



ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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



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❖ Let the waters rise again, Iraq

Kevin Davie travels to the revived marshland home of the enemies Saddam Hussein set out to destroy.

Like many South Africans I normally head for the coast over the holiday break, but not this year: I went to Iraq instead.

I teach a course at Wits Journalism called The Story of Money, which looks at the development of money from the earliest settled farming times, when people started producing surpluses and needed methods to manage these surpluses.

In what is southern Iraq today, the first city-states sprang up as complex societies, producing the first craft specialists, taxation to fund public works and pay civil servants, the emergence of counting, writing, credit and debt.

Interest was introduced, as were contracts and law, with courts being set up to administer the new civil justice. Much of what we know today as money was first developed in Sumer 5 000 or so years ago.

Archaeologists have been excavating here for some 200 years and hundreds of thousands of tablets have been discovered with Sumerian cuneiform, inscriptions made with a reed stylus on clay tablets.

Experts have been able to read cuneiform for about 150 years or so, meaning that today we know a lot about the Sumerians.

I was also keen to meet the Marsh Arabs, the people who have lived in the marshes with their water buffalo for thousands of years on islands constructed from reeds and soil. As is well known, Saddam Hussein went to war against the people of the south in the early 1990s, draining the marshes because they were used to hide from his army.

The marshes, which were 9 000km² extent before being drained, were turned into wasted deserts, leaving only 10% of marshland in an area adjoining Iran, where Saddam was unable to prevent water flowing in. I was keen to see both the marsh restoration project and visit Uruk, Sumeria's leading city. With a 5 000-year lifespan, Uruk is the most enduring city of all.

But just how safe would such a trip be I monitored news reports. There seemed to be daily bombings in the capital Baghdad, but none further south where I would be. There were bombings in Basra as well, where I would probably spend time. One report I read said that Baghdad had bombings and kidnappings; in Basra there were bombings, but no kidnappings.

You need to be invited to go to Iraq. Web searching brought up Azzam Alwash, an Iraqi who had left the country in 1976 to study in the United States.

Alwash returned after the fall of Saddam and set up Nature Iraq, a not-for-profit environmental advocacy and research entity, winning awards for his role in restoring the marshlands.

I mailed Alwash. He invited me to stay with Nature Iraq at a facility it has in the marshes and supplied me with a letter of invitation, which I sent with my visa application to the Iraqi embassy in Pretoria.

I did not know from one day to the next whether I would get the visa —but I did get it, and ended up flying to Basra in southern Iraq via Dubai. You cannot be met at the airport as no outside vehicles are permitted to drive to the airport building. You take a taxi for an expensive 4km ride through a set of security checks until you reach a car park, where Ahmed and Sayed from Nature Iraq met me.

My home from home would be El Chibaish, which is 120km from Basra. El Chibaish is on the Euphrates River and between two of the largest of the marshes, the Hammar Marsh south of the Euphrates, and the Central Marsh, between to the Euphrates and the Tigris. Jassim Alasadi, the director of Nature Iraq at El Chibaish, immediately arranged a trip into the marshes.

We drove a few blocks to the promenade that divides the town from the timeless Euphrates, where we met a boatman who took us into the Hammar Marsh. To get there, you go through a cutting in an embankment. Saddam put up these embankments on both sides of much of the Euphrates and the Tigris. They run for hundreds of kilometres, built to ensure their waters remained channelled in the rivers and that the marshlands were drained.

After Saddam fell in 2003 locals took spades and dug channels so that the marshes could once again get water. Alwash raised money from the Italians, who had been stationed at Nasariya, 100km west of El Chibaish, during the US-led invasion. Alwash used the first of this money to hire a mechanised earth mover to cut through the embankments.

Water began to flow into the parched, wasted landscape. The immediate result was troubling: the water turned a reddish brown, before settling to a more natural colour. But within months what had been barren, cracked soil returned to its watery paradise. The reeds grew. The fish came back – as did the birds and then the people.

The wider area of El Chibaish was home to 66 000 people before the marshes were drained, falling to just 6 000 as people fled the area, many making their way through refugee camps to foreign countries. The numbers now are similar – 62 000 – to what they were before Saddam's bulldozers moved in.

The boatman navigated us through the reeded wonderland. We came around a corner to find two women, cloaked in black from head to foot, in a canoe drawing in a fishing net. A little further on was the homestead of a Madan – buffalo breeder – family. A young man, surrounded by several children, waved us over.

The homestead is set on a reed island, providing a spongy base. There was one reed hut that provided the living area. Chickens roosted on the reeded floor. There was a place for a fire with a small kettle.

I did not see any other implements. An adjoining reed hut stored grain and the buffaloes had a partly enclosed barn just off the main hut. There were no mattresses or any other bulky items.

The Madan life remains nomadic for many. As the water level rises or falls, they put everything they own, including the dwellings, into the canoe and move to the next spot.

The only thing these people own that their ancestors didn't is an outboard motor for the canoe, giving them far greater range than previously and easier access to the market, where they sell fish, buffalo milk and cut reeds. Some marsh dwellers previously had electricity, but now there is none. But some do have cellphones and so are connected to the wider world. The toilet, as ever, is a quiet spot.

About 60% of the marshland has been restored, this being the limit of the reckoned available water. Debates rage between the water authorities nationally and regionally about what water goes where and a new dam on the Tigris in Turkey threatens both to flood part of the ancient town of Hasankeyf near Turkey's border with Iraq and to further restrict water flows to the south.

I managed two visits to Ur, an early city-state near Nasariya, which has the only surviving ziggurat anywhere. Ziggurats predate the Egyptian pyramids, although this one was more or less fully reconstructed this century.

The Ur ziggurat, which dates from about 4 000 years ago, was 26m tall, but so far has been reconstructed to just 17m with more work still to be done.

On one visit to Ur our group was the only party there. But Uruk, further to the north, gets even fewer visitors, about 100 a year. It was known as Unug to the people who built it, the Sumerians, is called Erech in the Bible and is presumably where the modern "Iraq" comes from.

The real-life king Gilgamesh, who inspired one of the greatest stories ever told, *The Epic of Gilgamesh*, lived here and had some of the walls built.

Today Uruk is just mounds – huge mounds, covered by endless broken pottery shards and some brickwork.

I had been disappointed that in my time in Iraq I had seen almost no cuneiform, but here, where writing was invented, were bricks inscribed with the distinctive script: a legible message from the past.

There was a large, broken bottom of a pot at one place. I asked the guide what it was. "A tanoor," he said, "for making bread." A 6 000-year-old clay oven. Every day at El Chibaish we had eaten flatbread – khubz – made in this way, with the dough being stuck to the side of the hot clay oven to bake

It may have been that I had gone to some risk and trouble to get to Uruk, or that the people who had lived there had gifted us so much, but the place seemed to have an extraordinary power about it, and it is possibly the most enigmatic place I have yet visited.

Early in the new year Islamist extremists took control of Fallujah, about 500km up the main road from El Chibaish and just 70km from Baghdad. This was met with dismay in the US; it had taken the loss of a third of all Americans killed during the US-led invasion of Iraq in the early 2 000s to capture Fallujah.

The ensuing violence in this province, Anbar, was to displace 120 000 people while I was in Iraq, adding to the already one million internally displaced Iraqis.

The death toll from politically related violence in the 27 days of my sojourn was more than 900, excluding 26 deaths by execution.

Most commentators see the success of the extremists – usually called al-Qaeda locally – as a failure of Prime Minister Nouri al-Maliki to bring Sunni Muslims into his government.

I would not want to present myself as an expert on Iraq after just four weeks in the country, but if only the solutions were this simple.

In an interview while I was there, Maliki identified dealing with the militias as one of his biggest challenges. Many Iraqi tribes – both Sunni and Shia – are well armed and forces in their own right. But as Maliki was saying this he was arming and bankrolling a Sunni militia in Fallujah, at local insistence, rather than sending in the army. The Americans had to do a similar thing back in 2007 to win control of the area.

Not only are the tribes well armed and organised, they also live by customary law, which trumps civil law in certain cases, including traffic deaths, where one tribe will pay a penalty of as much as \$100 000 to another in compensation, on pain of retribution.

Negotiations take place outside of any court process and the authorities are not involved, although, in the wider area I was in, a sheikh was currently in jail as part of a truce in a war between two rival factions.

If the Iraqis I spoke to have any criticism of the Americans it is around their role in shaping a new constitutional order for the country. They wanted a secular constitution but one that allowed religious freedom. Rather, the structure engineered by the Americans put Islamist political parties in control, heightening any potential conflict between the Shia and Sunni nationalisms.

In the post-Saddam era the political void saw the tribal authorities come back into contention. Some see the tribes as stabilising an otherwise unstable polity, but the concoction the Americans oversaw favours tribal traditionalism and religious conservatism over rule by civil institutions.

The security sector is large, with about one million people employed by the police and army. The private sector is limited and thousands of Saddam-era state enterprises were closed down after his fall as they could not pay their own way outside of his protection. Iraq now makes, packages or processes

almost nothing. I scrutinised the products that came my way, but, outside of bottled water, found just about nothing with the label "Made in Iraq".

Oil revenues are pretty much the sole source of income for the Iraqi government, comprising about 90% all revenues. Many Iraqis are employed as civil servants, critics saying they implement Saddam-era regulation to ensure that Iraq has high levels of dysfunction.

This was my experience. I stayed for just four weeks but had to apply for three visas, one to enter, one to stay and one to leave, requiring nine trips from El Chibaish to Basra, a journey of 240km each time.

The visa process was so complex and opaque that I was beginning to think that I would not be allowed to leave; that more and more hidden rules would be thrown up to make this impossible.

Mail& Guardian editor Angela Quintal contacted the South African department of international relations and co-operation on my behalf as these difficulties became more intractable. South Africa does not have representation in Iraq, but a diplomat was ready to fly in from Oman to assist. But then, the next day, and not without more frustration, I got the exit visa and could leave.

Despite the challenges I would go back. I remain fascinated by Iraq's ancient past and, besides, I now have friends there too.

Saddam still haunts women

The most disturbing thing to me about Iraq was the position of women. Where women are marginalised, this can be seen as the role of Islam, but this is not my view. Countries such as Turkey and Morocco, both of which I have recently visited, though hardly bastions or role models for the rights of women, show that women can be active participants in the economy and dress liberally if they wish, at least in the major centres.

In four weeks in Iraq I did not have a single conversation with a woman, and I only saw one woman who showed her hair.

I was not in Baghdad, but Basra and Nasarisya — which I visited several times — are sizeable Iraqi cities, yet women were grossly under-represented in the government buildings I visited.

A common view is that women were more visible during the Saddam Hussein days. This is backed by books such as Gavin Young's *Return to the Marshes* (1977), in which he says that, after a period

of being relatively covered until getting married, women would join their husbands and be as public and engaged as them.

Many marsh women retreated when they saw us coming. Few engaged with us at all. While the men gave friendly greetings from their boats, I don't recall a single woman doing this. They huddle in their cloaks, not acknowledging the world around them.

One view is that the new conservatism results from Iraqis being refugees in Saudi Arabia and Iran, both relatively conservative Islamic countries. My own sense is that the repression these people faced as Saddam turned his army on them, and associated economic hardships, have led them to withdraw, to cut themselves off from the world outside.

“Let the waters rise again, Iraq”, 14/02/2014, online at: <http://mg.co.za/article/2014-02-13-let-the-waters-rise-again-iraq>

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❖ Iran, Armenia to Ramp Up Efforts to Reduce Aras River Pollution

TEHRAN (Tasnim) - Iranian energy minister and Armenia's minister of environmental protection agreed on Wednesday to step up Tehran-Yerevan joint efforts to monitor and reduce water pollution in the Aras River.

The Iranian capital of Tehran saw Energy Minister Hamid Chitchian, and the visiting Armenian minister of environmental protection, Aram Harutyunian, holding a meeting today to discuss a range of environmental issues, including active cooperation to tackle the Aras River pollution.

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

In the meeting, the two ministers, accompanied by their senior advisers, decided that Iran and Armenia should put efforts into monitoring water pollution in Aras online and take measures to stop the discharge of toxic waste from the copper factory into the river.

The Aras is a river located in and along the countries of Turkey, Armenia, Azerbaijan, and Iran. Its total length is 1,072 kilometers. Given its length and a basin that covers an area of 102,000 square kilometers, it is one of the largest rivers of the Caucasus.

The Aras River rises near Erzurum, Turkey. It meets with the Akhurian River southeast of Digor, flows along the Turkish-Armenian border, and then near a corridor that connects Turkey to Nakhchivan.

It then flows along the Iranian-Azerbaijan and the Iranian-Armenian border. The river then flows along the border between Iran and Azerbaijan to meet with the Kura River at the village of Sabirabad. It then directly flows into the Caspian Sea.

"Iran, Armenia to Ramp Up Efforts to Reduce Aras River Pollution", 12/02/2014, online at: <http://www.tasnimnews.com/English/Home/Single/281896>

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❖ Lack of rainfall leaves Iranian cities with little water

Iran's power ministry has reported that the current year is "the worst year in terms of precipitation" and eight major Iranian cities will face serious water shortages as a result.

ISNA reports that Sattar Mahmoudi, the deputy minister of power, says that despite recent reports of precipitation, this remains the year with the lowest level of precipitation across the country in the past 46 years.

Water supplies have reached emergency levels in Tehran, Isfahan, Bandar Abbas, Mashhad, Qom, Shiraz, Ahwaz and Abadan. Mahmoudi says committees must be established to figure out how to provide these cities with a long-term, dependable source of clean drinking water.

The average temperature in Iran is expected decline by three to five degrees over the next 90 years, with significant reductions in precipitation and the volume of water underground.

