," he said.

Experts say that more than 250 million Africans will suffer water shortages by 2020, a situation which could provoke further conflicts and wars over water resources across the continent.

“Qatar initiates water projects in more than 30 African countries“, 26/02/2015, online at:

<https://www.middleeastmonitor.com/news/middle-east/17207-qatar-initiates-water-projects-in-more-than-30-african-countries>

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## ❖ GE Water expands UAE Centre of Excellence

GE Water & Process Technologies is marking a significant expansion of its regional Centre of Excellence in Dubai at the Jebel Ali Free Zone.

Opened in 2006 and spread over a land area of 38,000 square meters (m<sup>2</sup>), the Centre is the largest-of-its-kind purpose-built water-related technology plants by GE.

The facility is now being expanded to add another 1,500 m<sup>2</sup> of warehouse space to the existing 6,500 m<sup>2</sup> of constructed area.

The expansion will also strengthen the existing laboratory capabilities to support the company's growing oil and gas customer base in the region.

GE's expanded facility will also offer onsite housing for its fleet of mobile water treatment trailers, ready to be deployed on short notice for emergency, supplemental or extended term services.

"With the water and process treatment business across the entire Middle East & North Africa region recording consistent growth, we are further investing in the expansion of our regional Centre of Excellence," said Bob Hultz, VP MENA for GE Water & Process Technologies.

"The Centre marks one of our path-breaking investments in the region's water processing sector. Serving customers across the region, we are now further enhancing it to meet the growing demands from our customers while maintaining quality control and quality assurance and optimising production and distribution costs. GE is committed to the region and this expansion is in line with the region's growth in municipal and industrial water requirements."

The Center holds a Global Star Certification for its environment Health and Safety excellence and ISO 9001:2008 for its quality management system," said Omar Chemaly, GE Plant Manager.

"It draws on industry best practices and GE's own standards in environment, health and safety. The expansion will further build on our reputation in quality, safety and excellence."

The expansion is scheduled for completion in the next three months, which will contribute to the Center's increased productivity in the face of growing market demand.

“It will also maintain and improve on our delivery time and logistics capabilities and enhance the efficiency of our customers' operations,” added Chemaly.

GE Water & Process Technologies has numerous patents for research and development accomplishments in water, wastewater and process systems solutions. The division focuses on optimising operational performance, safeguarding operational assets and protecting the environment.

The UAE is one of the key markets for GE in the Middle East region, with a presence spanning nearly 80 years.

GE has played an instrumental role in driving the growth efficiencies of varied business sectors of the UAE with over 150 million litres of water treated daily using GE technologies and supplied across the nation.

“GE Water expands UAE Centre of Excellence”, 24/02/2015, online at: <http://www.utilities-me.com/article-3368-ge-water-expands-uae-centre-of-excellence/>

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❖ **Siemens Middle East headquarters in UAE saves 63% power, 52% water in first year**

*Innovative Siemens headquarters delivers significant resource savings Siemens HQ is Abu Dhabi's first LEED Platinum-certified office building Sets a benchmark for sustainable construction in the Middle East*

**Siemens has celebrated the first anniversary of moving into its award-winning Middle East headquarters at Abu Dhabi's [Masdar City](#) in the UAE. In its first year the building achieved a 63 per cent saving of energy consumption and a 52 per cent saving of water consumption, compared to a standard Abu Dhabi office building.**

The Siemens Middle East Headquarters at [Masdar City](#) was inaugurated in January 2014, marking a commitment by Siemens to the future of the UAE and the Middle East, and is the first LEED Platinum-certified office building in Abu Dhabi.

Designed by UK architects Sheppard Robson with energy efficiency as a priority, the building incorporates a range of innovative features, materials and technologies which significantly reduce the consumption of power and water.

"When we moved into our new headquarters a year ago, I said it was important for Siemens to 'walk the talk' in the region," said Dietmar Siersdorfer, CEO of Siemens Middle East and UAE. "We inaugurated our new headquarters as a further commitment to our long-term presence in the UAE and the Middle East, and to set an example with our actions.

"I'm proud to say that one year on we have made an important statement about the significance of innovative, intelligent infrastructure in the Middle East. Siemens and [Masdar](#) have proved that with the right mindset, partners and technology, it is possible to dramatically reduce the environmental impact of a UAE office building."

