



# ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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



## **ORSAM WATER BULLETIN**

*14 March 2017 – 20 March 2017*

### **Kuwait finances digging of water wells in Irbil**

Kuwait's Al-Najat Charity has financed the digging of 10 wells in Irbil to provide water for displaced Iraqis, said a Kuwaiti diplomat Tuesday.

After meeting with the governor of Irbil Nawzad Hadi Mawlood, Kuwait's General Consul in the region Dr. Omar Al-Kanderi told KUNA that the current situation in Iraq's Kurdistan required from Kuwait, and other countries in the region, to provide a helping hand to the displaced Iraqis.

He affirmed that Al-Najat financing of the water wells project was in line with the Kuwaiti leadership efforts to help the Iraqi people.

On his part, Mawlood thanked the Kuwaiti leadership and people for their humanitarian support, affirming that the Gulf country's efforts have helped in decreasing the suffering of the displaced Iraqis.

In mid-2015, Kuwait had launched several campaigns to aid the displaced Iraqis fleeing from the rule of the so-called Islamic State (IS) in Mosul.

The Iraqi government, backed by regional forces and international alliance, launched in late 2016 a military operation to liberate Mosul from the control of IS which conquered the city in 2014.

14/03/2017 online at:

<http://www.kuna.net.kw/ArticleDetails.aspx?id=2596250&language=en>

### **Iraq plans for water agreements with neighboring countries**

Iraqi President Fouad Ma'soum stressed Iraqi intention to sign new water agreements with neighboring countries, pointing that the violations made damages to Iraqi economy.

During a seminar held by the Iraqi Water Resources Ministry on Mosul's Dam, he added that Iraq wants "acceptable" division of waters according to international accords.

He referred to activating the agreement with Turkey, which was signed in 2014.

President Ma'soum confirmed the necessity of defending Iraqi water rights and put an end to the violations that negatively affected Iraqi agriculture and animal wealth which transformed Iraq as importer for food supplies.

19/03/2017 online at: <http://www.rebuildingiraq.net/news/view/37301-Iraq-plans-for-water-agreements-with-neighboring-countries>

### **Twenty new dams to offset shortage of water in Kurdistan, minister says**

The Kurdistan Region will have nearly twice as much irrigation and drinking water as needed when the construction of 20 dams are complete as pressure grows in the country to find long-term solutions to water shortages.

Minister of Agriculture and Water Resources told Rudaw some 80 percent of the dam projects have been completed and plans are underway to finance the final stage of the constructions.

“The government has promised us to fund the remaining 11 billion dinars that we will need to go on with the constructions,” Minister Abdulsatar Majid told Rudaw.

The Kurdistan Region has 17 small and middle size dams but the population growth and lengthy drought periods have in the past caused water shortages in many areas of the country, in particular in southern areas where much of the irrigation water depends on the Sirwan River flowing from Iran.

Compared to the rest of Iraq, Kurdistan Region is the leading area when it comes to water sources both for drinking and irrigation. Apart from the rivers and lakes that pour into Kurdistan Region from Iranian Kurdistan, the area is abundant with lakes and waterholes.

Kurdistan Region has four main rivers that include the Big River, the Small River, Sirwan and Alwan. There are also three dams, Dukan, Darbandikhan and Dohuk.

Experts have warned that the border-crossing river of Sirwan could dry up in Kurdistan Region in the near future, if Iran continues to construct dams on the river and prevents water to flow into other side of the border.

With over 5,86 billion cubic meters of water, Sirwan has become a vital resource for both irrigation and electricity in the region.

The river is nearly 400 kilometers long and starts from the mountain tops in Iran’s Kurdistan and pours into Tigris River in Iraq after crossing Kurdistan Region.

Over 60 percent of the river is in Iran’s Kurdistan and some 24 percent is inside Kurdistan Region.