"Lack of rainfall leaves Iranian cities with little water", 15/02/2014, online at:
<http://archive.radiozamanah.com/english/content/lack-rainfall-leaves-iranian-cities-little-water>

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❖ Iran gets Armenia to halt Araz River pollution

Armenia is committed to halt polluting Araz River, Iranian Energy minister, Hamid Chitchian said, Iran's Fars news agency reported on Feb. 13.

The two sides discussed a range of environmental issues, including active cooperation to tackle the Aras River pollution during the visit of Armenian nature protection minister Aram Harutyunyan to Tehran, Chitchian said.

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

Armenia established a waste water recycling plant beside the Zangezur copper factory earlier to prevent the river's pollution, Chitchian said, adding that but it has not operated continuously.

The two sides agreed to online monitoring of the recycling plant to ensure the process is not halted, he underlined.

The recycling plant was created by Armenian assets and Iran has not paid any money for its establishment, the minister said.

The Araz is a river located in and along the countries of Turkey, Armenia, Azerbaijan, and Iran. Its total length is 1,072 kilometers. Given its length and a basin that covers an area of 102,000 square kilometers, it is one of the largest rivers of the Caucasus.

It joins with the Kura River at the village of Sabirabad and then directly flows into the Caspian Sea.

More than 350 million cubic metres of chemically and biologically polluted water annually are injected into the Kura River (without neutralisation) from the territory of Armenia, and heavy metals, phenols, oil products, radioactive and other harmful substances can be observed in the water samples, Azerbaijani Environment and Natural Resources Ministry announced in 2007.

Armenian Zangezur Copper Molybdenum Combine, which produces some 40,000 tons of copper each year, is one of the main sources of the Araz River pollution.

The recent monitoring of the Azerbaijani Environment and Natural Resources Ministry (first decade of February) indicates that biogenic substances in the Kur and Araz rivers exceed normal levels. The monitoring results revealed that untreated waste water and sewage industry run off from the territory of Georgia and Armenia has made the amount of biogenic substances in the Kur River and its tributaries much higher than normal, the Ministry said.

The level of phenol and copper in the water has exceeded the norm in the Aghstafachay River as well as the Araz River.

Zangezur Copper and Molybdenum Combine is the Armenian government's largest taxpayers. In January-September 2013, the Combine replenished the Armenia's state budget with some \$63.8 million.

“Iran gets Armenia to halt Araz River pollution”, 13/02/2014, online at: <http://en.trend.az/regions/iran/2241761.html>

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❖ Iran to start transferring River Araz water to Lake Urmia soon

The required environmental and technical permission for the implementation of the project to transfer the River Araz water to Lake Urmia have already been received. The economic evaluation of the project has been carried out and its implementation will soon begin, member of the Iranian parliament's presidium Alireza Munadi said on Feb.12, the Iranian İRNA agency reported.

Munadi said the contracting companies in this project have already been determined and investments for the implementation of the project will be provided by a German company. Currently, preparatory work to start the project is underway and the project will be launched by the end of the year (a year in Iran begins on March 21), according to Munadi.

The member of the Iranian parliament's presidium also stressed that around \$1.2 billion will be invested in the project.

Lake Urmia covers nearly 6000 square kilometres of area. During the migration of migratory birds, the lake becomes their temporary home. Because of the prolonged drought, Urmia shallows are having an impact on the flora and fauna of the region.

Lake Urmia must have some 32 billion cubic meters of water however, but today half of it is shallow.

“Iran to start transferring River Araz water to Lake Urmia soon”, 13/02/2014, online at:

<http://en.trend.az/regions/iran/2241156.html>

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❖ Water crisis brings threats of Mideast war, terrorism: report

BEIRUT, Lebanon, Feb. 14 (UPI) -- Satellite data released by the University of California, Irvine, shows the world's water supply is disappearing fast because of agricultural demand, an expanding population, energy production and climate change, with the Middle East, Africa and Asia in particular facing crisis in the next few years.

Another study, this time from the Pacific Institute of Oakland, Calif., which monitors global water and security issues, reports a fourfold increase in violent confrontations over water in the last 10 years.

Together, these studies present an extremely bleak picture of how vast areas of the planet, from California to the Asian Steppe, are heading for severe, and probably deadly, water shortages.

"I think the risk of conflicts over water is growing -- not shrinking -- because of bad management and, ultimately, because of the impact of climate change," Pacific Institute director and co-founder Peter Gleick told the British newspaper the Guardian.

The data obtained by the University of California was downloaded Jan. 17 from two gravity-sensing Grace satellites, two craft lofted into space from Russia's Plesetsk Cosmodrome March 17, 2002, as part of the Gravity Recovery and Climate Experiment jointly run by the U.S. National Aeronautical and Space administration and the German Aerospace Center.

These satellites are considered cutting-edge tools in studying Earth's oceans, geology and climate and reputedly have produced maps 1,000 times more accurate than all previous maps.

James Famiglietti, a hydrologist at the University of California, notes that on the satellite images the biggest water losses appeared as red hotspots.

"Almost all of those correspond to major aquifers of the world," he said in the report. "What Grace shows us is that groundwater depletion is happening at a very rapid rate in almost all of the major aquifers in the arid and semi-arid parts of the world."

The water losses are immense. According to Grace mission data, published by the Guardian, in seven years starting in 2003, parts of Syria, Turkey, Iraq and Iran along the Euphrates and Tigris Rivers lost 144 cubic kilometers (34.5 cubic miles) of fresh water.

Iran is facing a shortage so severe, the government is making contingency plans for rationing in the greater Tehran area, which has a population of about 22 million.

Experts blame climate change, wasteful irrigation practices and a depletion of groundwater as the key factors behind the worsening shortages.

An Iranian dam construction program is seen as one major cause, a recurring element in the growing water shortage across the region.

Egypt's currently is at odds with Ethiopia over its construction of a \$4.2 billion, 6,000-megawatt hydroelectric dam on the Blue Nile, a major tributary of the Nile, that Cairo claims will reduce the water flow that is Egypt's lifeline by 20 percent.

Addis Ababa refuses to abandon the Grand Renaissance Dam, which it views as vital to Ethiopia's national security.

Cairo has vowed to protect its "historical rights" to the lion's share of the Nile water, enshrined in British colonial-era agreements, "at any cost."

Water shortages in the United Arab Emirates are so severe the Persian Gulf federation is reported using non-conventional resources, such as desalination, treated wastewater and even cloud-seeding, to help it through the unfolding crisis.

"For us, water is now more important than oil," Gen. [Sheik Mohammed](#) bin [Zayed al-Nahyan](#), the Emirati crown prince, told a recent international water conference in [Abu Dhabi](#).

Jordan, which has the region's third lowest water reserves, reported last week its already limited water resources are being strained to the limit by the influx of 600,000 refugees from the Syrian civil war.

As the resource-poor Hashemite kingdom, which in the past has clashed with Israel over water, undergoes power cuts because of water shortages, Prince Hassan, uncle of [King Abdullah II](#), warned a war over water and energy could be bloodier than the political upheavals sweeping the Arab world.

The University of California's Famiglietti warned time is running out for concerted action to head off the crisis.

"We're standing on a cliff looking over the edge and we have to decide what to do," he observed.

"Are we just going to plunge into this next epic drought and tremendous, never-before-seen rates of groundwater depletion, or are we going to buckle down and start thinking of managing critical reserve for the long term? We're standing on a precipice here."

"Water crisis brings threats of Mideast war, terrorism: report", 14/02/2014, online at:

http://www.upi.com/Business_News/Energy-Resources/2014/02/14/Water-crisis-brings-threats-of-Mideast-war-terrorism-report/UPI-42231392412195/

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❖ Peruvian President To Visit Middle East Mid-february

LIMA, Feb 13 (BERNAMA- NNN-ANDINA) -- Peruvian President Ollanta Humala Tasso will travel to the Middle East this month to strengthen relations with three countries in this region.

Humala on Wednesday received authorisation from Peru's Congress to visit Israel, Palestine and Qatar from Feb 14 to Feb 22.

"Peru hopes to promote areas of mutual interest to support development, environment conservation and intercultural dialogue, while giving a boost to trade and investment ties and strengthening cooperation in key areas with Middle East countries," the Congress said in a statement.

Key areas include water resources management, agriculture, energy, infrastructure, education and technology transfer, among others.

“Peruvian President To Visit Middle East Mid-february”, 12/02/2014, online at:

<http://www.bernama.com.my/bernama/v7/wn/newsworld.php?id=1014238>

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❖ **From California to the Middle East, water shortages pose threat of terror and war**

Huge areas of the world are drying up and a billion people have no access to safe drinking water. US intelligence is warning of the dangers of shrinking resources and experts say the world is 'standing on a precipice'

On 17 January, scientists downloaded fresh data from a pair of Nasa satellites and distributed the findings among the small group of researchers who track the world's water reserves. At the University of California, Irvine, hydrologist James Famiglietti looked over the data from the gravity-sensing Grace satellites with a rising sense of dread.

The data, released last week, showed California on the verge of an epic drought, with its backup systems of groundwater reserves so run down that the losses could be picked up by satellites orbiting 400km above the Earth's surface.

"It was definitely an 'oh my gosh moment'," Famiglietti said. "The groundwater is our strategic reserve. It's our backup, and so where do you go when the backup is gone?"

That same day, the state governor, Jerry Brown, declared a drought emergency and appealed to Californians to cut their water use by 20%. "Every day this drought goes on we are going to have to tighten the screws on what people are doing," he said.

Seventeen rural communities are in danger of running out of water within 60 days and that number is expected to rise, after the main municipal water distribution system announced it did not have enough supplies and would have to turn off the taps to local agencies.

There are other shock moments ahead – and not just for California – in a world where water is increasingly in short supply because of growing demands from agriculture, an expanding population, energy production and climate change.

Already a billion people, or one in seven people on the planet, lack access to safe drinking water. Britain, of course, is currently at the other extreme. Great swaths of the country are drowning in misery, after a series of Atlantic storms off the south-western coast. But that too is part of the picture that has been coming into sharper focus over 12 years of the Grace satellite record. Countries at

northern latitudes and in the tropics are getting wetter. But those countries at mid-latitude are running increasingly low on water.

“What we see is very much a picture of the wet areas of the Earth getting wetter,” Famiglietti said. “Those would be the high latitudes like the Arctic and the lower latitudes like the tropics. The middle latitudes in between, those are already the arid and semi-arid parts of the world and they are getting drier.”

On the satellite images the biggest losses were denoted by red hotspots, he said. And those red spots largely matched the locations of groundwater reserves.

“Almost all of those red hotspots correspond to major aquifers of the world. What Grace shows us is that groundwater depletion is happening at a very rapid rate in almost all of the major aquifers in the arid and semi-arid parts of the world.”

The Middle East, north Africa and south Asia are all projected to experience water shortages over the coming years because of decades of bad management and overuse.

Watering crops, slaking thirst in expanding cities, cooling power plants, fracking oil and gas wells – all take water from the same diminishing supply. Add to that climate change – which is projected to intensify dry spells in the coming years – and the world is going to be forced to think a lot more about water than it ever did before.

The losses of water reserves are staggering. In seven years, beginning in 2003, parts of Turkey, Syria, Iraq and Iran along the Tigris and Euphrates rivers lost 144 cubic kilometres of stored freshwater – or about the same amount of water in the Dead Sea, according to data compiled by the Grace mission and released last year.

A small portion of the water loss was due to soil drying up because of a 2007 drought and to a poor snowpack. Another share was lost to evaporation from lakes and reservoirs. But the majority of the water lost, 90km³, or about 60%, was due to reductions in groundwater.

Farmers, facing drought, resorted to pumping out groundwater – at times on a massive scale. The Iraqi government drilled about 1,000 wells to weather the 2007 drought, all drawing from the same stressed supply.

In south Asia, the losses of groundwater over the last decade were even higher. About 600 million people live on the 2,000km swath that extends from eastern Pakistan, across the hot dry plains of northern India and into Bangladesh, and the land is the most intensely irrigated in the world. Up to 75% of farmers rely on pumped groundwater to water their crops, and water use is intensifying.

Over the last decade, groundwater was pumped out 70% faster than in the 1990s. Satellite measurements showed a staggering loss of 54km³ of groundwater a year. Indian farmers were pumping their way into a water crisis.

The US security establishment is already warning of potential conflicts – including terror attacks – over water. **In a 2012 report**, the US director of national intelligence warned that overuse of water – as in India and other countries – was a source of conflict that could potentially compromise US national security.

The report focused on water basins critical to the US security regime – the Nile, Tigris-Euphrates, Mekong, Jordan, Indus, Brahmaputra and Amu Darya. It concluded: “During the next 10 years, many countries important to the United States will experience water problems – shortages, poor water quality, or floods – that will risk instability and state failure, increase regional tensions, and distract them from working with the United States.”

Water, on its own, was unlikely to bring down governments. But the report warned that shortages could threaten food production and energy supply and put additional stress on governments struggling with poverty and social tensions.

Some of those tensions are already apparent on the ground. **The Pacific Institute, which studies issues of water and global security**, found a fourfold increase in violent confrontations over water over the last decade. “I think the risk of conflicts over water is growing – not shrinking – because of increased competition, because of bad management and, ultimately, because of the impacts of climate change,” said Peter Gleick, president of the Pacific Institute.

There are dozens of potential flashpoints, spanning the globe. In the Middle East, Iranian officials are making contingency plans for water rationing in the greater Tehran area, home to 22 million people.

Egypt has demanded Ethiopia stop construction of a mega-dam on the Nile, vowing to protect its historical rights to the river at “any cost”. The Egyptian authorities have called for a study into whether the project would reduce the river’s flow.

Jordan, which has the third lowest reserves in the region, is struggling with an influx of Syrian refugees. The country is undergoing power cuts because of water shortages. Last week, Prince Hassan, the uncle of King Abdullah, warned that a war over water and energy could be even bloodier than the Arab spring.