"Achieving the highest ratings in terms of design, sustainability and efficiency, the Siemens Headquarters is a prime example of [Masdar](#) 's commitment to developing more sustainable solutions that are commercially competitive," said Dr. Ahmad Belhoul, CEO of [Masdar](#) , Abu Dhabi's renewable energy company. "The building's exemplary performance over the past year underscores

what can be achieved when innovation is coupled with cutting-edge technology, and sets the bar for new buildings - in the United Arab Emirates and abroad."

The headquarters building, which accommodates around 800 Siemens employees, is raised off the ground and constructed as a 'box-within-a-box'. A highly insulated inner façade reduces thermal conductivity and a lightweight aluminum external shading system minimizes solar gain, while maximizing sunlight within the building. It is also positioned to face the direction of the prevailing wind, making use of a Venturi tunnel underneath the building to maintain a cooling airflow through specially designed wind channels.

A fully-integrated building management system from Siemens automatically adjusts lighting and temperature levels, significantly reducing resource consumption. The building also has security systems and fire alarm and gas suppression systems from Siemens Building Technologies.

The official figures show the Siemens Headquarters building at [Masdar City](#) achieved a 63 per cent saving in electricity consumption and a 52 per cent saving in water consumption between February 2014 and January 2015. When fully occupied Siemens expects the power and water savings to be closer to the original estimate of around 50 per cent.

“ Siemens Middle East headquarters in UAE saves 63% power, 52% water in first year”, 24/02/2015, online at: [http://www.zawya.com/story/Siemens\\_Middle\\_East\\_headquarters\\_in\\_UAE\\_saves\\_63\\_power\\_52\\_water\\_in\\_first\\_year-ZAWYA20150224074020/](http://www.zawya.com/story/Siemens_Middle_East_headquarters_in_UAE_saves_63_power_52_water_in_first_year-ZAWYA20150224074020/)

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### ❖ Sudan to host tripartite Nile basin meeting

March 1, 2015 (KHARTOUM) – The Sudanese capital of Khartoum will host on Tuesday the meetings of the Ministers of Foreign Affairs and Water Resources of the three countries of the east Nile Basin countries which include Egypt, Sudan and Ethiopia for discussions on outstanding issues related to the Ethiopian Renaissance dam project.

The three previous meetings held in Khartoum and Addis Ababa have failed to reach an agreement on Egyptian reservations related to the dam.

The ministers of irrigation and water in these three countries signed last September an agreement to form a committee of national experts to bridge gaps in views of Ethiopian renaissance.

The Egyptian foreign minister Samih Shoukri along with the minister of water resources Hussam Maghazi arrived on Monday evening to participate in the meetings which will address the political and technical aspects of the dam.

The Egyptian ambassador in Sudan Osama Shaltout said in press statements on Sunday that the purpose of the meetings is to reach results that would bring about mutual benefits to all parties without harming any side.

Egypt fears that the construction of the 4.3 billion dollar dam project will diminish its water share which is a source of water to millions people of the desert nation.

Up on completion by 2017, the Grand Ethiopian renaissance dam will have electricity generating capacity of 6,000 megawatt.

Currently the power plant project which will be Africa's largest is 36% completed and will take the east African nation up to six years to fill the dam's 74 billion cubic-meter reservoir.

For his part, Ethiopia's minister of Water and Energy Alemayehu Tegen stressed that his country will not seek permission from anyone to construct the dams, adding that the Renaissance dam is being built on the course of the Blue Nile but would not harm Egypt's water share.

Tegenu went on to say that Ethiopia will not provide written guarantees to Egypt or any other country, adding that the construction of the dam is a sovereign decision and a national project for the purposes of development through electric power generation.

"I would like to emphasize that Ethiopia is a sovereign state and will not wait for permission from anyone to build dams and development projects on tributaries of the Nile River, and we reiterate that this dam will not cause any harm to the interests of others," Tegenu said in an interview with Turkey-based Anadolu news agency.

"Our battle is against poverty, hunger and thirst, and we seek to illuminate every house in Ethiopia, as well as provide potable water supply, and this is the wish of all Ethiopians", appealing to both Egypt and Sudan to sign the Entebbe Agreement and work for the unity of the Nile Basin countries.

Five Nile Basin countries members including Ethiopia, Kenya, Uganda, Rwanda and Tanzania signed the Entebbe Agreement which seeks to re-allocate the Nile water shares contrary to colonial agreements on this matter.