Kurdish authorities say Iran has completed two channels that divert the water flow of Sirwan for their own use which could have detrimental consequences for irrigation in Kurdistan Region.

“Iran building new dams on Sirwan River has of course deepened the shortage of water, but if we complete our own dams, we will no longer be dependent on water from our neighbors,” the minister said.

19/03/2017 online at: <http://www.rudaw.net/english/business/19032017>

## **Syria regime bombed Damascus water source: UN**

The Syrian government intentionally bombed the Ain al-Fijeh spring in December, leaving more than five million people in Damascus without access to water, a UN probe said Tuesday, branding the strike a "war crime".

"The information examined by the Commission confirms that the bombing of (the Ain al-Fijeh) spring was carried out by the Syrian Air Force," the UN Commission of Inquiry on Syria said in a report.

The report, which was presented to the UN Human Rights Council Tuesday, dismissed regime allegations that rebels had contaminated the water.

Around 5.5 million people in Damascus and its suburbs were cut off from water when fighting intensified in Wadi Barada near the Syrian capital in late December.

The regime accused the rebels of poisoning water resources and cutting off the mains, while the armed opposition said regime bombardment had destroyed the infrastructure.

The UN commission, which has never been granted access to Syria and bases its reports on interviews and documents, said it had found no "indications that the water was contaminated" before the spring was bombed on December 23.

"On the contrary, interviewees say that Wadi Barada residents used water up until the bombing of 23 December and no one experienced any symptoms of contamination," the report said.

Following the bombing, the water was contaminated after shrapnel damaged fuel and chlorine storage facilities, it said.

The bombing itself indicated that the "spring was purposely targeted," said the commission, headed by Brazilian academic Paul Sergio Pinheiro.

"While the presence of armed group fighters at (the Ain al-Fijeh) spring constituted a military target, the damage caused ... was grossly disproportionate to the military advantage anticipated or achieved," it said.

- War crime -

"The attack amounts to the war crime of attacking objects indispensable for the survival of the civilian population and further violated the principle of proportionality in attacks," the report concluded.

At the end of January, Syria's army regained control of Wadi Barada, which rebels first seized in 2012.

Syria's representative to the rights council, Hussam Aala Edin, on Tuesday reiterated accusations that the commission was politicized, and slammed its "amateurish approach" and "naive conclusions".

More than 320,000 people have been killed and millions forced to flee their homes since Syria's conflict erupted in March 2011, as protests against President Bashar al-Assad morphed into war following a government crackdown.

Tuesday's report also detailed a range of other war crimes committed in Syria since last July, including a series of attacks last October on schools in Haas, in Idlib province, that killed 36 civilians, 21 of them children.

Two weeks ago, the commission also released a report on the regime's five-month siege of eastern Aleppo, describing war crimes by all sides, including chemical weapons attacks, civilian executions and forced displacements following the rebel defeat.

"The government's siege tactics proved repulsively successful: eastern Aleppo is reduced to rubble, while survivors have been forced to leave their homes and face an uncertain future elsewhere," Pinheiro told the council.

Earlier Tuesday, UN rights chief Zeid Ra'ad Al Hussein described the Syrian conflict as an "immense tidal wave of bloodshed and atrocity," and "the worst man-made disaster the world has seen since World War II".

14/03/2017 online at:

[http://www.terradaaily.com/reports/Syria\\_regime\\_bombed\\_Damascus\\_water\\_source\\_UN\\_999.html](http://www.terradaaily.com/reports/Syria_regime_bombed_Damascus_water_source_UN_999.html)

### **Water reaches pumping station in Syrian city of Aleppo: state TV**

Water has reached a pumping station inside Aleppo and will "soon" go out to residential districts in the city, Syrian state media said on Tuesday.

Aleppo's main water supply has been cut off for nearly two months, and residents have largely relied on ground wells or water bought from private vendors.