The United Arab Emirates, faced with a growing population, has invested in desalination projects and is harvesting rainwater. At an international water conference in Abu Dhabi last year, Crown Prince General Sheikh Mohammed bin Zayed al-Nahyan said: “For us, water is [now] more important than oil.”

The chances of countries going to war over water were slim – at least over the next decade, the national intelligence report said. But it warned ominously: “As water shortages become more acute beyond the next 10 years, water in shared basins will increasingly be used as leverage; the use of water as a weapon or to further terrorist objectives will become more likely beyond 10 years.”

Gleick predicted such conflicts would take other trajectories. He expected water tensions would erupt on a more local scale.

“I think the biggest worry today is sub-national conflicts – conflicts between farmers and cities, between ethnic groups, between pastoralists and farmers in Africa, between upstream users and downstream users on the same river,” said Gleick.

“We have more tools at the international level to resolve disputes between nations. We have diplomats. We have treaties. We have international organisations that reduce the risk that India and Pakistan will go to war over water but we have far fewer tools at the sub-national level.”

And new fault lines are emerging with energy production. America's oil and gas rush is putting growing demands on a water supply already under pressure from drought and growing populations.

More than half the nearly 40,000 wells drilled since 2011 were in drought-stricken areas, a report from the **Ceres green investment network** found last week. About 36% of those wells were in areas already experiencing groundwater depletion.

How governments manage those water problems – and protect their groundwater reserves – will be critical. When California emerged from its last prolonged dry spell, in 2010, the Sacramento and San Joaquin river basins were badly depleted. The two river basins lost 10km³ of freshwater each year in 2012 and 2013, dropping the total volume of snow, surface water, soil moisture and groundwater to the lowest levels in nearly a decade.

Without rain, those reservoirs are projected to drop even further during this drought. State officials are already preparing to drill additional wells to draw on groundwater. Famiglietti said that would be a mistake.

“We are standing on a cliff looking over the edge and we have to decide what we are going to do,” he said.

“Are we just going to plunge into this next epic drought and tremendous, never-before-seen rates of groundwater depletion, or are we going to buckle down and start thinking of managing critical reserve for the long term? We are standing on a precipice here.”

“From California to the Middle East, water shortages pose threat of terror and war”, 09/02/2014, online at: <http://www.rawstory.com/rs/2014/02/09/from-california-to-the-middle-east-water-shortages-pose-threat-of-terror-and-war/>

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❖ EU parliament chief highlights Palestine water shortage

BRUSSELS - Right-wing Israeli MPs have savaged European Parliament President Martin Schulz over his remarks on water politics.

The German centre-left politician said in a speech in the Knesset on Wednesday (12 February) that: "A young Palestinian asked me why Israelis can use 70 litres of water and Palestinians only 17. I didn't check the data. I'm asking you if it's right."

He also criticised Israel's restrictions on Gaza, adding: "The results of the blockade are exploited by extremists, so perhaps it is counterproductive to security."

MPs from the hard-right Bayit Yehudi party, which is part of Israel's ruling coalition, reacted by walking out of the plenary chamber and by jeering "shame!"

The party chief and Israel's economy minister, Naftali Bennett, later told the Israeli daily, the Jerusalem Post: "I won't sit in the Knesset and hear a European, certainly not a German, saying such things."

The culture minister, Limor Livnat, from the right-wing Likud party, added: "That [Schulz's water data] is a blatant lie. This speech will be spread all around the world as though this is true. When he says these things, and in German, it's no wonder that Knesset members and ministers are objecting to these comments."

Schulz, whose spokesman could not be reached on Wednesday, did not say if his numbers refer to Palestinians living in a specific area or to overall data.

He also did not say if they refer to total consumption or consumption for domestic needs only.

For its part, the Israeli Water Authority noted that, according to figures for 2006, Palestinians get 100,000 litres of water per head per year and Israelis get 170,000.

Its spokesman, Uri Schor, said Schulz is "wrong."

He also failed to detail what his figures refer to. But according to Ewash, an Israel-based advocacy group which includes four UN agencies - Ocha, Unicef, UNWRA, and UNDP - among its 28 members, the EU parliament chief did highlight a genuine problem.

Ewash says the average domestic water consumption by Palestinians living in the occupied West Bank is 70 litres per capita per day (lcd), compared to the World Health Organisation recommended minimum of 100 lcd and the Israeli average of 300 lcd.

An Ewash contact, who asked to remain anonymous because they were not authorised to speak on the record, noted that in some parts of the West Bank the Palestinian figure is just 20 lcd, while Jewish settlements next door use 400 lcd.

“This is a real sanitation and hygiene issue. It means that instead of taking a shower every day, you take one once a week. Instead of washing your dishes every day, you wash them every second day, and we are talking about life in a desert environment,” the contact said.

Ewash added in an official statement: "We consider that any attention international leaders can draw to the discriminatory and unequal situation is useful."

The Schulz furore comes at a sensitive moment in EU-Israeli relations.

Most EU envoys have refrained from criticising Israel in recent months in order not to upset Israeli-Palestinian peace talks. But at the same time, new EU rules blocking grants for Israeli projects in the occupied territories have added to outside pressure.

The EU ban has prompted Denmark's Danske Bank, Dutch water firm Vitens, Norway's Government Pension Fund Global, and Sweden's Nordea Bank to cut ties with some Israeli companies.

But an Israeli diplomat played down the impact that Schulz' remarks might have on the boycott.

“It [the boycott] is a marginal thing. One of the companies has been linked to investments in North Korea and Iran, so you can see who we are dealing with,” he told EUobserver, referring to allegations against Danske Bank.

Schulz' visit to Jerusalem is part of a week-long tour of Israel, Jordan, and Palestine.

The outgoing EU parliament head, who is a prominent candidate to be the next European Commission President, also told the Knesset on Wednesday: "There is no [European] boycott [of Israel] and no boycott is under consideration."

He added: "Israeli society is built on the values of freedom and democracy, which tie it to Europe. Israel is a strong democracy with a modern economy. You made the desert bloom."

"EU parliament chief highlights Palestine water shortage", 12/02/2014, online at: <http://euobserver.com/foreign/123110>

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❖ Schulz's water comment a diplomatic gaffe

JERUSALEM–The President of the EU Parliament, Martin Schulz, came to Israel and addressed the Knesset in what was mostly a ceremonial occasion to demonstrate his credentials as a friend of Israel and an opponent of boycotts.

But one poorly crafted sentence brought forth an uproar.

It didn't help that he was speaking in German. There was simultaneous translation for the Knesset Members, but there were ghosts in the hall.

He said that he had heard from Palestinian students in Ramallah how much they suffered from a daily allocation of water that was only a fraction of what Israelis enjoyed. He admitted that he had not checked on the details, but said that Palestinians get 17 liters of water per day while Israelis get 70 liters,

The immediate response was a loud interruption from a kipa wearing Knesset Member of Jewish Home, followed by a walk out of other Jewish Home MKs.

Among the points heard in the immediate din and later assertions were comments about being lectured in German about Israel's treatment of the Palestinians, while relying on Palestinian lies and incitement, without checking on the details of Palestinian claims before bringing them to the most public and symbolic of Israeli formats.

One of the Jewish Home MK's asserted Israel's prior claim to the land by virtue of God's Promise.

Subsequent clarifications of the data indicate that there are gaps between the water available to Israelis and Palestinians, but substantially smaller than what Schulz reported. Moreover, the Palestinians are themselves largely responsible for whatever gaps exist. They have rejected international proposals and financial aid to upgrade water and other elements of their infrastructure. Israel has offered to help the Palestinians with their water problems, but the offer is stalled along with other elements of the on-again off-again negotiations.

We've heard from an Israeli peace activist that it is Israel's responsibility to provide water to the residents of occupied Palestine. Against this is the hard fact that international relations are more a matter of give and take than one sided humanitarianism. If the Palestinians want to take, they should propose to give something that Israeli negotiators see as of equivalent value.

At the heart of water and other differentials in the living standards between Israel and Palestine is the border between the first and the third worlds. That border is about 200 meters from my balcony. On the other side is a much different level of physical infrastructure, economic well being, governmental willingness and capacity to collect taxes and to administer its programs with first world levels of transparency and efficiency.

Americans can think of the Rio Grande. On the other side is a different economy, polity, and culture. While some would disagree, most Americans probably do not feel responsible for the poverty, crime, or corruption of Mexico, or about 150 other countries that are generally counted among those of the third world.

Israel has some of its own problems. Hadassah Hospitals are currently in distress. When not suffering from mismanagement, however, they are part of a medical system that puts Israel in the top half dozen of countries on key measures of health.

It may be popular in some circles, Israeli and others, to demand that Israel accept full responsibility for Palestinians as an occupying power. Against that is the view that the Palestinians remain occupied only in part, and that is largely due to their own ill advised political maneuverings in 1948 and 1967, as well as their responses to subsequent Israeli and Israeli/American offers.

MKs from Meretz and Labor are being sanctimonious about their opponents having insulted a distinguished guest by heckling his speech in the Knesset.

Courtesy has a role, even in politics.

However, MKs in the government, including the usually correct Prime Minister, said that the guest violated good sense by giving weight to unexamined Palestinian exaggerations, viewed by Israelis as part of the Palestinian campaign of disinformation and anti-Israel incitement.

Getting somewhat less attention, but hardly less problematic, was Schulz's criticism of Israel's blockade of Gaza, which he said causes pain to the Gazans, without buffering it with comments about the rockets sent from Gaza against Israeli civilians, or the response of Palestinians to the removal of Israeli settlements.

Schulz sought to downplay the commotion by referring to his critics as Israeli extremists.

That, too, is problematic. Jewish Home is close enough to the center of Israeli politics to be part of its governing coalition, and arguably less extreme than groups still active in Schulz's homeland.

It may be fair to say that there are extremists in Jewish Home, as well as in Likud. However, their influence is moderated by pragmatists among the leaders of those parties. Moreover, their extremism is more verbal than anything else, and thus pales by comparison with Palestinian extremism.

Involved in the Schulz-Jewish Home brouhaha is the issue of Germany's debt to Israel.

Germans and others, including Jews of Israel and elsewhere, may be tired of the claims, and feel that Germans have a right along with everyone else to complain and criticize Israeli actions and inactions. None of which may excuse a German from lecturing the Knesset, in German, is a way that sounded too much like participation in Palestinian incitement.

Germany's debt may be too great ever to be satisfied, no matter how much money, political support, or verbal niceties have been been or will be forthcoming.

Spain is still trying to repay its debt to the Jewish people. Some of us may be searching the list of names about to be published, which may give us access to Spanish citizenship, along with a passport that will make us citizens of the European Community.

Spain's sins were half a millennium ago, and nothing like the industrialized slaughter conducted by Germany half a century ago.

"Schulz's water comment a diplomatic gaffe", 15/02/2014, online at: <http://www.sdjewishworld.com/2014/02/15/schulzs-water-comment-diplomatic-gaffe/>

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❖ Israeli officials furious with Schulz over water use remark

A dispute broke out in the Israeli legislature yesterday (12 February) when the European Parliament's president, Martin Schulz, suggested that Israelis were using four times more water than Palestinians.

Schulz's visit to Israel and the Palestinian territories, where he met both with leaders and representatives of the civil society [[see program](#)], is likely to be remembered by a scandal in Israel's Parliament, the Knesset, over a remark which apparently was not intended to cause such uproar.

In his [speech](#), Schulz started by thanking the Knesset for allowing him to speak in German.

"I stand before you today as the German President of a multinational European Parliament. I am well aware that it is by no means self-evident that the German language should be heard in this House, and I should like to express to you my gratitude for allowing me to address you in my mother tongue," he said.

Schulz then went on to say that having been born in 1955, he did not experience at first hand the atrocities of National Socialism, saying that the crimes committed by the Nazis were the reason he became involved in politics.

Speaking about the Holocaust, he said: "As a German who holds political office, and international political office at that, I regard it as my first duty to honour the following pledge: Never again. Never forget."

Speaking about the Israeli-Palestinian peace process, he insisted that "painful concessions" were needed and that the Palestinians, just like the Israelis, had the right to self-determination and justice.

"One of the questions these young people asked me which I found most moving – although I could not check the exact figures – was this: how can it be that an Israeli is allowed to use 70 litres of water per day, but a Palestinian only 17," Schulz said.

Israeli media quoted Israel's national water authority as saying that the figures quoted by Schulz were inaccurate, with West Bank settlers consuming 1.7 times more water per person.

'Shame on you'

According to Deutsche Welle, this caused the Knesset to break out in turmoil. Right-wing Jewish Home Party member Moti Yegorov shouted at him: "Shame on you, you support someone who incites

against Jews." Yogev and Naftali Bennett, the economy minister and Jewish Home party leader, then left the hall. Bennett immediately took to his Facebook page: "I will not tolerate duplicitous propaganda against Israel in the Knesset ... and especially not in German."

In his own speech to the Knesset, Benyamin Netanyahu, Israel's prime minister, weighed in to accuse Schulz of "selective listening".

Schulz said he had not checked the fact, but was told so by Palestinian youth.

"Even the Palestinian water authority says the discrepancy is much smaller," Netanyahu said. "Schulz admitted that he didn't check if what he said is true, but he still blamed us. People accept any attack on Israel without checking it. They plug their ears."

Shortly before his Knesset speech, Schulz had complained of sensitivity in Israel against criticism from Europe. "Mutual criticism is quite normal in a democracy," he told Israeli journalists. "The EU stands by its special relationship with Israel, but that does not mean that it has to agree with every decision of the Israeli government," Schulz said, as reported by Times of Israel.

"We think that the settlements are for sure an obstacle for the process between both sides here and they represent a real problem in the international relations of Israel with a considerable number of its partners and friends," Schulz reportedly said.

'Personal position' against labelling of goods

Schulz reportedly rejected the notion of an EU boycott against Israeli or even settlement products. He also briefly addressed the issue of the labelling of West Bank goods, which the EU is expected to introduce at some point in the future.