Following the signing of Entebbe Agreement in 2010, Egypt and Sudan, who own over 85 percent of the river waters according to the colonial-era treaty, froze their activities in the Nile Basin Initiative (NBI). Egypt resumed its participation last month at a meeting in Khartoum.

“Sudan to host tripartite Nile basin meeting”,01/03/2015, online at: <http://www.sudantribune.com/spip.php?article54162>

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### ❖ Egypt, Sudan, Ethiopia receive offers for Nile dam studies

Egypt, Sudan and Ethiopia have received offers from four firms to conduct technical studies on the latter's large-scale dam project, which Cairo fears will affect its supply of water from the Nile River.

Alaa Yassin, spokesperson on the Ethiopia dam issue for Egypt's irrigation ministry, told Al-Ahram Arabic news website on Monday that the tripartite committee will meet by the first week of March in Khartoum to choose a firm.

He added that three of the firms that made offers are European while the other is Australian.

Egypt, Sudan and Ethiopia had originally selected seven international firms in October 2014 to prepare technical and financial offers to conduct studies on Ethiopia's \$4.2 billion dam project.

They were expected to choose a firm by mid-December. However, the deadline was extended and some firms withdrew.

The selected firm's report is expected to include the dam's impact on upstream Nile countries Egypt and Sudan, as well as its environmental, social and economic effects.

Egypt fears Ethiopia's Grand Renaissance Dam, of which 40 percent is built, will adversely affect its share of the Nile water. Ethiopia is building the dam on the Blue Nile, the river's most significant tributary, supplying most of its water.

Egypt has pointed out previously some technical concerns over the dam, including its storage capacity, currently set at 74 billion cubic metres.

Egypt will likely need an additional 21 billion cubic metres of water per year by 2050, on top of its current 55 billion cubic metre quota, to meet the water needs of a projected population of 150 million, according to Egypt's National Planning Institute.

The 6,000 megawatt dam, set to be Africa's largest, is expected to be fully completed by 2017.

“Egypt, Sudan, Ethiopia receive offers for Nile dam studies”, 23/02/2015, online at:

<http://english.ahram.org.eg/NewsContent/1/64/123733/Egypt/Politics-/Egypt,-Sudan,-Ethiopia-receive-offers-for-Nile-dam.aspx>

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❖ **First test shows Kenya's huge water find too salty to drink**

NAIROBI/ROME (Thomson Reuters Foundation) - Tests on a vast aquifer found in Kenya's drought-wracked Turkana region show the water is too salty to drink, a government official said on Friday.

The 2013 discovery of underground lakes the size of the U.S. state of Delaware, according to satellite imagery, was hailed as a chance for the arid northern region to finally feed its people.

At the time of the discovery, Kenya's water minister said the "newly found wealth of water opens the door to a more prosperous future for the people of Turkana and the nation as a whole".

But the first test results from Lotikipi, the largest aquifer which is close to Kenya's border with South Sudan, have been disappointing.

"The water is not fit for human consumption," said Japheth Mutai, chief executive officer of the government-owned Rift Valley Water Services Board, which is responsible for providing water in the region.

The underground water would have to be desalinated -- an expensive and energy intensive process -- before it could be used for human consumption, livestock or irrigation, Mutai said.

The test well, drilled 350 meters underground, showed salt levels seven times higher than the safe limit allowed by the World Health Organization (WHO), he said.

"The numbers don't look good," Mutai told Thomson Reuters Foundation on Friday. "It is causing a lot of anxiety."

More than a third of Kenya's 41 million people have no access to clean water.

The country's north is particularly poor as droughts regularly decimate livestock which traditional nomadic herders depend on for survival.

Currently one in four people in Turkana -- 135,500 people --require food assistance due to repeated poor rains and conflict, the World Food Programme's spokeswoman Challiss McDonough said. Malnutrition rates are above the emergency level of 15 percent.

A stable water supply from the 250 billion cubic meters of water thought to be in Turkana's underground lakes could help mitigate these recurring hunger crises.

The government is "still holding out hope" that other wells in Lotikipi will find cleaner water, Mutai said, and more drilling is underway.

The U.N.'s scientific and cultural agency, UNESCO, which backed the initial satellite imaging that led to the discovery of the water, is seeking funds for a national groundwater mapping program.