The Syrian army last week captured the al-Khafsa area east of Aleppo, where treatment and pumping plants provide the city with water. The army and allied forces have made rapid gains against Islamic State in the Aleppo countryside, in a sweeping advance that has brought them to the bank of the Euphrates River.

Citing Water Minister Nabil al-Hassan, state-run news agency SANA said water had now reached the Suleiman al-Halabi station inside Aleppo and will be pumped to the city's residents.

The Syrian Observatory for Human Rights, a British-based war monitoring group, said the station had started pumping water to the main reservoirs across the city.

Water sources have been repeatedly damaged during Syria's nearly six-year-old war. A U.N. Independent International Commission of Inquiry on Syria said on Tuesday that Syria's air force had deliberately bombed water sources in December, cutting off water for 5.5 million people in and around the capital Damascus.

14/03/2017 online at:

<http://www.reuters.com/article/us-mideast-crisis-aleppo-idUSKBN16L20D>

### **Iran, S Korea reaches new water agreement**

A senior advisor to the energy minister has reported on a 1.7-billion-dollar agreement between Iran and South Korea for construction of Bakhtiari Dam.

Managing Director of Iran Water and Energy Resources Development Company Seyed Mohammadreza Rezazadeh recounted on latest dam construction plans in Iran's water industry saying "in view of limited financial resources, construction process of six dams has ceased as they were removed from the list of priority plans."

"Meanwhile, building of other water dams and hydroelectric power plants is still underway according to envisaged timetables," he continued.

The official referred to a contract between Tehran and Seoul for construction of dams and power stations in Iran stating that three cooperation agreements with an overall worth of 3.4 billion dollars have been so far inked between Iranian and South Korean companies in the utility industry.

Rezazadeh said Bakhtiari Dam formed one of the agreed plans with South Koreans adding "a finance deal worth 1.7 billion dollars has been inked with Seoul over Bakhtiari Dam as final stages of coordination to finalize the project is being carried out between Central Bank of Iran (CBI) and South Korean banks."

He further touched upon an agreement with China Export & Credit Insurance Corporation (commonly known as Sinosure) for financing two water dam projects underlining that the first Line of Credit (LOC) for supplying 230 million euros of financial resources to construction of Rudbar Lorestan hydroelectric dam.

Mohammadreza Rezazadeh also reported on a deal with Chinese financiers for building Chamshir Dam and power plant with an investment of about 290 million Euros.

The advisor to energy minister, while underscoring that construction of six new water dams and hydroelectric power houses have been put on the agenda, said "current capacity for production of electricity at hydroelectric stations mounts to about 11 thousand megawatts."

Rezazadeh said another project underway was to utilize capacity of saline water and lands near coasts the Persian Gulf and Oman Sea asserting "we intend to establish plantations in 13 regions in southern beaches suitable for growing plants in salty water as well as to grow different types of fuel."

14/03/2017 online at: <http://en.mehrnews.com/news/124204/Iran-S-Korea-reach-new-water-agreement>

### **Iran reduces agricultural water consumption by 4.2 mcm/year**

Iran has managed to save on 4.2 mcm/year of water in the agriculture sector over the past 3.5 years, said Mohamad Hossein Shariatmadar, head of Strategic Studies Research Center at Iran Chamber of Trade, Industries, Mines, and Agriculture.

He said the economizing has been achieved thanks to a nationwide water efficiency program, IRNA news agency reported March 17.

Accordingly, he said, over the past 3.5 years each year water efficiency in the sector has improved by six percent.

Based on the same program, last year (which ended March 19, 2016) Iran saved 475 mcm of ground water and it is expected to save on 5.7 bcm over the next five years, Shariatmadar stated.

17/03/2017 online at: <http://en.trend.az/iran/business/2733469.html>

### **FAO to help resolve Iran's water crisis**

Deputy Minister for Agriculture Alimorad Akbari has reported on cooperation between Food and Agriculture Organization (FAO) and Iran to alleviate existing water crisis.