"There is an enormous pressure, also within the European Parliament, to label [products made by Jews in the West Bank] because a lot of my colleagues consider the settlements as illegal and think that the rule should be that products coming from regions with an illegal status couldn't have a normal access to the European internal market," he said.

Asked for his personal opinion on the matter, Schulz replied that he is not convinced that introducing such a labelling regime is the right step.

“I don’t believe that with such a rule we improve the situation here. Therefore I have not yet a conclusive opinion about that, but my feeling is always that we should opt for strong economic measures at the European Union in a moment where it is a) necessary and b) meaningful.”

Schulz said he was not sure whether such measure would ignite Israeli anger and present an obstacle to finding a peaceful solution.

“So I’m not sure how I would decide,” he said, according to the Israeli news website.

Jerusalem ‘shouldn’t worry’ about EU elections

Schulz, who is the European socialists’ frontrunner to become the next Commission president, also addressed the issue of the European elections to be held in May.

He reportedly said that the European elections were likely to bring considerable gains for far-right parties, but that Jerusalem had “little reason to be concerned”.

“We have right-wing parties that are openly anti-Semitic — [such as the French National Front, led by Marine] Le Pen — but we also have right-wing parties that are very pro-Israel — [such as the Dutch Party for Freedom, led by Geert] Wilders, in the Netherlands for example,” he told The Times of Israel.

“In that regard it is not predictable. I don’t believe that the shift to the right in the European Parliament will lead to an anti-Israel line,” he said.

The Israeli press also quotes Schulz’s spokesperson Armin Machmer saying that the Parliament’s president was surprised at the reaction following his “water remarks”.

“Israeli officials furious with Schulz over water use remark”, 13/02/2014, online at: http://www.euractiv.com/global-europe/israel-blames-schulz-water-remar-news-533481?utm_source=RSS_Feed&utm_medium=RSS&utm_campaign=EurActivRSS

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❖ Israel receives rain respite over weekend

The country experienced a welcome hiatus from the dry winter on Friday night and once again during the day on Saturday.

The North received the most precipitation as of Saturday night, with 108 millimeters accumulating in Rosh Hanikra from Friday night through Saturday at about 8 p.m., on-duty weather forecasters at the Israel Meteorological Service told The Jerusalem Post.

Haifa received about 20 millimeters during that period, while Tel Aviv got approximately 16 millimeters. Jerusalem and Ashdod received only 2 millimeters, respectively, while Arad accumulated 1 millimeter, and very small quantities fell in the rest of the northern Negev, the IMS said.

Forecasters predicted that the rains would continue overnight on Saturday and into Sunday, tapering off by the afternoon.

Although large quantities of water drenched the North this weekend, the Water Authority stressed that this does not make up for the two previous months without precipitation.

Although about 10 millimeters fell on Lake Kinneret (the Sea of Galilee), the basin's water level only rose about half a centimeter as a result, the Water Authority said. Most of the rain in the area were absorbed in the dry – and therefore thirsty – ground, the authority added.

This follows a January in which the basin only rose 11 centimeters, in comparison to January 2013 in which it rose 1.1 meters. The Kinneret water level currently stands at 211.155 meters below sea level.

“The precipitation deficit on a national level continues to be very significant,” the authority said.

“Israel receives rain respite over weekend”, 15/02/2014, online at: <http://www.jpost.com/Enviro-Tech/Israel-receives-rain-respite-over-weekend-341522>

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❖ PA Water Consumption the Same as the Rest of Arab World

Yuval Steinitz, who is Minister of Intelligence, International Relations and Strategic Affairs, said Thursday that European Parliament President Martin Schulz made “a serious error” in his address to the Knesset Wednesday.

Schultz quoted Palestinian incitement without even checking its veracity, Steinitz told *Voice of Israel* public radio.

Regarding the differences in water consumption between Israelis and Palestinian Authority (PA) residents, Steinitz said that the consumption in the PA is similar to the average in the Arab world and should not be compared to the average consumption in Israel, where the standard of living is higher.

"And yet," he added, "Schulz is a friend of Israel, he opposes the boycott on it and in his speech, he also brought positive things."

Steinitz's revelations come on the same day as it was also revealed that the statistics Schulz quoted were inaccurate even according to [the Palestinian Authority's own records](#).

EU officials said Wednesday that Schulz was “surprised and hurt” by [the negative reaction](#) to his address by Jewish Home MKs and stressed that “he is a friend of Israel” who came to Jerusalem to “express support for Israel and strengthen it.”

"He never imagined he would be embroiled into such a storm," they said. "His goal was to strengthen Israel, and the Israeli response reinforces those elements who have a negative attitude towards Israel."

Schulz, who spoke in German, [repeated as fact](#) Palestinian Authority claims of Israeli discrimination regarding allocation of water in Judea and Samaria, and of a “blockade” on Gaza.

“PA Water Consumption the Same as the Rest of Arab World”, 13/02/2014, online at:
http://www.israelnationalnews.com/News/News.aspx/177424#.UwNQCWJ_sbB

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❖ Undeniable discrimination in the amount of water allocated to Israelis and Palestinians

Following the Knesset debate today, B'Tselem publishes a short FAQ about inequality in the distribution of water between Palestinians and Israelis.

1. Is there discrimination in terms of the quantity of water available to Israelis and Palestinians?

Yes, there is discrimination in water allocation and Israeli citizens receive much more water than Palestinian residents of the West Bank and the Gaza Strip. The Government of Israel is largely responsible for this discrimination due its water policy: First, minimal amounts of water are supplied to Palestinians and water from shared resources is unequally divided; Second, existing infrastructure with high levels of water loss is not upgraded, no infrastructure is developed for communities that are not connected to the water grid and water infrastructure projects in areas located inside the Palestinian Authority are not approved. It is important to note that the water allocation for Palestinians was determined in the Oslo Accord, but the agreement included a plan to increase the supply. This plan never materialized. In addition, demand for water has increased due to population growth over the twenty years since the Oslo Accord was signed.

2. Are there gaps in water consumption between Israelis and Palestinians? Absolutely.

According to the Israeli national water company, Mekorot, the average household water consumption in Israel is between 100 and 230 liters per person per day. The World Health Organization recommends a minimum of 100 liters per person per day. This figure relates to urban consumption which includes drinking, food preparation and hygiene, and takes into consideration urban services such as hospitals and public institutions. Israelis living in the settlements, as well as inside Israel, generally have access to as much running water as they please.

This is not the case for Palestinians.

Palestinians living in the OPT can be divided into three groups according to the amount of water available to them, which is less than the Israeli average in all three cases:

- Palestinians in the West Bank who are connected to the water infrastructure: The average daily consumption among Palestinians connected to a running-water network is about 73 liters. There are significant gaps between the various cities (169 liters per person per day in Jericho compared to 38 in Jenin). However, even those who are connected do not necessarily have access to running water throughout the day or the year, and water is supplied intermittently, following a rotation program. In many places in the West Bank, including city centers, residents must fill tanks with water, when it is available through the network and use it when running water is not available. Communities located at the edges of the water supply network and in high areas experience the water shortage more acutely and residents must buy water from private dealers at a much higher cost than the water supplied through the grid.
- Palestinians in the West Bank who are not connected to the water supply network: About 113,000 people living in 70 communities, 50,000 of them in Area C. These residents are not included in the calculations of the public water authority. They rely on rainwater which they store in cisterns and on water sold in tanker trucks by private dealers. In the southern West Bank, about 42 communities consume less than sixty litres per person per day and shepherding communities in the northern Jordan Valley consume only twenty. Private dealers charge between 25 and 40 NIS per cubic meter, depending on the distance between the village and the water source. The price is up to three times that of the highest tariff Israelis pay for water for household consumption. In the summer months, the monthly household expenditure on water in communities that buy water from tankers is between 1,250 and 2,000 NIS, about half of the entire monthly household expenditure.
- Palestinians in the Gaza Strip: Average consumption in the Gaza Strip is 70-90 liters per person per day, but the quality of the water is extremely poor. Ninety percent of the water pumped in Gaza is considered un-potable according to the standards set by the World Health Organization. For full and updated information on this issue.

3. Causes for gaps in water supply to Palestinians in the West Bank compared to Israelis:

- The amount of water supplied to the entire West Bank: According to 2011 figures, the West Bank water supply was comprised of 87 million cubic meters pumped from official Palestinian water sources and 53 million cubic meters sold to the Palestinian Authority by Mekorot. About

51 million cubic meters of the water in the public water network was used for agriculture. According to the Israeli water authority (2009), an additional 10 million cubic meters of water are pumped from unauthorized wells, but this water is used for agriculture as well as drinking. According to Palestinian water authority figures, more than 2.3 Palestinians live in the West Bank. This means that under optimal conditions, the water supply (excluding the unauthorized wells) could have allowed domestic and urban consumption of 100 liters per person per day, but this is where the second factor affecting water consumption comes into play.

- **Water loss:** There is extensive water loss on the public water grid in the West Bank - about 30%, and more in some locations. Water theft is also a widespread problem. The water infrastructure in the Palestinian Authority needs upgrading, but this is not possible without significant work in Area C, where every action requires Israeli approval at the joint water committee. Such approvals are rare. Even committee-approved projects may be delayed or stopped, due to restrictions imposed by the Civil Administration.
- The Palestinian water network is managed by dozens of local water authorities without a coordinating mechanism. The inability to develop a nationally controlled water network, with reservoirs that could supply the needs of all residents is inextricably tied to the fact that every action in Area C requires Israeli approval.

“Undeniable discrimination in the amount of water allocated to Israelis and Palestinians”, 13/02/2014, online at: http://www.btselem.org/press_releases/20140212_discrimination_in_water_allocation

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❖ Israeli Group says Discrimination in Water Allocation Exists

JERUSALEM, February 13, 2014 (WAFA) – The Israeli human rights group, B’Tselem, said Wednesday that Israel does discriminate in water allocation between Palestinians and Israelis and that Palestinians get much less water than Israelis.

B’Tselem was responding to allegations by Israeli officials that there was no discrimination in water allocations as claimed by the president of the European Parliament, Martin Schulz, during a speech he made at the Israeli parliament, the Knesset.

Israelis interrupted Schulz and walked out of the building when he said Palestinians get much less water than Israelis.

“Is there discrimination in terms of the quantity of water available to Israelis and Palestinians?” asked B’Tselem rhetorically. “Yes, there is discrimination in water allocation and Israeli citizens receive much more water than Palestinian residents of the West Bank and the Gaza Strip,” it answered.

It said the government of Israel is largely responsible for this discrimination due its water policy.

“Minimal amounts of water are supplied to Palestinians and water from shared resources is unequally divided,” it said, adding that “existing infrastructure with high levels of water loss is not upgraded, no infrastructure is developed for communities that are not connected to the water grid and water infrastructure projects in areas located inside the Palestinian Authority are not approved.”

B’Tselem said data provided by the Israeli national water company, Mekorot, shows that while the average household water consumption in Israel is between 100 and 230 liters per person per day, way above the World Health Organization’s recommended a minimum of 100 liters per person per day, this is not the case for Palestinians

“Palestinians living in the occupied Palestinian Territory can be divided into three groups according to the amount of water available to them, which is less than the Israeli average in all three cases,” it said.

It said average daily consumption among Palestinians connected to a running-water network is about 73 liters. Even those who are connected do not necessarily have access to running water throughout the day or the year, and water is supplied intermittently, following a rotation program.

Palestinians not connected to the water supply network, who number around 113,000 people living in 70 communities, 50,000 of them in Area C of the West Bank, which is under full Israeli control, rely on rainwater, which they store in cisterns, and on water sold in tanker trucks by private dealers.

In the southern West Bank, said B'Tselem, about 42 communities consume less than 60 liters per person per day and shepherding communities in the northern Jordan Valley consume only 20.

It also said that average consumption in the Gaza Strip is 70 to 90 liters per person per day and the quality of the water is extremely poor

“Israeli Group says Discrimination in Water Allocation Exists”, 13/02/2014, online at:
<http://english.wafa.ps/index.php?action=detail&id=24335>

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❖ Desalination capacity to be reduced across Israel

Desalination plants in Israel will only run at 70% capacity this year following two wet winters, according to the Jerusalem post.

The country's total capacity of 510 million cubic metres per year will be reduced by 150 million cubic metres.

Israeli desalination company – IDE Technologies – confirmed to WWi that the country would be reducing its desalination capacity.

The decision follows weeks of negotiations between the Water Authority, Finance Ministry and desalination plant operating companies.

Uri Schor, a spokesperson for the Water Authority, reportedly said that while seven drought years have plagued Israel, sufficient rains have occurred over the last two years.

In October last year IDE began testing at the Sorek site (pictured above) – claimed to be the world's "largest SWRO desalination plant" - with a capacity of 624,000 m³/day ([see WWi article](#)) using vertical membranes.

The Jerusalem Post reported however that the Sorek facility would be producing 120 million m³/year instead of 150 million.

Other reductions will include Ashkelon (80 million m³/year instead of 118 million), Palmahim (65,000 million m³/year instead of 90 million) and Hadera (85 million cubic metres/year instead of 127 million).

"Desalination capacity to be reduced across Israel", 11/02/2014, online at:

<http://www.waterworld.com/articles/2014/02/desalination-capacity-to-be-reduced-across-israel.html>

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❖ 'Israel experiencing unprecedented drought conditions'

Israel is currently experiencing an unprecedented drought – so extreme that such conditions this time of year have never been documented, according to the Water Authority.

Since the 10-day mega-storm that drenched the country in mid-December, Israel has experienced almost no rainfall, and the drought conditions are being felt particularly in regions surrounding natural water sources. Additionally problematic is the fact that this dry winter follows in the footsteps of a 2012-2013 rainy season that concluded early.

Water Authority officials said they had decided, however, to hold off on officially declaring a drought, in hopes that conditions would improve.