"What we did is only a small part in Turkana and the government would like to expand the mapping for the whole country," said Abou Amani UNESCO's regional hydrologist.

"First test shows Kenya's huge water find too salty to drink", 27/02/2015, online at:

[http://www.reuters.com/article/2015/02/27/us-kenya-water-aquifer-idUSKBN0LV1W720150227?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=d201cf68f3-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-d201cf68f3-250657169](http://www.reuters.com/article/2015/02/27/us-kenya-water-aquifer-idUSKBN0LV1W720150227?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=d201cf68f3-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-d201cf68f3-250657169)

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## ❖ Half of India Is Facing High Water Stress From Over-Usage

(Bloomberg) -- More than half of India is facing high water stress as farmers and industries compete for the resource in the world's second-most populous nation, according to the World Resources Institute.

An analysis of groundwater levels of 4,000 wells across India showed 54 percent fell over the past seven years, with 16 percent declining by more than 1 meter (3.3 feet) a year, Betsy Otto, global director of WRI's water program, said Friday. The region most at risk: the northwest, India's breadbasket.

The northwestern states of Punjab and Haryana, which grow half of India's rice and 85 percent of its wheat, are among the most water-stressed, according to WRI. India's already lost groundwater equal to more than twice the capacity of Lake Mead, the biggest U.S. reservoir, as overuse combined with a lack of replenishment shrank supplies, a NASA study has shown.

Otto spoke in New Delhi at the introduction of an online water tool built by WRI with help from Indian companies and the World Council for Sustainable Business Development that allows users to understand the quality and quantity of ground and surface water across India, Asia's third-biggest economy.

It shows almost 600 million people in India may have to counter supply disruptions as surface water from rivers and lakes declines, and that at least 100 million live in areas of poor water quality. India draws 55 cubic miles of groundwater a year, more than a quarter of the global total, according to World Bank data. Agriculture uses the most, growing about 70 percent of India's grains with it, followed by industry.

WRI's tool compiles data from various Indian government departments including the Central Ground Water Board, the India Meteorological Department and Columbia Water Center to help companies measure water risk at their locations.

A day earlier, India said it's spent 59 billion rupees (\$956 million) on sewage and waste treatment to begin cleaning its threatened waterway, the Ganges River. And the Indian government, operator of

the world's fourth-biggest railway network, announced plans to build more rainwater harvesting tanks and water-vending machines at stations to boost supplies.

(The initial story was corrected in 2nd paragraph to levels in 54 percent of wells fell instead of a 54 percent fall.)

“Half of India Is Facing High Water Stress From Over-Usage”, 27/02/2015, online at:

[http://www.bloomberg.com/news/articles/2015-02-27/54-of-india-is-facing-high-water-stress-from-over-usage?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=06eb7bc70a-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-06eb7bc70a-250657169](http://www.bloomberg.com/news/articles/2015-02-27/54-of-india-is-facing-high-water-stress-from-over-usage?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=06eb7bc70a-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-06eb7bc70a-250657169)

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## ❖ Water loss: seven things you need to know about an invisible global problem

While concerns over water conservation, access and hygiene feature high on the news agenda, the problem of water loss often gets overlooked. Yet this vital issue affects millions of lives. A [recent live discussion hosted by Guardian Sustainable Business](#) looked at the role business and government should play in addressing global water loss and where things are set to go next. Here's what you need to know.

### What do we mean when we talk about water loss?

[Water](#) loss is often referred to as non-revenue water (NRW) – water that is produced in a network but never reaches the consumer. This might be due to aging networks which haven't been properly managed, metering inaccuracies, theft or unmetered authorised consumption, like water used from fire hydrants.

It's not a problem restricted only to the developing world either – [Montreal, for example, loses 40% of the water it produces](#) (pdf).

But Louise Whiting from WaterAid was keen to make sure the word “lost” is properly defined. “Very often”, she said, “water is used but then returned to the system in virtually the same quantity”.

So when we speak of water loss in an industrial sense, we're referring to that which is not returned to the system through natural processes like, for example through plant transpiration.

### There isn't a one-size fits all reason which explains water loss

Plain, old-fashioned leaky pipes have much to answer for in explaining why [NRW costs utilities about \\$14bn \(£9bn\) per year](#), but Marco Fantozzi, water loss regional representative for south east Europe for the International Water Association, says not all NRW is due to leakage.