On cooperation between Iran and FAO to address water crisis as well as to implement the international body's 'Regional Water Scarcity Initiative', the Iranian official said "in the same line, a meeting was held with FAO officials two weeks earlier and currently protocols are being exchanged and contracts are being inked to tackle the ongoing water crisis with regional efforts and support."

"Another session was also held recently with Daniel Calleja Crespo, Directorate-General for Environment is the European Commission department responsible for EU policy on the environment," said Akbari adding "during the meeting, we made the proposal that Iran be selected as pilot of region in FAO's initiative and receive grants given that infrastructure projects are being conducted in one million hectares of Iranian fields."

In response to a question whether MoUs have been signed or any serious action has been taken, deputy Iranian agriculture minister said "relevant negotiations have been held and a working group has been formed in a bid to seek appropriate approached to become operational."

15/03/2017 online at: <http://en.mehrnews.com/news/124250/FAO-to-help-resolve-Iran-s-water-crisis>

### **Gaza suffers annual freshwater deficit**

The Palestinian Water Authority has warned of the dangerous situation of freshwater in the Gaza Strip due to increasing salinity and the decline of aquifer levels, Quds Press reported on Friday.

In a press conference, the head of the water authority in Gaza, Yasser Al-Shanti, stressed that the annual freshwater deficit in Gaza is 110 million cubic meters, noting that the 2 million people in Gaza need 200 million cubic meters of freshwater every year.

“Gaza suffers from a sharp decline in the quality and quantity of freshwater,” he said.

The groundwater wells have witnessed a sharp decline in the water level which in some areas reached up to 15 meters below sea level.

Al-Shanti stressed that Gaza’s population mainly depends on groundwater as a source of freshwater, noting that this natural reservoir was affected by the increasing urban sprawl.

Based on an earlier UN report, Quds Press said that the Gaza Strip is expected to have no freshwater valid for human use by 2020 due the increasing salinity, pollution and the continuing effects of the Israeli siege.

18/03/2017 online at: <https://www.middleeastmonitor.com/20170318-gaza-suffers-annual-freshwater-deficit/>

### **Jordan’s first water desalination plant opens in Aqaba**

The Kingdom’s first water desalination plant opened in Aqaba Saturday, set to work at a capacity of 500 cubic meters per hour, the Jordan News Agency, Petra, reported.

The plant, which was inaugurated by Prime Minister Hani Mulki, will be running in affiliation with the KEMAPCO Arab Fertilizers and Chemicals Industries, one of the companies under the Arab Potash Company's (APC) umbrella, Petra reported.

The desalination project was implemented by KEMAPCO on the principle of build-operate-transfer (BOT). This formula of public-private partnership allows the state to recover its investment after a set period of time. In this case, it is seven years, and when the firm transfers it to the government, it will be helping the Ministry of Water and Irrigation run the facility.

APC’s Chairman Jamal Sarayrah said the project aims at desalinating Red Sea water with the support of the Water Ministry and the Aqaba Special Economic Zone Authority, Petra reported.

The clean water it will generate, estimated at around 5 million cubic metres annually, will be used for drinking purposes, agricultural and industrial needs, Sarayrah added.

Water Minister Hazem Nasser said the project, which would meet Aqaba’s water needs until the year 2035, is to be fully supplied with renewable energy sources, with the methane gas emitted by the plant and solar energy to generate electricity for the entire project.

The plant will provide the same amount of water as the Disi project, the main water conveyance project that brings water to Amman from Disi aquifer in the southern desert.

Sarayrah noted that his company used to consume around a million cubic metres annually from Disi water.

The biggest portion of water will be pumped into the Aqaba Water Company network to be distributed to consumers, the top executive said, adding that the project was totally handled by Jordanian workers. It will also cover the water needs of KEMPACO, the fertiliser production arm of APC.