Nationwide, the country has received only about 64 percent of its average annual precipitation since the beginning of the rainy season, the Water Authority said last week. In many portions of the region – particularly in the Jerusalem area, the West Bank, the country's center, and its northern tip – the month of January was the driest to date, the Israel Meteorological Services reported.

Although the conditions have been among the driest for many portions of the country, it has been too short a period to speak of trends in climate change, Dr.

Amos Porat, director of the IMS's Climate Department, told The Jerusalem Post last week. Porat attributed the dry winter to a phenomenon called "blocking," in which most of the rainfall systems have been "stuck" in Western Europe. Following the dry January, he also remarked that "February doesn't look good either."

Ongoing dry weather conditions are not only afflicting Israel right now, but also all of the countries of the Eastern Mediterranean, the Water Authority emphasized. For other areas with similar climates, such as Australia, China, Arizona, Texas, and California, this has also been an extreme drought year thus far, the authority added. California, for example, recently announced drastic cuts in water supplies for agriculture and is examining the possibility of limiting water to other sectors.

However, "the State of Israel is quite different" from those areas, a statement from the Water Authority said. "Despite the rare climatic situation in which we find ourselves, the country is not drying up."

Due to preparation of natural reservoirs and desalination, water supplies to Israel's household, agricultural, and industrial sectors are guaranteed, the Water Authority said. Integrated management of the country's natural water resources, combined with the use of seawater desalination and wastewater reclamation plants, have allowed for a steady supply of water to all consumers, the

authority said.

Nonetheless, Dov Amitai, president of the Farmers Association in Israel, stressed that the shortage of rainfall has had a particularly negative impact on the cattle industry.

“The shortage in precipitation has caused a reduction in the volume of pasture, and at this stage cattle herders are concentrating their herds in limited plots and serving them food,” Amitai said.

Although expectations for potential rains next week had given the herders hope, it is uncertain whether grazing lands would be able to recover from such a long period without rain, he added.

A good rainy season typically provides ample cattle grazing from mid-December to mid-May, Haim Dayan, CEO of the Israeli Cattle Breeder’s Association, explained.

Meanwhile, the cattle feed purchased by the herders has become increasingly expensive.

“In the situation in which the rains come late, the period of feeding cattle becomes longer, and taking out the cattle for natural grazing is delayed,” Dayan said.

Yaron Solomon, head of the settlement department and coordinator of the economic, finance, and agriculture committee of the Israel Farmers Union, expressed hope that the government would declare an official drought, because such a declaration comes with compensation for the farmers, who pay sky-high rates for additional water.

“In Israel there is no shortage of water; the only problem is the price of the water,” he told the Post on Monday night.

Responding to complaints about the high price of water, Solomon criticized the Water Authority for its decision not to run its desalination plants at full capacity this year. Following two rainy winters that filled the nation’s reservoirs sufficiently, the Water Authority determined in January that Israel only needs to operate these plants at 70% this year.

For every cubic meter less than full capacity that the desalination plants operate, the government must compensate the desalination companies by NIS 1.40. Members of the Farmers Union, however, had offered to pay the government up to NIS 1.72 per cubic meter for desalinated water to supplement their allotted agricultural quotas, Solomon said.

Although farmers pay only about NIS 1.10 per cubic meter of tertiary-level treated wastewater and NIS 0.90 for secondary-level treated wastewater, when they exceed their allotted quotas they must pay NIS 3.75 per cubic meter, according to Solomon. Paying up to NIS 1.72 per cubic meter would

therefore have been a relief for the farmers, he explained.

“The government has to pay more than NIS 200 million to desalination plants instead of selling it at a lower price to the farmers,” Solomon said.

Although farmers do receive help during hard years and have insurance packages, Solomon argued that the government should be helping to finance the insurance premiums.

“I think that the world is going berserk weather- wise,” Solomon said. “Something is really going wrong with the weather throughout the whole world. Just because of the fact that that’s happening, year after year, in different parts of the world and different parts of the country – that’s why I claim that they have to find some sort of insurance coverage that will help the farmers through the hard years.”

The lack of rain this season has taken a toll not only on Lake Kinneret, but also on the Dead Sea, which has been dropping at a particularly alarming rate. In January alone the level of the Dead Sea fell 8 cm., and that of the Kinneret rose only 11 cm. In comparison, the Kinneret rose 1.1 meters in January 2013.

While farmers and meteorologists alike expressed hope that Israel is just experiencing a temporary drought, a team of academic researchers from Tel Aviv University, the Hebrew University, and the University of Haifa discovered that droughts in Israel’s past have lasted up to hundreds of years in a row. The researchers drew the conclusion by drilling at a depth of 460 meters below the bottom of the Dead Sea, during which soil layers gave them a window into climate conditions for the past 250,000 years, the University of Haifa revealed on Monday.

The researchers estimated that the Dead Sea has dried up once or twice during that timespan.

“Today, with the intervention of man, the Dead Sea basin dries at a rate of a meter per year,” said Dr. Michael Lazar of the University of Haifa’s marine geosciences department, who was involved in the research.

“The level now stands at 300 meters, which means that it will take another 300 years to dry at this rate,” Lazar continued. “Because man’s intervention was irrelevant to drying that occurred in the past, we are concluding that this occurred due to climate conditions of drought that lasted for centuries. In the past, the Dead Sea managed to rehabilitate itself, but then there was no human hand involved.”

“Israel experiencing unprecedented drought conditions”, 10/02/2014, online at: <http://www.jpost.com/Enviro-Tech/Israel-experiencing-unprecedented-drought-conditions-341003>

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❖ California needs water –and Israel

While the leaders of California universities have been busy discussing whether or not to endorse an academic boycott of Israel — and generally weighing in against it — they are overlooking a much more productive way to single out the Jewish state:

Invite Israel to help solve California’s water crisis.

Israel is uniquely positioned to help our state deal with what historian Victor Davis Hanson calls “the worst extended drought in [California’s] brief recorded history.”

This drought is a two-headed monster, caused by nature and man. On the nature front, Hanson writes, “There is little snow in the state’s towering Sierra Nevada mountains, the source of much of the surface water that supplies the state’s populated center and south. The vast Central Valley aquifer is being tapped as never before, as farms and municipalities deepen wells and boost pump size. Too many straws are competing to suck up the last drops at the bottom of the glass.”

But it’s human complacency that Hanson blames the most for today’s water crisis:

“In the early 1980s, when the state was not much more than half its current population, an affluent coastal corridor convinced itself that nirvana was possible, given the coastal world-class universities, the new dot.com riches of the Silicon Valley, the year-round temperate weather, and the booming entertainment, tourism and wine industries.

“Apparently, Pacific corridor residents from San Diego to Berkeley had acquired the affluence not to worry so much about the old Neanderthal concerns like keeping up freeways and airports — and their parents’ brilliantly designed system of canals, reservoirs and dams that had turned their state from a natural desert into a man-made paradise.

“Californians have not built a major reservoir since New Melones more than 30 years ago. As the state added almost 20 million people, it assumed that it was exempt from creating any more ‘unnatural’ Sierra lakes and canals to store precious water during the rarer wet and snow-filled years.”

This is where Israel comes in. Complacency is not an Israeli trait, certainly not when survival is at stake. And in the desert lands of the Middle East, just as in any desert region, water is a survival issue.

But unlike California, Israel has spent the past few decades immersed in one of its greatest accomplishments: solving its water crisis.

“This country was on the brink of water catastrophe, reduced to running relentless ad campaigns urging Israelis to conserve water even as it raised prices and cut supplies to agriculture,” David Horovitz wrote last year in The Times of Israel. “Now, remarkably, the crisis is over.”

How did they do it?

It wasn’t just the desalination and recycling technologies, although those were critical. It was also the attitude.

“We decided we would,” Horovitz quotes the head of Israel’s Water Authority, Alexander Kushnir. “And once you’ve made that decision, you build the tools to reduce your dependence. We’re on the edge of the desert in an area where water has always been short. The quantity of natural water per capita in Israel is the lowest for the whole region.

“But we decided early on that we were developing a modern state. So we were required to supply water for agriculture, and water for industry, and then water for hi-tech, and water to sustain an appropriate quality of life.”

He might as well have been talking about serving California.

The real question today is, can the Israeli know-how and can-do attitude help our Golden State deal with its own water crisis?

It’s clear that California’s political leaders, notwithstanding all their boilerplate rhetoric, have fallen short. We need to light a fuse under them to shake them out of their apathy. One institution that could do that is our university system, whose brilliant minds are there to contribute to society’s betterment. This model of academic, governmental and private industry cooperation is already happening, successfully, in Israel.

Instead of discussing academic boycotts of Israel, California universities ought to discuss creating a California-Israel Water Alliance that would use Israel’s unique expertise and put some concrete proposals in front of our lethargic legislators.

They can start by looking at San Diego, where a subsidiary of Israel’s IDE Technologies Ltd. is building the largest desalination plant construction project in the western United States.

Construction on the \$922 million project, which is being built in partnership with the San Diego County Water Authority, is expected to begin this year and should provide high-quality drinking water to the San Diego area by 2016.

The global campaign to boycott and isolate Israel, however hypocritical and unfair, has been terrible for Israel’s image. Ultimately, of course, the very best way for Israel to improve its image would be

to accomplish another miracle: make peace with the Arab world. But until that magical moment comes, we can't underestimate the value of leveraging Israeli know-how.

And California is not the only place with a water problem. Approximately 40 percent of the planet's entire population has little or no access to clean water, and experts predict that by 2025, two-thirds of humanity will live in "water-stressed" areas.

In other words, little Israel can become the world's water savior. Try boycotting that.

"California needs water –and Israel", 13/02/2014, online at:

http://www.jewishjournal.com/david_suissa/article/california_needs_water_and_israel

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❖ Israel Helping India Clean Polluted Wetlands

A team of Israel scientists arrived in Bhubaneswar, Hubaneswar, India, this week to test a pilot program to use plants to remove pollutants from contaminated soil and water, the Times of India reported on Wednesday.

Eli Cohen, one of the Israeli team members, said, “The technology can be used by municipalities, multi-dwellings units, industries and wetlands for holistic waste-water management.”

The Israelis were invited by the Chilika Development Authority (CDA), which is managing the wetlands at Chilika, to conduct a study about the process, called phytoremediation.

CDA chief executive Ajit Pattnaik said, ”We have selected wetlands near the Biju Patnaik Airport for the study. The Odisha Wetlands Development Authority and department of forest and environment along with CDA will help the team promote eco-friendly technology to reduce water pollution.”

“The phytoremediation method to reduce water contamination involves zero operating costs,” Pattnaik added. “Within the next three months, the state government will run this technology on a pilot basis in urban areas. Based on the results, the plans for implementation will be drawn up.”

Israel’s involvement in supporting modern agriculture in India is part of a stark surge in collaboration between the two countries.

Last September, Israeli Ambassador to India Alon Ushpiz said 29 “Centers of Excellence” would be opened across the country to provide Indian farmers with greater access to Israeli agricultural technology.

In October, Israeli Economy Minister Naftali Bennett said that bilateral trade could reach \$5 billion in the next five years, if a Free Trade Agreement between the two countries moves forward.

Meanwhile, Tata Industries, the multi-billion-dollar Indian conglomeration, recently invested \$5 million to kick-start the Technology Innovation Momentum Fund at Tel Aviv University’s Ramot technology transfer company.

And last week, Israel Aerospace Industries and Rafael, two large, Israeli defense manufacturers, were reported to be partnering with two Indian defense technology firms to jointly build an integrated anti-missile system to be deployed against Chinese nuclear and conventional missiles. The Israeli

companies will work with the Defense Research and Development Organisation and India's state-owned Bharat Dynamics Limited (BDL) and Bharat Electronics Limited (BEL) on the project.

"Israel Helping India Clean Polluted Wetlands", 13/02/2014, online at: <http://www.algemeiner.com/2014/02/13/israel-helping-india-clean-polluted-wetlands/>

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❖ Israel Shows California No Need to Fret About Water Desalination

Feb. 13 (Bloomberg) -- Six decades of providing water in a country that's 60 percent desert have made Israel a technological leader in the field, a model that points the way for drought-stricken California.

Desalination of sea water, reuse of treated sewage for agriculture, software creating an early-warning system for leaks, computerized drip irrigation and careful accounting of every drop have become the norm in Israel, the world's 40th biggest economy. Officials in California, which would be the 10th largest if it were a nation, are paying attention.

North of San Diego, Israel's IDE Technologies Ltd. is helping to build what it says will be the largest seawater desalination plant in the Western Hemisphere. The facility, when finished in 2016, will be able to provide 50 million gallons of potable water a day. Three smaller plants already operate in California, and 15 more have been proposed.

"This is the one supply that San Diego County is investing in that is truly drought-proof," said [Peter MacLaggan](#), senior vice president of privately held [Poseidon Resources](#) Corp., which is developing the \$922 million plant with IDE. "It does cost more, but it has some reliability benefits that are very important to the regional economy."

'Exceptional' Drought

About two-thirds of California, home to 38 million people, is gripped by "extreme" or "exceptional" drought, the most severe conditions, according to the U.S. Drought Monitor, a federal website. Ten percent of the state -- all in the San Joaquin Valley -- is considered exceptionally dry, according to the website, which was updated Feb. 4, before light to moderate rains fell on much of California. It's the state's most severe drought since at least 1977, according to [Jeffrey Kightlinger](#), general manager of the Metropolitan Water District, which serves 19 million residents of southern California.

Israel has been dealing with such conditions throughout its history. Last month was the driest January on record in a large part of the Jewish state. The climate has forced the country to go to unusual lengths to lower consumption and raise supply, methods it now uses as a matter of routine.

In Israel, desalination now provides about one-quarter of the country's water supply. Each of IDE's three plants in Israel provides roughly double the output anticipated from the facility in Carlsbad, California, MacLaggan said by telephone.