Distribution systems in many parts of the world are not efficient enough, he says, and there is a lack of “state of the art technologies, not enough awareness of best practice methodologies and not enough training”.

So addressing this global issue means looking at infrastructure, but also at utilities, and if they're embracing new technologies and investing in staff training.

Newer cities might have better rates of loss as well, like in the US where most distribution systems are younger than 100 years. These systems "may have less loss due to improved materials of construction and better construction techniques", said Dale Jacobson, governor of the World Water Council.

### **Consumers have a part to play in this issue**

In the UK, the majority of consumers feel that their utility is not doing enough to reduce leakage - 70% in fact, according to Tony Smith, chief executive of the Consumer Council for Water. This perspective in turn affects consumers' motivation to conserve water themselves.

"Two thirds of water customers feel their efforts to save water make little difference when so much is being lost through leakage", offered Smith. At the end of the day, industrial water loss is a public policy issue which must be addressed by business and government, but consumers can put the pressure on. And they can do their part when it comes to conserving water at home and when on holiday.

### **Governments should be imposing targets on utilities to reduce losses**

In the UK, OfWat, which is responsible for regulating water usage, has targets in place which water companies must meet as regards water loss reductions. Fantozzi mentioned that this was something European governments should be replicating. "UK utilities are in general more efficient than the average European utility," he said.

The very fact that water loss isn't a widely known or understood problem means policymakers and government need to integrate targets into country and international-level agreements, but [political will sometimes lacks](#).

## Technologies and solutions are available

First of all, you must address the more “low-hanging fruits” - active leakage control and pressure management, said Morten Riis, business development manager at Grundfos. Maintaining stable pressure in pipes within a distribution network “has proven to have a positive and immediate effect on reducing the water loss.” And technologies like intelligent water pumps and distributed sensor systems for leak detection offer great opportunities for efficiency improvements.

Jacobson also highlighted water audit programs offered by the American Water Works Association (AWWA) and the International Water Association (IWA). “The IWA/AWWA Water Audit Method features sound, consistent definitions for the major forms of water consumption and water loss encountered in drinking water utilities. It also features a set of rational performance indicators that evaluate utilities on system-specific attributes such as the average pressure in the distribution system and total length of water mains.”

## The private sector will play an important role in reducing water loss in the developing world

Governments in the developing world don’t necessarily have the financial resources to invest in network infrastructure - [their efforts would more likely be centred around issues of hygiene or access](#). Indeed, Leong Ching, senior research fellow at the Institute of Water Policy, University of Singapore says the likelihood of developing countries being able to finance new and improved infrastructure developments is slim. 7% of the world’s population was served by private water companies in 2009, whereas that figure is projected as 23% for 2015, she says.

Jacob Tompkins, managing director at WaterWise said: “There is a big role for public-private sector collaboration, but ... the key is appropriate regulation of this process – this is where NGO and community group involvement is essential.”

## Are corporates getting involved?

Selma Spaas, program leader of the International Water Leadership Programme at Nyenrode Business Universiteit brought up this important question. The burden of managing water loss is often naturally pinned to utilities and government, but corporations can get their feet wet too, or dry in this

case. “I won’t mention them by name,” said Smith, but there are “major retail household brands’ operating in the UK and overseas” who have done a lot. In an effort to save money and as part of their corporate social responsibility strategy, Smith mentions that supermarkets in particular are communicating to their customers about water conservation.

Hannah Greig, private sector advisor at WaterAid was a bit more sceptical, however. “Corporates are recognising water is an increasing risk but action isn’t yet following at the same pace - and even fewer corporates are including the impact on communities as part of their risk assessments,” she said.

Considering the World Economic Forum ranked water crises as the top global risk in its [2015 Global Risks Report](#), business would be wise to engage in reducing water loss.

*The [water hub](#) is funded by Grundfos. All content is editorially independent except for pieces labelled ‘brought to you by’. Find out more [here](#).*

“Water loss: seven things you need to know about an invisible global problem”, 02/03/2015, online at:  
[http://www.theguardian.com/sustainable-business/2015/mar/02/water-loss-eight-things-you-need-to-know-about-an-invisible-global-problem?utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=06eb7bc70a-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-06eb7bc70a-250657169](http://www.theguardian.com/sustainable-business/2015/mar/02/water-loss-eight-things-you-need-to-know-about-an-invisible-global-problem?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=06eb7bc70a-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-06eb7bc70a-250657169)

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### ❖ Balkan dam boom threatens Europe's last wild waterways

More is known about rivers in the Amazon than Europe's last wild waterways in the Balkans. But these unique ecosystems in south-east [Europe](#) could soon be gone, along with endangered species such as the balkan lynx, if plans for over 2,000 dams go ahead, conservationists warn.