Also on Saturday, Mulki attended the signing ceremony of a deal to expand Aqaba's sewage water treatment plant, as well as agreements to execute the Wadi Rahma and Wadi Feidan dams by the Wadi Araba Development Company in Reisha area.

He also inaugurated the sea market project, an investment by the Awqaf and Islamic Affairs Ministry.

18/03/2017 online at: <http://jordantimes.com/news/local/jordan%E2%80%99s-first-water-desalination-plant-opens-aqaba>

### **S. Korea signs MOU with Jordan to help provide water shortage solution**

South Korea and Jordan signed a memorandum of understanding (MOU) to expand cooperation in water management in the Middle Eastern country that is made up of 90 percent arid desert, the Ministry of Land, Infrastructure and Transport said Sunday.

"We expect the MOU will serve as the occasion for South Korean companies to make inroads into Jordan to help solve the water shortage and other projects there," a ministry official said. "Jordan has plans for investment of up to US\$30 billion in the development of electricity, water resources, transportation and other infrastructure by 2025."

The MOU was signed between the ministry and Jordan's Ministry of Water and Irrigation on the sidelines of the Arab Water Week 2017 at a resort along the Dead Sea in Jordan. The main theme at the gathering this week is the "Managing Water Systems within Fragile Environments in the Arab Region."

South Korea plans to cooperate with Jordan in the establishment of a smart water grid, including the building of desalination plants.

The smart water grid is about building and systemizing dams and desalination plants for the effective management of both underground water and sea water.

The ministry has already filed applications with Jordan's six provincial governments for the export of the smart water grid.

South Korean firms are also considering joining the \$1 billion project for the desalination of water in the Dead Sea and funneling the desalinated water either into factories and households or back into the Dead Sea.

19/03/2017 online at: [https://www.koreatimes.co.kr/www/tech/2017/03/694\\_225928.html](https://www.koreatimes.co.kr/www/tech/2017/03/694_225928.html)

## **Yemen is on the verge of running out of water**

In early January last year, a series of explosions heavily damaged a water desalination plant near the Yemeni port city of Al-Mokha. In a single act, more than a million people in nearby Taiz were cut off from their only reliable water source.

Long a precious commodity, the impacts of climate change are making water even scarcer in Yemen, fanning the flames of violent conflict. While the United Nations warns of climate-driven wars as a danger of the future, in Yemen they are already a deadly reality.

Located on the southern end of the Arabian Peninsula, Yemen is the poorest country in the Middle East. In a region known for its expansive deserts, it is also one of the driest. Historically, Yemen has been home to a diverse range of ethnic groups, and since decolonization, has seen almost continuous conflict.

In just a few decades, Yemen has undergone dramatic changes—shifting from a population that generally clung to the coast to one living in large inland cities. Since 1980, the number of people living in Yemen has exploded from 8 million to over 27 million, an increase that has put intense stress on the country's already strained water resources.

Meanwhile, the country began to open up to global trade, resulting in an introduction to a cash economy. Farmers switched from sustenance farming to cash crops, many of which use comparatively large amounts of water. Production of a stimulant drug called qat soared, which used up even more water, at the cost of food for the average Yemeni.

To address the growing demand for water, Yemen introduced new drilling techniques to tap into the country's fossil water reserves. Year after year, an unsustainable amount of water was taken from the country's aquifers. Wells got deeper, water became harder to come by, and prices rose. At the same time, the impacts of climate change only exacerbated the drought. Similar to the situation in Syria, as water and food became scarcer, populations were uprooted and violence ensued.

Today, Yemen is a country on the verge of drying out.

As tension over water resources reached a fever pitch, Yemen began to fracture along sectarian and regional lines. In 2014, protests against petrol price rises began, led by the country's Houthi minority. These rises also invariably increased the price of water, which is often transported by truck. Eventually the unrest morphed into a revolution against the sitting government, which fled south to Aden. Conflict worsened when Saudi Arabia led a coalition of Arab nations in a bombing campaign against the Houthis in support of the relocated government. This fighting then further escalated, with the Arab Coalition deploying heavy ground troops to southern Yemen.