Gap Closing

“We don’t have enough water from nature,” says [Avraham Tenne](#), head of the [Desalination Division](#) at Israel’s Water Authority, based in Tel Aviv. “But we are now able to close the gap between the water that nature has given us, and the demand for water. With a touch of a button, we can produce 600 million cubic meters of water.”

Desalination, with its relatively high energy consumption and its environmental impact, wasn’t the first step that Israel took on its way to increasing supply. It shouldn’t be California’s either, says [Katalyn Voss](#), a water policy fellow at the [University of California’s Center for Hydrologic Modeling](#), based in Irvine.

In reverse-osmosis desalination, the most popular method, seawater is pre-treated before being sent through a series of filtration membranes that remove salt and other impurities. About half of the seawater becomes drinking water. The rest is returned to the ocean with higher concentrations of salt and other minerals. IDE says the brine will blend with ocean water to an untraceable level within 150 feet from the discharge point.

Environmental Concerns

Environmentalists and regulators such as the [California Coastal Commission](#) have expressed concern that fish larvae, eggs and invertebrates are killed as plants suck in water from the ocean, and that briny and chemically treated outflow also harms marine life.

“Israel Shows California No Need to Fret About Water Desalination”, 13/02/2014, online at:
<http://www.sfgate.com/business/bloomberg/article/Israel-Shows-California-No-Need-to-Fret-About-5231495.php>

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❖ Ethiopia declines Egyptian request to put Nile dam project on hold

ADDIS ABABA - An Egyptian government minister who visited Addis Ababa earlier this week has urged Ethiopia to halt construction of a multi-billion dollar hydroelectric dam project on the Nile's upper reaches – but the request was denied.

The request was tabled by Egyptian Irrigation Minister Mohamed Abdel-Muttalib during his Monday visit to Ethiopia, Ethiopian Foreign Ministry spokesman Dina Mufti told Anadolu Agency on Wednesday by phone.

"Abdel-Mutallib wants construction of the dam halted until Egyptian demands are met," Mufti said.

At a one-on-one meeting with Ethiopian Water Minister Alemayehu Tegen, Mufti said, Abdel-Muttalib had demanded the inclusion of additional international representatives on the panel of experts drawn up to examine the dam's potential environmental impact.

According to the ministry spokesman, it was the same demand that Egypt had raised – and which Ethiopia and Sudan rejected – during tripartite negotiations in Khartoum last December.

"It's the same old thing they've been saying," Mufti said.

The Ethiopian side, the spokesman added, had reiterated its position that there was no need to include more representatives on the panel, which currently contains two members each from Ethiopia, Sudan and Egypt, along with four others representing the international community.

Dina downplayed recent Egyptian media reports that Israel and Turkey were both playing active roles in the Ethiopian dam project.

"[Such reports] have increased in both frequency and volume, especially after Turkish Foreign Minister [Ahmet Davutoglu], during his recent visit to Addis Ababa, offered to share Turkey's experience regarding the [construction of the] Ataturk Dam with Ethiopia," Mufti said.

Mufti went on to say that Egypt had been hinting at an Israeli role in the Ethiopian dam project in hopes of fanning Arab sentiments against it.

"The Ethiopian position has always been that it wants win-win cooperation in terms of utilization of Nile water among the riparian countries," he said.

The project, Mufti asserted, had been conceived, designed and financed – and is now being implemented – entirely by Ethiopians.

Ethiopia is building the dam, dubbed the Grand Renaissance Dam, on the Blue Nile – Egypt's primary source of water.

The project has raised alarm bells in Egypt, the Arab world's most populous country, regarding its historical share of Nile water.

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

Citing its need for development, Ethiopia says it must build a series of dams to generate electricity, both for local consumption and export.

Addis Ababa insists the new dam will benefit downstream states Sudan and Egypt, both of which will be invited to purchase electricity thus generated.

“Ethiopia declines Egyptian request to put Nile dam project on hold”, 12/02/2014, online at:
<http://www.turkishpress.com/news.asp?id=387646>

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❖ Egypt minister slams Turkey for role in Ethiopia dam

Egyptian Irrigation Minister Mohamed Abdel-Muttalib said Turkish Foreign Minister Ahmet Davutoglu had visited Addis Ababa and offered Turkish expertise on Ethiopia's controversial multi-billion dollar hydroelectric dam project.

"Any side that doesn't like Egypt could be in the scene," Abdel-Muttalib said in televised statements late Tuesday.

"The Turkish foreign minister visited Addis Ababa and offered them [Ethiopian officials] Turkish expertise," he added.

"What I want to say is that when Turkey built the Ataturk Dam, it made the Syrians and the Iraqis thirsty and ignored international agreements," Abdel-Muttalib claimed.

"I want to stress that Egypt is not Iraq or Syria, and Ethiopia is not Turkey," he added.

The Turkish government is yet to respond to the Egyptian minister's claims.

Ethiopia is building a hydroelectric dam, called the Renaissance Dam, over the Blue Nile where most of Egypt's Nile water revenues come.

But the controversial project has raised alarms in Egypt, the most populous Arab country, about its water share.

Nile water distribution among the countries of the Nile basin used to rest on a colonial-era agreement giving Egypt and Sudan the lion's share of Nile water.

Citing development ambitions, Ethiopia insists it needs to build a series of dams to generate electricity both for local consumption and exporting.

It maintains that the new dam can be of benefit for the two downstream states of Sudan and Egypt, which will be invited to purchase electricity generated by it.

"Ethiopian officials say they do want to harm Egypt. But when we ask them to put that on paper they refuse," said Abdel-Muttalib.

The remarks came hours after his return from Addis Ababa where he held talks with officials there on the dam.

He accused Ethiopian officials of turning down all proposals to narrow the gap between the two sides.

"We are not naïve to continue dialogue without reaching a solution. There are other alternatives that we need to take," the minister said without elaborating.

"Egypt minister slams Turkey for role in Ethiopia dam", 12/02/2014, online at:

<http://www.worldbulletin.net/news/128729/egypt-minister-slams-turkey-for-role-in-ethiopia-dam>

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❖ Dialogue only way to bridge Ethiopia-Egypt gap: PM

ADDIS ABABA - Ethiopian Prime Minister Hailemariam Dessalegn said Monday that dialogue was the only way to bridge outstanding differences between Ethiopia and Egypt about a multi-billion dollar hydroelectric dam on the Nile River.

"I know dialogue will continue. I don't see there will be a military solution and [talk of] war is absurd. It doesn't work," Dessalegn told a press conference in Addis Ababa.

"This kind of problem is solved through dialogue," he said. "From the Ethiopian side, we are ready to see a cooperative way to find solution through dialogue."

Plans by Ethiopia to build a massive hydroelectric dam, dubbed the "Grand Renaissance Dam Project," on the Blue Nile – the primary source of Egypt's water supply – sent shockwaves down Egypt's Nile Valley.

Water distribution among the states of the Nile basin have long depended on a colonial-era treaty giving Egypt and Sudan the lion's share of Nile water.

Citing its own development needs, however, Ethiopia insists that it must build a series of dams to generate electricity – both for local consumption and export.

Addis Ababa maintains that the new dam will benefit Egypt and Sudan, both of which will be invited to purchase electricity thus generated.

The Ethiopian premier said that his country wants to see a stable and democratic Egypt.

"If General [Abdel-Fattah] al-Sisi is elected, I am ready to work with him," he said.

Calls have grown for al-Sisi, who led the army move to unseat elected president Mohamed Morsi, to run in Egypt's upcoming presidential election, expected within three months.

Turning to the conflict in South Sudan, the Ethiopian premier said that the Inter-government Authority for Development (IGAD) has authorized the Ugandan army to protect the government in Juba.

"We denounce unconstitutional power seizure and this is the position of all IGAD states," he said.

"IGAD has a clear position in this regard. Uganda has to protect the government."

He, however, said that forces from Uganda and other countries must leave South Sudan phase by phase.

South Sudan has been shaken by violence since mid-August after President Salva Kiir accused sacked vice president Riek Machar of staging a coup.

The two warring parties have been engaging in IGAD-mediated peace talks in Addis Ababa to solve the conflict.

Speaking about his country's policy on Eritrea, Dessalegn said Ethiopia is determined to normalize relations with Eritrea without precondition.

He, however, said that his government is not optimistic that Eritrea will positively respond.

"I do not think that (negotiations) will open soon," he said, warning Eritrea against any move to destabilize Ethiopia and the region.

If Eritrea continues in its destructive acts, Ethiopia will respond with proportional measures, he warned.

Ethiopia and Eritrea fought a three-year war in 1998 over disputed border areas.

Regarding Somalia, Dessalegn said that African peacekeepers are gaining foothold against the militant Al-Shabaab group in Somalia.

"Al-Shabaab is now on the run and this is a sign of its defeat. We will continue the offensive," he said.

Somalia has remained in the grip of political violence since the outbreak of civil war in 1991.

However, the country's political situation appears to have stabilized recently with the establishment of a new government and intervention by African Union troops tasked with countering an insurgency waged by the Al-Qaeda-linked Al-Shabaab

"Dialogue only way to bridge Ethiopia-Egypt gap: PM", 10/02/2014, online at:
<http://www.turkishpress.com/news.asp?id=386535>

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❖ Egypt irrigation minister says 'all options open' in Ethiopia dam row

CAIRO - Water Resources and Irrigation Minister Mohamed Abdel-Muttalib on Thursday said that "all options are open" for Egypt regarding Ethiopia's multibillion-dollar hydroelectric dam project, which Egypt fears could threaten its traditional share of Nile water.

"Ethiopian decision-makers must bring a solution to the table that won't compromise Egypt's share of water," Abdel-Muttalib told Anadolu Agency.

Abdel-Muttalib stressed that Egypt wouldn't close the door to negotiations with Addis Ababa, but maintained that the "internationalization" of the crisis remained an option for the Egyptian government in the event of an impasse.

"All options and scenarios are open," Abdel-Muttalib asserted. "Each party has the right to defend its interests without compromising the other's rights."

Local Egyptian media recently quoted Irrigation Ministry spokesman Khalid Wasif as saying that Egypt would take its complaints against the Ethiopian dam project to the "international" level.

In response, Ethiopian Prime Minister Hailemariam Desalegn said his country would "win politically" if Egypt insisted on international arbitration.

Relations between Ethiopia and Egypt soured last year over Ethiopia's plans to build its Grand Renaissance Dam on the upper reaches of the Nile River – Egypt's main source of water.

The controversial project raised alarm bells in Egypt, the Arab world's most populous country, which fears a reduction of its traditional share of Nile water.

Water distribution among the states of the Nile Basin has long been based on a colonial-era agreement granting Egypt and Sudan the lion's share of the river's water.

Ethiopia, for its part, is determined to build a series of dams in order to generate electricity, both for local consumption and export.

Addis Ababa insists the new dam will benefit downstream states Sudan and Egypt, which will be invited to purchase electricity thus generated.

"Egypt irrigation minister says 'all options open' in Ethiopia dam row", 13/02/2014, online at: <http://www.turkishpress.com/news.asp?id=387710>

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❖ **Russia to help Northern Africa to resolve water resources issue**

The issue of water resources deficit is becoming more acute in many regions of the world. Northern Africa is currently one of the «hot spots». Sergey Lavrov, Russia's Foreign Minister, while meeting in Moscow heads of the foreign and defense ministries of Egypt especially stressed the need for reaching mutually acceptable agreements in resolving that problem.

The Arab world is in a very difficult situation as far as the sufficiency of water resources goes. While 5% of the planet's population lives on the territory of the Middle East and Northern Africa, only 0.9% of the global water resources are located there. Many countries practically draw their livelihood from one source. Specifically, the basin of the Nile River is divided between a dozen countries. Every country gets a quota for the use of water resources. Egypt, which is located the lowest down the stream, uses the lion's share of the Nile water. Today, many are not content with that situation, points out Prof. Marina Sapronova of the Oriental studies Department at the Moscow State Institute of International Relations.

«Back in mid-1950s an agreement was signed between Egypt and Sudan regarding the division of the water of the Nile River. But the thing is, the situation that existed in the industry and agriculture as well as ecology in mid-1950s and the situation in those areas in the XXI century are absolutely different. Cities are developing in an accelerated way, the population is growing, and the production volumes go up as well. All that requires greater usage of fresh water. That is why the legal base that existed back then could be taken as the basis for various agreements, but nevertheless it has to be updated».

While Egypt was the main regional force, its right to water resources was practically not contested. At some point Ethiopia tried to build a dam, but an Egyptian airplane sunk the ship carrying the necessary construction equipment and the issue was closed for many years.

Today the situation in the region has changed. Addis-Ababa has started a project called «Renaissance» - erection of a huge hydro power station in the upper part of the Blue Nile River, which is the main artery of the great river. Among Ethiopia's allies are Kenya, Sudan, Southern Sudan and Djibouti. The Ethiopians have promised to sell part of the electric power produced, which is in deficit in the region. Egypt, which can lose a great part of the Nile water as a result of that construction, is trying to oppose the project. But today flag wagging is not an option. Cairo has admitted the need for mutual agreements. Egypt's talks with Ethiopia and Sudan regarding the water

issue have already started although with no result. The world community, including Russia, is trying to be instrumental in working out a mutually acceptable solution.

It is worse when parties to a conflict have no chance or wish to sit down to negotiate, thinks Marina Saprova, an expert in international relations.

«The Jordan River and its affluents are the main water sources for the Middle East. Thus, the water issue is quite acute in the Jordan-Syria relations, as well as those between Jordan and Israel, Syria and Iraq, Lebanon and Israel and Palestine and Israel. In other words, all states that draw water from one source have conflict relations with their neighbors. But besides Jordan other states in the region have no diplomatic relations with Israel. That is why the problem is caused by the lack of opportunity to resolve the water issue in a bi-lateral way in these or those relations».