Western financial institutions have ploughed hundreds of millions of dollars into building dams in the region, arguing that hydropower is a green energy source that offers poor countries a way out of energy insecurity.

The Guardian has learned that the European Bank of Reconstruction and Development (EBRD) is on the verge of cancelling one €65m (£48m) showcase project in Macedonia's Mavrovo national park, after sustained environmental criticism centred on the potential extinction of the Balkan lynx.

But other projects are still in the pipeline, even if much of the energy they produce is destined for export.

On past trends, deforestation and soil erosion will follow, along with irrevocable changes to the course and character of untamed rivers, a quarter of which lie in pristine national parks and protected areas, according to new analysis by [RiverWatch](#) and [Euronatur](#).

“What we have here in the Balkans at the moment is a gold rush on the rivers,” says Ulrich Eichelmann, the director of RiverWatch, an Austria-based NGO. “I sometimes think the western countries that are financially supporting this degradation process have no idea what they are destroying. There is nothing in Europe remotely like this river system.”

From the mountains of Greece where it is known as the Aoös, the Vjosa flows for 270km to the Adriatic Sea, reaching a girth of 2.3km at its widest, its course and shape changing with the seasons and rainfalls.

“Scientifically we know more about some rivers in the Amazon than about the Vjosa,” Professor Fritz Schiemer of the University of Vienna told the Guardian. “We have very little knowledge about the biodiversity of the river ecosystem, and its ecological processes like sediment transport.”

But eight sites are being sized up for dam development along the Vjosa by foreign companies. The new Albanian government is privately resisting their approaches.

Edi Rama, Albania's prime minister, told the Guardian that in his first six months in office, "I didn't pass one day at work without someone calling or emailing me from [Albania](#), Europe, or America, with this line: 'We are interested in a hydropower plant development'."

"Damian [Gjiknuri, the country's energy minister] was overwhelmed. He said 'What is this? Everyone wants to build a hydropower plant in our country. It looks as if we will repeat the great harm done by building illegal houses with hydropower plants everywhere and in the end we'll have no water for irrigation'."

Last year, foreign investment in extraction and privatisations across Albania's hydropower sector made up [almost 10% of the country's GDP](#).

Across the Balkans, RiverWatch says it has evidence of 435 dams planned in Albania, 400 in [Macedonia](#) and Bulgaria each, 700 in Serbia, more than 100 in Bosnia and Hungary apiece, 70 in Montenegro and more than 50 in Slovenia.

In Albania, dam licenses already issued have an investment value of over £1.8bn, according to documents seen by the Guardian.

A quarter of the 646 larger hydropower plants that RiverWatch has analysed are in national parks and protected areas, or gold standard environmental sites covered by Natura 2000, Emerald, World Heritage, Ramsar and Biosphere.

Twenty-two of these are still slated for Mavrovo, Macedonia's oldest and largest national park, a stunning 730 sq km wilderness of birch and pine forests, gorges, waterfalls, peat lands, and the country's highest mountains.

Slate-coloured cliffs jut skywards until they disappear in mist. The air is alpine fresh. Snow-capped peaks and frosted pines tower above the remnants of avalanches on the park's snaking roads. Beneath them, the raging ice blue Mala Reka river smashes itself upon rock clumps, churning up foam.

Mavrovo houses more than 1,000 plant species, and provides a sanctuary for bears, wolves, golden eagles and critically endangered species such as the balkan lynx, less than 50 of which are still thought to be alive.

## Advertisement

But conservationists say that the planned dams will bring roads, transmission lines, noise, industrial disturbance and an influx of human activity, likely to scare animals from the park – making them easy prey for poachers.

“The lynx is a charismatic and very secretive animal,” says Alexander Stojanov, a project coordinator with the Balkan Lynx Recovery Project. “It prefers untouched wilderness areas where there are no disturbances. Construction would chase away the lynx’s prey and it will have to go outside the protected area – where there is no protection – and face the fate of being poached. There will definitely be a risk of extinction.”