Several years on, the death toll stands at over 10,000. Far more severe, however, is the humanitarian crisis caused by destruction of infrastructure and economic blockades. A substantial portion of Yemeni infrastructure has been bombed, mostly by Saudi Arabian and

UAE jets. Key bridges, viaducts, dams and water treatment plants have all been destroyed in the fighting, causing water scarcity to reach unprecedented levels.

Sanaa could be the world's first capital city to "run out of water" as groundwater reserves simply dry up.

In Yemen's capital, Sanaa, residents report that piped water is non-existent.

"We use to get piped water; where I live we never bought water trucks. But since the war began we become almost dependent on water trucks which are from water wells," said Sanaa-based journalist Hussain Al-Bukhaiti.

Al-Bukhaiti says the war—and specifically the naval blockade administered by the Arab coalition—has driven the price of fuel up, which has subsequently made it more expensive to hire water trucks.

"Sanaa was known to have water shortages before the war, especially in some areas," he said. "But fuel prices were okay so it was easy to buy water trucks. But now it's becoming more expensive and almost impossible to buy for some families who depend on government salaries."

According to the UN Office for the Coordination of Humanitarian Affairs (UNOCHA), more than half the population – 1,187,000 people—are currently suffering from "acute" stress due to lack of access to water and sanitation resources in Sanaa's metro area. Hundreds of thousands more suffer "moderate" stress. However, Saana is not even the worst-affected area of the country.

In war-torn Saana Governorate, close to the border with Saudi Arabia, water stress is even more severe. There, 544,000 people, making up more than 60 percent of the population, fall into the "acute" category. Moreover, the fighting itself has made the search for water even riskier.

"The water project in Saada City has been hit by air bombs more than one time," said Mohammed Al-Saiyaghi, a local administrator with Doctors Without Borders. "In the districts, the access to water is affected by two factors: people are afraid to be targeted by airstrikes or G2G (Ground to Ground) projectiles while bringing water, and people are afraid of cluster bombs distributed in some areas."

Through the help of aid organizations, Saada City has been able to cling to some semblance of order. In provincial areas, life is even harder, and water prices are exorbitant.

"In the Saada City, the bureau/corporation of water is supported by ICRC and the UN. So, 1000 liters of water costs about 1 USD maximum. But in the districts, the 1000 liters of water costs at least 10 USD minimum," Al-Saiyaghi says.

In a country where the average government salary amounts to less than 100USD a month, and many people earn even less, this means many people struggle just to pay for this basic necessity.

An empty water tank on a street in Sanaa, Yemen. CREDIT: Michael Cruickshank

While the country's warring factions may reach a political solution in the near term, the factors underlying Yemen's water scarcity are not likely to improve. Primarily, Yemen is beset by a weak, and in many places non-existent state.

"I think if you look at it from the angle of water stress compared to capabilities to respond, Yemen is pretty bleak. When you talk about water stress in other countries like Syria before the war, India, etc. they all have better administrative capabilities compared to Yemen," said Collin Douglas, a senior fellow with The Center for Climate and Security.

"The biggest contributors are mismanagement and a general lack of governance... The needed maintenance of infrastructure and conflict resolution is not there."

What's more, the impacts of climate change will only intensify in the coming years. While World Bank modeling from 2014 suggests that a warmer climate may increase rainfall, evaporation will increase considerably, which would reduce the overall amount of water reaching Yemeni rivers and aquifers.

Within this environment, some researchers have suggested that Sanaa could be the world's first capital city to "run out of water" as groundwater reserves simply dry up. Douglas, however, believes the city is more likely to fall into a period of decline before this even happens, driven by wartime damage to critical infrastructure as well as overwhelming refugee inflows.