The water situation is no better in the Central Asian region. Uzbekistan is openly threatening Tajikistan to start a war if Dushanbe builds Rogunskaya hydro power plant on the Vahsh River thus limiting the supply of water downstream. The problem did not come up today, but previously the countries managed to resolve it politically, points out Valery Vuglinsky, deputy director of the State Hydrological Institute.

«In the Soviet times the Central Asian republics where irrigation was developed resolved those problems at the state level, at the level of the government of the USSR. The residents of those regions could not resolve that issue between themselves. Today the neighboring countries cannot resolve the issue of water resources deficit even by political means. Especially when a country located up the stream is building a water reservoir in the upper part of the river, thus intercepting a part of the flow. A deficit of water and related political tension appear in the state located down the stream».

The Earth's population is growing and is consuming more and more natural resources. According to UN data, in ten years 45% of the planet's population will face an acute deficit of fresh water. It is all getting to the point that the water issue will become the key issue in the international diplomacy.

“Russia to help Northern Africa to resolve water resources issue”, 15/02/2014, online at:

http://voiceofrussia.com/2014_02_15/Russia-to-help-Northern-Africa-to-resolve-water-resources-issue-2453/

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❖ Globalising water projects

I appreciate, in principle, the impact of disputes among the countries of the Nile Basin on the spirit of pan-Africanism and on progress in the development of regional cooperation in the Nile Basin, which is essential for the collective future and comprehensive development of one of the important regions in Africa. It is important to bear in mind that the Nile waters question can no longer be regarded as a purely bilateral or even regional issue, as it intersects with — and has become part of — a larger continental and global water agenda, which renders it less subject to the control of any of the Nile Basin countries than to the views of the planning circles in the World Bank, multinational corporations and other global capital sources. These circles, according to many sources (the most important of which is Rushdi Said), have been discussing mammoth dam and hydraulic projects on rivers since the Hague Conference of 2000, in the course of which they established the principle of water pricing and the role of private firms in water marketing projects. They had in mind 15 major international companies (based in the US, Britain, France and Italy) that they anticipated would invest some \$800 billion in water projects.

Africa always occupied a prime position in these plans, which extended from the Senegal River to the Congo, Niger and Zambezi rivers. The costs of the Grand Inga Reservoir projects on the Congo, the fourth phase of which is scheduled for completion in 2025 (and which will have the potential to generate 40,000 Megawatts of electricity), are expected to exceed \$80 billion. South Africa and Congo have recently signed a crucial treaty on the Grand Inga Hydropower Project that could become the largest hydroelectric project in the world following a meeting of potential investors in the Congo project in April 2008, under the supervision of the World Energy Council, held with the purpose of generating the necessary funding. The World Bank had committed \$10 billion as starting capital for the Grand Inga projects, as well as another \$8 billion for the nearby Zambezi projects.

Thus, it is clear that the borders of a local project such as Renaissance Dam (with an expected 6,000 Megawatt capacity at a cost of \$5 billion) extend beyond Ethiopia. As considerable as the value of this project is in terms of Ethiopian national development, the diversity of contributors to the project, with respect to the creation of the reservoir, power generation and distribution, and infrastructure (including the railways connecting it to other parts of the area) speak of a major multilateral investment process. In my opinion, the Egyptian public should not read this as a conspiracy against

Egypt but rather as a network of interests with respect to which it is important to augment the capacity to penetrate this network so as to transform it, together with Sudan and Ethiopia if possible, into a huge engine for collective development along the lines of the multinational Grand Inga Project. (I should add here, that facts and realities put paid to that commotion stirred by a number of Egyptian technicians advocating a project to link the Congo with the Nile via canals that pierce the mountains and the swamps between there and Sudan, all in order to sideline the Renaissance dam!)

Egypt, Sudan and Ethiopia are not unaware of the importance of working together in the interests of national and regional development. Moreover, it is in their interests not only to generate joint information resources but also joint positions on the project, as global capital does not operate in accordance with local, regional or pan-Arab biases. Indeed, Arab capital, even with some of its political linkages to Egypt, comes into question in this regard.

We also know that the Nile Basin Initiative (NBI), which for some mysterious reason is being jettisoned, had been earmarked for \$122 million from the World Bank for activities involving research, confidence building, communications and promotion programmes preparatory for major 3-6 year project programmes (all this is according to a 50-page booklet on the plans and studies for the initiative).

At the same time, I can add that, according to the available information on major Ethiopian surveys conducted in the area of Renaissance Dam project since 2007, and as Rushdi Said himself, pointed out before he passed away in 2012, Ethiopia — unlike both Egypt and Sudan — never submitted a memorandum on the extent of its water needs, as required under international agreements. This is reminiscent of Addis Ababa's continued delay in the submission of the studies for the dam to the tripartite technical committee. Moreover, one recalls that the World Bank was not absent while these acts of remiss took place. Since 2001, after the initiative was launched, the World Bank pledged to assist the water ministers of the Nile Basin countries to establish a cooperation consortium (CCON) so as to ensure that it would always be close to the group!

The abundance of information and its simultaneous concealment, in this manner, furnished the arguments and the sources of controversy between the parties concerned in the Nile waters question and crisis. Yet, there is no national agency in any of the Nile Basin countries capable of resolving the matter; nor is there a regional organisation sufficiently strong to assert itself.

However, I anticipate that a new approach will be brought to reading the situation with an eye to “consensus-reaching” either at the regional level, first, or at the level of the sources of global capital,

as conflict over such major projects only obstructs progress in the advancement of interests and welfare nationally and regionally. If the financiers in the Congo River basin — as was the case with the Zambezi before this — made it possible for South Africa to lead the investment project outside of its territory and if the DRC (Democratic Republic of the Congo) approved of this so as to become a centre for global investment, I doubt that the Ethiopians would be governed by narrow outlooks when it comes to similar projects with current or future regional or international projects that not only serve developmental interests but also, and perhaps above all, the interests of the international capitalist process.

In light of the foregoing, the globalisation of water projects that encircles the Nile waters crisis leaves little room for “golden solutions”, but it does compel us to exert some effort in a re-examination of the agreements governing the region in accordance with a unified African perspective, to which I am committed.

What most struck me when reading the basic agreements between the Nile Basin states is that they need to be approached more with a political lens than with a legalistic or technical one. This led me to believe that Egyptian and Ethiopian negotiators desire agreement not conflict, and most of the existing agreements for regulating the use of the Nile waters suggest that agreement is possible. The dialogue over the framework agreement for the countries of the Nile Basin is different from the negotiations directly involving the Renaissance Dam. Therefore, it is important to negotiate first over the framework agreement, because it is here we will find the spirit of “consideration for the other” present all along. Indeed, we find this principle already present in the 1959 Nile Waters Agreement, which contains an Egyptian and Sudanese “agreement to discuss together the demands of other countries and to agree on a unified opinion with respect to them”. That provision puts paid to the contention that Khartoum and Cairo had ignored the other parties.

The recent Entebbe Framework Agreement also underscores this principle in its wording regarding “the fair and reasonable use of water resources”, the need to observe the circumstances pertaining to these water resources, including their limited nature, and the commitment not to cause grave harm to other countries.

All such texts and provisions seem to compel towards “dialogue” over principles, rather than mere “negotiations” over details. Once the two countries perceive this they will, of necessity, be propelled towards “agreement” instead of finding themselves forced to bow to the rules and interests of global capitalism and having to negotiate over other vital strategic interests. Such are the anxieties in this

respect that one sometimes feels compelled to alert public opinion in both countries of the risk of national interests being subordinated to the interests of global capitalism, by which time conflict and media clamour in Addis Ababa and in Cairo will carry little weight.

Those who are whispering or shouting into the ears of the Nile Basin parties should realise that the circles of global capitalism and all other strategic circles around us must study the interrelated points surrounding the following:

— The statements of Egyptian scientists regarding the subterranean waters in the Western Desert. Most recently, scientist Essam Haggi drew a comparison with water on Mars. Prior to this we have Farouk Al-Baz's remarks, the most recent of which concerned the rival subterranean river in northern Libya.

— The reports that have been circulating for some time on French water purification projects along the southern Mediterranean coast, starting from Morocco, and Israeli competition in this project, which embraces the whole of the Middle East.

— Previous policies of the World Bank itself, which had advised Turkey and Syria to resolve their crisis over another international waterway through the construction of small dams rather than through conflict.

— The need for more precise discussion of meteorological predictions, as any is sufficient to carry significant argumentative weight, whether in the case of the anticipatable floods surrounding the dams or the prospect of draught afflicting this party or that, not to mention the horrors that await from global warming and the melting of the polar icecaps.

“Globalising water projects”, 13/02/2014, online at: <http://weekly.ahram.org.eg/News/5379/21/Globalising-water-projects.aspx>

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❖ **China Has Plans to Curb Water Pollution, Securities Journal Says**

China's Ministry of Environmental Protection is considering policies to reduce water pollution, the China Securities Journal reported, citing unidentified people close to the ministry.

Treatment of sludge found in wastewater will be the focus of the policies, the report said,

China is the world's biggest producer of sludge and treats only 10 percent of it, the report said, citing Chen Tongbin, a researcher at the Chinese Academy of Sciences.

"China Has Plans to Curb Water Pollution, Securities Journal Says", 14/02/2014, online at: http://www.bloomberg.com/news/2014-02-14/china-has-plans-to-curb-water-pollution-securities-journal-says.html?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=1f9b6d3e1e-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-1f9b6d3e1e-250657169

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❖ **DRC Mega-Dam to Be Funded by Private Sector, Groups Charge**

WASHINGTON, Feb 11 2014 (IPS) - Watchdog groups here are warning that a deal has been struck that would see Chinese investors fund a massive, contentious dam on the Congo River, the first phase of a project that could eventually be the largest hydroelectric project in the world.

Discussions around the Inga III dam proposal, in the Democratic Republic of Congo (DRC), have been taking place in some form for decades. They have picked up speed over the past year, however, under the auspices of the World Bank, the Washington-based development funder.

On Tuesday, the bank's board of directors were to have voted on an initial 73-million-dollar loan for the project, to be offered through the International Development Association (IDA), the institution's programme for the world's poorest countries. Last week, however, that vote was abruptly postponed.

Now, civil society groups are reporting that the project may be going forward instead under the World Bank's private-sector arm, the International Finance Corporation (IFC), with the backing of Chinese investors. Yet critics, who have long worried about the local social and environmental impact of the Inga project, worry that greater involvement by the private sector will result in skewed prioritisation of beneficiaries.

"Handing the project over to a private investor will make it even less likely the country's poor people would benefit from the project," Peter Bosshard, policy director for International Rivers, an advocacy group, said Monday.

"The IFC deal was arranged behind closed doors without any accountability to the DRC parliament, the World Bank's board of directors, or civil society ... Non-transparent deals such as the Inga 3 Dam are the best recipe for deepening corruption in the DRC. They will not strengthen the public accountability that is necessary for social and economic development."

Citing multiple sources within the bank, Bosshard says the decision to change the Inga III funding modality appears to have been made between high-level officials from the World Bank, the IFC and USAID, the U.S. government's main foreign-aid arm, reportedly bypassing the bank's board of directors. Thus far, none of these institutions have publicly confirmed any deal.

"The World Bank Group is fully committed to supporting the Inga III hydropower project, which has the potential to improve the lives of millions of Africans," a bank spokesperson told IPS in a

statement. “We postponed presenting to our Board a Technical Assistance package related to the design of the project’s operation, but the project has not been cancelled, and our commitment to Inga III is unchanged.”

Primary beneficiaries

As currently envisioned, the Inga III dam would be the first in a series of hydroelectric installations along the Congo River, collectively referred to as the Grand Inga project. This would include a single 145 metre dam, which would flood an area known as the Bundi Valley, home to around 30,000 people.

The full project could provide up to 40,000 megawatts of electricity, a power potential that has been eyed hungrily by the rest of the continent for decades. While DRC’s chaotic governance has stymied forward progress on the project for years, the Grand Inga vision received an important boost last year when the South African government agreed to purchase a substantial amount of power produced by Inga III.

The 12-billion-dollar dam is now supposed to be built by 2020 and, according to Congolese government estimates from November, would produce around 4,800 MW of electricity. Of this, 2,500 MW would go to South Africa while another 1,300 MW would be earmarked for use by mines and related industry in the province of Katanga.

“There is little indication that the dam development schemes underway would address the issue of access to electricity for the population at-large; industrial users stand to be the primary beneficiaries,” Maurice Carney, executive director of Friends of the Congo, an advocacy group here, told IPS.

“Only 10 percent of Congo’s population has access to electricity and the situation is even worse for rural population, where only 1 percent has access to electricity. For a country like the DRC that is endowed with a plethora of alternative energy options, smaller-scale renewable energy technologies would be the best way forward.”

Carney and others are calling for a cumulative assessment of the Grand Inga scheme, to include study of all social and environmental impacts. Indeed, these have been longstanding concerns, but now some development advocates worry that greater private sector involvement in the Inga III project will further exacerbate such issues.

“We have questions about whether the scheme can deliver any development at all in the hands of the private sector,” Joshua Klemm, manager of the Africa programme at the Bank Information Center, a watchdog group here that focuses on the World Bank, told IPS.

“For good or bad, if this project belongs to the Congolese government, there’s at least some hope to expand electricity access in the country. That would go out the window if we’re talking about a purely private sector project.”

Duelling U.S. stances

As the Inga III project picked up momentum in recent months, USAID too expressed its interest in the proposal. The agency’s administrator, Rajiv Shah, visited the Inga III dam site in mid-December, and stated that the proposal could be added to a new, large-scale initiative by the United States to significantly increase electrification across Africa.

Although USAID was unable to comment for this story by deadline, any involvement by the agency in brokering a deal with the IFC would be interesting. Just last month, the U.S. Congress passed a landmark new law requiring the U.S. Treasury to formally vote against multilateral funding for large-scale hydroelectric projects in developing countries.