The lynx is a beloved icon in Macedonia, etched into coins, stamps, and the national football team’s shirts. “It is our symbol in the world,” said Shuip Marku, a former farmer in nearby Debar town. “It is our lion.”

Despite that, poachers are active even inside the park and are believed to have killed one lynx that Stojanov’s team had fitted with a GPS collar. After an EBRD report denied that any lynx were present in the park, Macedonia’s environment ministry refused the Lynx Recovery Project permission to set any more photo traps, and the last feline pictures were taken in 2013.

The EBRD was later forced to retract that claim but its impact assessment for the dam was widely criticised for another suggestion that dams would help otters by increasing their access to food.

The International Union for the [Conservation](#) of Nature (IUCN) complained of a “superficial, incomplete and misleading” assessment that showed an “absence of basic understanding of otter behaviour as well as the functioning of river ecosystems”.

In a letter to the EBRD seen by the Guardian, the IUCN's director, Julia Marton-Lefèvre urged the EBRD to halt its funding for a hydropower project at Boškov Most in Mavrovo, saying it presented “direct threats to critical species and habitats present in the area”.

Almost 100,000 people signed [a petition against the project](#), 119 environmental scientists [protested](#), and in December, the standing committee of the Bern Convention added to the pressure, [opening an inquiry](#) into the levees.

An EBRD spokeswoman told the Guardian that no funds had yet been disbursed for Boškov Most and the project is currently suspended . “At the moment, there is a [new] environmental assessment going on. Until it is finished, nothing is going to go ahead,” she said.

A bank source added: “There’s a lot of anger from conservationists and that makes work on the ground for our staffers very difficult. It is very likely that we will have to turn around and walk away from it.”

The World Bank, however, is still planning a €70m loan to build another large dam in Mavrovo at Lukovo Pole, in a border area with Kosovo, where the national dividing lines were recently changed in a way that fortuitously allowed the dam’s construction.

Across the Mavrovo region, dam proposals also have an ethnic dimension, sparking fury from local ethnic Albanian communities – a minority in Macedonia – who say that they would divert waters from their villages, which already suffer water shortages in summer, and destroy local agriculture, as well as ‘slow food’ culinary traditions.

“It is a big problem,” Marku said. “People believe that these projects are intended to steal the water and force Albanian people off their land.”

Thousands of ethnic Albanians have already emigrated from Debar, staging anti-dam demonstrations in countries such as Italy that mirror protests in Debar, although these are often staged in defiance of what Marku and others say is official intimidation.

In Albania about a third of energy is imported but the rest comes from hydropower, which is classified by the International [Energy](#) Agency thinktank as renewable. The country is regularly hit by blackouts all the same.

Some environmentalists question whether hydro should be classed as a clean energy. “It is not renewable as neither the landscape nor its biodiversity are renewable,” Eichelmann said. “When they are gone, they are gone.”

WWF is more supportive of hydro but says that [stringent environmental criteria are needed](#).

“The siting of hydro in protected areas is a real problem in south-east Europe,” said Jason Anderson, WWF Europe’s head of climate and energy. “Sometimes a location is absolutely not appropriate, and we fight against that. But there are also adequate sites that can be found, when countries cannot meet their energy needs in other ways.”

Albania views new hydro plants as a source of energy independence and “a good source of hard energy for export”, according Gjijknuri. But around [42% of the country’s electricity supplies](#) are lost in distribution, often due to theft from electricity lines.

The government claims great advances in curbing power piracy but many Albanians expect this to be reversed as price hikes from privatised hydro projects are rapidly passed on by foreign firms looking to recoup investment costs.

“The local people will not get energy for free for sure,” said Gilberto Yaceh, the mayor of Përmet, a picturesque town on the Vjosa. “They will pay for it. The dams bring nothing good for the local people.”

Albania’s energy ministry has put dozens of projects authorised in the last year on hold, but says that its hands are tied by fears of warding off foreign investment.

More than 200 Sali Berisha-era projects have been cancelled, which Edi Rama links to “a kind of black market of corruption... a madness”. But Albania walks a thin line between preserving its beauty and economic needs, he added.

Rama is a former artist, who [painted Tirana's stalinist-era buildings in kaleidoscopic colours](#) when he was the city's mayor. Environmentalists view him as a natural ally but he gives the impression of lacking the full power to roll back an environment free-for-all he disdains.