"In reality, the city wouldn't need to go dry to decline. The water supply would just have to dip enough to make the current population unsustainable," Douglas said. "The infrastructure in place is obviously not going to survive the war unscathed, and this could contribute to making the city less livable."

Ravaged by war, climate change, water shortage, and government mismanagement, Yemen is already in many ways a failed state. It will require immense assistance just to provide for its people's basic needs in years to come.

Last month, the UN asked for an unprecedented \$2.1 billion to help stave off the country's "worst humanitarian crisis" ever. With foreign aid budgets being slashed globally, it is unclear if this money will ever arrive.

14/03/2017    online    at:    <https://thinkprogress.org/yemen-humanitarian-crisis-water-54a9c0b52831#.hgfzuzuze>

### **Six firms vying for building water project in Khasab**

As many as six firms have been pre-qualified for developing an Independent Water Project (IWP) in Khasab, with a desalination capacity of 16,000 cubic meters per day.

The consortiums that have pre-qualified to submit bids for building the project are the ACWA Emirates-Sogex Oman consortium, Utico, the Seven Seas-Aqua Venture Holdings consortium, Veolia Middle East, GS Inima and Tedagua.

The companies were pre-qualified after Oman Power and Water Procurement Company (OPWP) floated a request for a qualification tender for developing the desalination project. The winning company will develop it as a private sector project, in close coordination with OPWP. According to an earlier report, the Khasab project, which is expected to be completed by late 2019, will cater to growing demand for water in the Musandam governorate.

Apart from Khasab, the Sultanate is also developing independent water projects in Salalah, Shaiyah and Duqm, which will together add 52.8 million imperial gallons per day (MIGD) of new capacity for the country's rapidly expanding domestic water generation capacity. Demand for potable water in Oman's northern region, which includes the Muscat governorate, is projected to grow by 6 per cent per annum in the next five years, from 238 million cubic metres in 2013 to 349 million cubic meters by 2020.

A combination of population growth and industrial development is being cited as a major reason for growth in the demand for potable water.

18/03/2017 online at: <http://timesofoman.com/article/105147/Business/Six-firms-vying-for-building-water-project-in-Khasab>

### **Egypt sees progress in settling Nile issues**

Egypt is working to restore a cooperative flow of water-sharing solutions with members of the Nile Basin Initiative (NBI).

On March 13, the NBI Ministerial Committee held talks in Khartoum, Sudan, among the water ministers of Egypt, Sudan, Uganda and Rwanda, in addition to representatives from Kenya and Ethiopia. An Egyptian participant in the meeting told Al-Monitor on condition of anonymity that the talks focused on the possibility of Egypt reactivating its NBI membership. Egypt had frozen its NBI membership in 2010 in protest of the Entebbe Agreement, which rearranged Nile water allotments.

"We emphasized our desire to put aside our differences and resume work side by side with the basin countries," the Egyptian source said. "We also insisted on initiating dialogue regarding the [Entebbe] Agreement's controversial clauses."

Egypt wants to amend three clauses in the agreement. The first amendment calls for upstream countries to notify Egypt before starting any project along the Nile. The second proposal amendment defines the concept of water security, which includes recognizing Egypt's quota of the Nile's water, and the third calls for all decisions to be made in consensus with all basin countries.

The Khartoum meeting followed talks that began in February in Tanzania, where Egypt and the Nile Basin countries also discussed resolving their differences. During a Feb. 22 ceremony

in Tanzania to celebrate the regional annual Nile Day, Egyptian Minister of Water Resources and Irrigation Mohammed Abdel Ati called on the upstream Nile countries to overcome past disputes and focus on protecting each other.

In December, Egyptian President Abdel Fattah al-Sisi met in Cairo with some NBI water ministers including those from Uganda, Burundi, Sudan, South Sudan and Tanzania. He said Cairo is willing to expedite implementation of a series of projects, including one that aims to make up for water losses and to harvest rainwater, as some of the Nile's water is wasted, mostly in swamps and through evaporation.