The new provisions, contained in a huge appropriations bill funding the federal government, impact both on bilateral U.S. funding through agencies such as USAID, as well as on the significant contributions that the United States provides to multilateral development institutions, particularly the World Bank. (The U.S. Treasury was unable to comment by deadline.)

“Under the [appropriations] language, the United States will have to oppose the Inga III dam at the IFC as much as it would have had to do this if it were an IDA project,” International Rivers’ Bosshard told IPS. “There’s no difference there, but it is ironic that the USAID administrator would have pushed the deal.”

“DRC Mega-Dam to Be Funded by Private Sector, Groups Charge”, 11/02/2014, online at: http://www.ipsnews.net/2014/02/drc-mega-dam-funded-private-sector-groups-charge/?utm_source=Circle+of+Blue+WaterNews+%26+Alerts&utm_campaign=059156aba1-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_c1265b6ed7-059156aba1-250657169

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❖ Cambodia's Biggest Dam Begins Test Operations

The 338-megawatt Chinese-built Lower Russei Chrum River hydropower dam in Koh Kong province has begun operating, a local energy official said this week.

Pich Siyun, director of the Koh Kong provincial mines and energy department, said the dam in Mondol Seima district has been testing operations for about a month, but that the amount of energy being produced had not yet been confirmed by China Huadian, the Chinese company responsible for constructing and operating it.

"It's been put into testing for approximately a month, but I don't know how much energy the dam produces," Mr. Siyun said.

According to China's Xinhua news agency, however, the \$500 million dam is already supplying 190 million kilowatt hours of electricity to state electricity provider Electricite du Cambodge, and will sell power to the provider on a 35-year contract.

Mr. Siyun said that the electricity produced at the station would be transmitted to a substation in Pursat province, where it would then be redirected to Phnom Penh, Banteay Meanchey, Kompong Chhnang and Battambang provinces.

"This is a national electricity network, so the electricity will be connected from one place to another throughout the country," Mr. Siyun said.

He declined to comment on the price the government was paying for the electricity, referring questions to the Ministry of Mines and Energy, where officials could not be reached.

The electricity has already reached Pursat province, according to provincial Governor Khoy Sokha, who added that electricity poles are being constructed.

"The electricity will be connected to every single village [in Pursat] by 2015," he said.

According to Xinhua, a company official said that the dam, which has two reservoirs and four generators, was finished nine months ahead of schedule and could supply 1 billion kilowatt hours of electricity each year.

In February 2013, Prime Minister Hun Sen said a focus on hydropower dam construction would help Cambodia reduce its dependence on oil and ensure nationwide access to electricity at a stable price.

At the time, he said Cambodia obtained about 200 mw of electricity from its three dams; when the Lower Russei is fully operational, it will more than double that figure.

"Cambodia's Biggest Dam Begins Test Operations", 11/02/2014, online at:

<http://mekong.waterandfood.org/archives/4820>

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❖ NASA Data Find Some Hope for Water in Aral Sea Basin

A new study using data from NASA satellite missions finds that, although the long-term water picture for the Aral Sea watershed in Central Asia remains bleak, short-term prospects are better than previously thought.

Once the fourth largest inland sea in the world, the Aral Sea has lost 90 percent of its water volume over the last 50 years. Its watershed -- the enormous closed basin around the sea -- encompasses Uzbekistan and parts of Tajikistan, Turkmenistan, Kyrgyzstan and Kazakhstan.

Graduate student Kirk Zmijewski and assistant professor Richard Becker of the University of Toledo, Ohio, wanted to find out whether all of the water was gone for good, or whether some of it might have ended up elsewhere in the watershed, behind dams or in aquifers. They also wanted to gauge whether decreasing rainfall has contributed to the catastrophic water loss.

The researchers used data from NASA's Gravity Recovery and Climate Experiment (GRACE) satellites to map monthly changes in mass within the watershed from 2003 to 2012. These changes are associated with changes in water volume, both on and below the land surface. They mapped the entire Aral Sea watershed, which is more than twice the size of Texas at 580,000 square miles (1.5 million square kilometers).

Zmijewski and Becker found that each year throughout the decade, the watershed lost an average of 2.9 to 3.4 cubic miles (12 to 14 cubic kilometers) of water, or the equivalent of one Lake Mead per year. That's a sobering rate of loss, but it's only about half as much as the rate at which the Aral Sea itself is losing water (5.8 cubic miles or 24 cubic kilometers).

"That means that roughly half the water lost from the Aral Sea has entirely left the watershed, by evaporation or agricultural uses, but half is upstream within the watershed," said Becker.

Specifically, more water is now in the central part of the watershed, where almost all of the region's farming takes place. That area increased in mass during the last four years of the study. The researchers believe that some of the increase comes from improvements in water conservation practices, though some was simply the result of inefficient irrigation, for example, water seeping out of unlined ditches into aquifers.

Decreasing rainfall in the region has been widely reported, and the researchers wanted to quantify its role in the water loss. They were unable to find a complete and reliable published rainfall record for the entire watershed using ground-based measurements, so they analyzed rainfall data from NASA's

Tropical Rainfall Measuring Mission satellite. Unexpectedly, they found no change in precipitation since 2002. "That was more surprising to us than anything else," said Becker. To check that result, they extended their analysis back to 1980, using data from the Global Precipitation Climatology Project for the earlier years. There was no sign of dwindling precipitation for the watershed across the entire 30-year period.

Patterns of rainfall have shifted near the Aral Sea, Becker pointed out, and that may have misled observers into believing that rain was decreasing overall. "Lake-effect precipitation downwind of the Aral Sea has decreased, but precipitation over the sea itself has increased, so that's not changing the whole system," he said.

The basin's water woes began in the 1930s with a Soviet development plan to create a cotton industry in the Central Asian desert. Rivers flowing into the Aral Sea were diverted to nourish the thirsty crop, setting off the inland sea's decline. Since the breakup of the Soviet Union, several watershed countries have maintained a cotton-based economy.

Declining availability of freshwater due to human activities and climate change is a critical issue throughout the world, affecting agriculture, economics and politics. Becker said, "When water is removed from the watershed, agricultural prospects in the region decline. It's hopeful that investments in irrigation upgrades have decreased water losses. With savvy water policy, each country in the watershed could continue to improve in the future."

"NASA Data Find Some Hope for Water in Aral Sea Basin", 14/02/2014, online at:
<http://www.jpl.nasa.gov/news/news.php?release=2014-050>

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❖ Planning ahead for possibility that Colorado's water supply won't meet its needs in 2050

Steamboat Springs — Colorado Gov. John Hickenlooper called on the different regions of the state last spring to come together and develop a comprehensive statewide water plan by December 2015.

The intent is to increase the certainty of future water supplies and reduce the risk of shortages while providing for the needs of various water consumers, from municipalities to agriculture, the environment and industry, including the energy sector.

If December 2015 sounds like it's in the distant future, consider that the first deadline for the combined Yampa, White and Green river basins to produce their initial draft is July. A final draft plan is due by December, allowing another full year before the final plan must be on the governor's desk. So the work is underway, and the clock is ticking on a plan that will affect future generations of Coloradans.

"The deadlines are a little disconcerting for us," Routt County Commissioner Doug Monger told an audience of about 100 people Thursday night in Steamboat Springs. "We've been in the process for eight years. We've plotted out sections of rivers and streams and what characteristics they have. But the train is going down the track pretty fast here."

When Monger uses the pronoun "we," he is referring to government leaders and citizens serving on the Yampa, White and Green River Basin Roundtable. He also is a member of the roundtable and recently filled a seat on the board of directors of the Colorado River District.

Steamboat Springs attorney Tom Sharp previously was on that board.

This week's meeting was one of several more to come seeking public input about the complex challenge of how to provide enough water in an era of declining precipitation and reservoir levels across the semi-arid West even as population projections are on the rise.

Jay Gallagher, manager of the Mount Werner Water and Sanitation District in Steamboat, told Thursday night's audience at the Steamboat Springs Community Center that the local roundtable is one of nine created by the state Legislature in 2005 when it passed the Water for the 21st Century Act.

The urgency a decade ago was due to an awareness that Colorado's population was projected to double from 5 million to somewhere between 8 and 9 million within three or four decades, Gallagher said.

Now, he added, it's urgent that people who depend on the water carried in the Yampa, White and Green rivers to participate in the process of striking a balance among competing needs for water here.

"It's important that you participate in this process right here in the basin because this is your future and your children's future," Gallagher said.

He also serves on the board of directors of the Colorado Water Conservation Board, the agency that creates water policy in the state.

The nine roundtables, each representing a major watershed in the state — including the Arkansas, Gunnison, Colorado, North Platte, Rio Grande, South Platte, Southwest (La Plata, San Juan and others), Yampa/White/Green and metro Denver — were tasked with making a bottoms-up assessment of the water needs of their basins and existing supplies.

“That has resulted in an understanding of gaps between (existing) supplies and future demands,” Gallagher said. “This is unique because it hasn’t been undertaken at the state level.”

This time, the study is being done by people who understand what makes their basin work.

Gallagher said it’s not unlikely that basins will identify what he called “low regret water projects” that will boost available water supply in the future as Colorado learns to do more with less water.

It’s also likely that a variety of basins will be covetous of unappropriated water in the Yampa River Basin.

“The real questions is how we would cover a shortfall if we don’t have enough water supply,” even with new water projects and processes in place, Gallagher said.

He observed that in recent years, Colorado’s urban corridor has addressed shortfalls by purchasing water transfers from agricultural rights holders. The resulting reduction in ag land under production is sure to become a topic of discussion between now and December 2015, he said.

“We’re seeing that thousands and thousands of once-irrigated acres are now dried up,” Gallagher said. “This is not politically, nor is it financially feasible for the state to endure. If this is our plan, then we are going to lose a substantial portion of our economy.”

Kevin McBride, district manager of the Upper Yampa Water Conservancy District, gave the audience a history of water policy on the Colorado River Basin, describing Major John Wesley Powell’s historic first trip in 1869 down the Green River to its confluence with the Yampa and then all the way through Glen Canyon and the Grand Canyon on the Colorado.

McBride described how Powell, after assessing how dry the climate was in the lower reaches of the Colorado, urged that state boundaries be organized around watersheds, rather than political lines, to simplify water policy in the future.

At an irrigation conference in 1883, Powell cautioned: “Gentlemen, you are piling up a heritage of conflict and litigation about water rights, for there is not sufficient water to supply the land.”

And that is the the challenge that faces Colorado together with Wyoming, Utah, Nevada, California and parts of New Mexico and Arizona in the next few years.

“We have a burden and the necessity to develop the water,” Monger said. “Not only are we a highly at-risk (basin) because we are probably the least populated, but we’re the last to settle. We’re the last in appropriations. We have very few pre (1922) compact rights versus a lot of the other areas” of Colorado.

“Planning ahead for possibility that Colorado's water supply won't meet its needs in 2050”, 14/02/2014, online at:
<http://www.steamboattoday.com/news/2014/feb/14/planning-ahead-possibility-colorados-water-supply-/>

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❖ **GOP challengers see opportunity in California water crisis**

Two Republican challengers to incumbent California Gov. Jerry Brown say that the state's government failed to properly prepare for what they call a foreseeable drought crisis.

The drought emergency Brown declared last month has added to the pressure on the Democratic governor to address longstanding problems with the state's water storage and delivery systems. Brown has proposed a \$25 billion plan to build two massive tunnels to ship water from the Sacramento-San Joaquin River delta to farms and communities.

The two Republican candidates, Assemblyman Tim Donnelly, R-Twin Peaks, and Neel Kashkari, a former U.S. Treasury official, both say the most pressing need is for more water storage, although it would do little to help ease the current shortfall.

"Let's get going with the piece of this that everybody agrees on -- the storage. I think we can get support for that," Kashkari said.

Although Democrats and environmentalists have often resisted building reservoirs and expanding the state's storage capacity, instead favoring water conservation, Kashkari said "the politics have changed," amid the crisis. He said he believes there is now consensus.

An \$11.1 billion water bond is already slated for the November ballot, but lawmakers believe it is too expensive and too loaded down with special projects to win favor with voters. At least four alternative proposals are circulating, but Brown has declined to say whether he would support any of them. He has said he is unsure whether any package can get voter support.

Donnelly said he would support a water bond that is "strictly water, nothing else, no political payoffs. But it has to address every region of the state."

"Southern California has to become part of it; it has to own up to its own responsibility in water usage. That means major conservation, and it means we need to invest in desalinization," Donnelly said.

Kashkari said he favors breaking up the bond and pushing a measure solely dedicated to storage.

But the bond, a hard-fought, bipartisan deal brokered in the Legislature in 2009, reflects the complexity of sensitive negotiations on water politics. It includes money to move water, store it, protect sensitive environmental areas and ensure clean drinking water.

Neither of the Republicans supports the centerpiece of Brown's water proposal, the \$25 billion plan to build two 35-foot long tunnels, a 10- to 15-year project that is intended to make it easier to pump water from the Sacramento River to Central Valley farms and Southern California cities. It also includes money for delta habitat restoration.

Donnelly wants to ask voters to repeal the contentious high-speed rail project and divert nearly \$9 billion in bonds approved for it to water projects. While that proposal is unlikely to win support from Democrats in the Legislature, Donnelly said he believes the crisis brings opportunity.

"I don't know that it'll all be reached in the Legislature this year, but I am encouraged to see for the first time in a long time, all of the players coming to the table so they can at least have the conversation," Donnelly said. "And I'm willing to work with anybody who has a better idea so we can get this done."

"GOP challengers see opportunity in California water crisis", 16/02/2014, online at:
<http://www.foxnews.com/politics/2014/02/16/gop-challengers-see-opportunity-in-california-water-crisis/>

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