“The international financiers have not generally been as careful as they would have been if these things were being built in their courtyards,” he noted. “It is the curse of poor countries.” The Albanian prime minister says that he asked the EBRD to finance small-scale agricultural production instead, but “they were more interested in hydro”.

One dam, in Kalivac, reached an advanced stage before controversy stalled its progress, leaving a concrete hulk on the river's banks. “The trees along the river and on higher ground above it have been deforested since the beginning of the work,” Astrit Taka, a forestry worker in Kalivac told the Guardian. “Fifty-six hectares of plane and poplar trees in the river region have been cut down.”

The rivers of the Balkans inspire a deep attachment among the people who live near them – and songs too, like Poni's 2010 Albanian hit ‘Vjosa (Lumi I Kenges)’, which still booms from bars along the riverside. .

“What's so unique about the Vjosa eco system is not just that the river itself is completely intact but that its tributaries are too,” Eichelmann says. “They have their flood plains and the sediments they transport to the sea in a balanced system that's almost impossible to find anywhere else in Europe. We all grew up with rivers more or less damaged, regulated and dammed. This makes the Vjosa extraordinarily important as a model for the rivers we need to restore across the EU.”

By 2027, Europe's water framework directive will require all countries' bodies of water to be of a good ecological status. Ironically, for Macedonia and Albania to fulfil their aspirations of EU accession, they may need to roll back the effects of a hydropower boom that the EU's investment banks have foisted upon them.

The [EU's 2014 progress report on Macedonia's accession bid](#) said that the two big hydropower plants in Mavrovo raised “concerns about the potentially detrimental effect on the environment”.

Albanian hopes of EU membership by 2020 [fared little better](#) with the EU chiding it for a fragile power sector that is not very advanced in preparation for accession. An “almost exclusive reliance on hydropower exposes Albania to large fluctuations in power generation, resulting in large electricity imports in low-rainfall years,” the EU found.

Commission sources acknowledge effects that the planned dams are likely to have on the Balkans’ 69 fish species, but also the problems that new members often have with meeting the union’s environmental rules.

Balkan leaders such as Edi Rama say that a “huge investment” is needed to protect the region’s rivers from environmental degradation. But of late, EU officials have been more keen to push Tirana into clamping down on illegal cannabis growing than protecting its waterways.

“I don’t want to talk more about how EU money is planned,” Rama said. “It is to enter into a kingdom of wishful thinking. I have no illusions about it.”

“I understand we need to have prisons, courts, rule of law, all this,” he went on. “But just by improving the repressive side of the state you don’t improve the quality of life. Albania is rich in water, oil, minerals and presumably rich in gas but the biggest asset we have is beauty and the worst thing we’ve done in 20 years has been to draw scars on our country’s beautiful body.”

Environmentalists fear that these wounds could fester as flood plains disappear and water flows are channelled into narrower courses that are deeper, higher and move at faster speeds. Soil erosion caused by dam-related deforestation accentuates the process, adding to water volumes at flood peaks, which can only be controlled by opening sluice gates and letting out a torrent of water.

Albania may have received a taste of things to come earlier this month when it was buffeted by [the second worst floods in its history](#).

“If the Kalivac dam construction is finished and the water level rises in a flood, they would have to open the sluice gates next time so the flood would be greater,” said Servet Boni, a forestry engineer in Tepelena on the Vjosa’s banks.

“There will be an ecological catastrophe,” added Philip Deman, a forestry worker from the same town. “Not only for biodiversity but for the landscape. All this beauty will be lost.”

“Balkan dam boom threatens Europe’s last wild waterways “, 20/02/2015, online at:

[http://www.theguardian.com/environment/2015/feb/20/balkan-dam-boom-threatens-europes-last-wild-waterways?CMP=share\\_btn\\_tw&utm\\_source=Circle+of+Blue+WaterNews+%26+Alerts&utm\\_campaign=93fad06c1f-RSS\\_EMAIL\\_CAMPAIGN&utm\\_medium=email&utm\\_term=0\\_c1265b6ed7-93fad06c1f-250657169](http://www.theguardian.com/environment/2015/feb/20/balkan-dam-boom-threatens-europes-last-wild-waterways?CMP=share_btn_tw&utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=93fad06c1f-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-93fad06c1f-250657169)

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