The six member states that signed the Entebbe Agreement in 2010 are Ethiopia, Kenya, Rwanda, Tanzania, Uganda and Burundi. However, the parliaments of these countries still haven't ratified or enacted the agreement.

Al-Monitor met with Abdel Ati at his office in Cairo, where he said, "We will inevitably reach an agreement that achieves cooperation between the Nile countries. It would not serve anyone if we fail to do so."

He added, "An agreement also needs to be reached on the Renaissance Dam negotiations between Egypt, Sudan and Ethiopia, and we must find common ground when embarking on any new projects on the Nile."

In light of these calls to overcome past disputes and promote cooperation among Nile countries, Egypt is currently seeking to activate the Egyptian initiative for development of Nile Basin countries, launched in 2012. During the past few months, Sisi held several meetings with officials from upstream countries — including Uganda, South Sudan and Kenya.

This initiative includes a series of projects, such as establishing model farms, irrigation centers and aquaculture projects; developing specialized programs for the biological control of water hyacinth; digging wells; rehabilitating hydrological stations along the Nile; dispatching Egyptian experts in the field of management and development of water resources; and establishing Nile River marinas, in addition to the Nile waterway project.

Commenting on his February speech in Tanzania, Abdel Ati said, "We urged [Nile countries] to work as a single entity for the development of the Nile Basin by implementing major development projects. We will begin with the waterway project from Lake Victoria to the Mediterranean to revive trade and tourism in the African continent." He added, "The Nile's waterway will be connected with a route network down to Cape Town, in the south of the continent."

Al-Monitor met with Norwegian researcher and geography expert Terje Tvedt in Cairo March 8. Tvedt, who has written several books and documentaries about the Nile, said cooperation among the Nile Basin countries is the only way to achieve true development. "I believe the Nile water will be enough for all the Nile people once cooperation is achieved," he added.

However, the sensitive subject of the Entebbe Agreement still must be resolved before such cooperation is achieved. Mahmoud Abu Zeid, a former Egyptian minister of water resources and irrigation and president of the Arab Water Council, told Al-Monitor that the Entebbe Agreement clearly violates the norms of international law governing the rivers, since it was concluded in the absence of two basin countries: Egypt and Sudan.

"The agreement also violates the most important principles upon which the NBI was established: a unanimous vote from all Basin countries when making decisions," he noted.

Haitham Awad, a professor of irrigation and hydraulics at Alexandria University, told Al-Monitor he believes the Entebbe Agreement shows aggression against Egyptians' right to life, since Egypt is the only downstream country among the basin countries excluding Sudan, which was also absent at the conclusion of the Entebbe Agreement. The others all can rely on other sources for water, such as rainfall and other rivers.

Yet, the upstream countries' willingness to discuss Egypt's concerns seems to constitute a breakthrough in the long stalemate. Egyptian authorities said another meeting will be held at the end of the month in Uganda to continue the discussions.

17/03/2017 online at: <http://www.al-monitor.com/pulse/originals/2017/03/egypt-first-step-cooperation-agreement-nile-bassin-countries.html>

### **Arab Water Week: Regional water availability problem is financial**

Arab and international banks and funds are urged to steer their financial support towards water and wastewater projects tailored to address regional priorities, including the Red Sea-Dead Sea Water Conveyance Project (Red-Dead), a senior government official said on Sunday.

"The Red-Dead is a strategic project," Minister of Water and Irrigation Hazem Nasser said, indicating that the lack of financial resources for the development and operation of water resources is the second most challenging issue for Arab countries, after the dearth of water.

"The problem of water availability in the Arab region is eventually financial," Nasser said at the opening of the Fourth Arab Water Week, which opened on Sunday at the shores of the Dead Sea.

Addressing an audience of some 500 water experts from the Arab region as well as representatives of international organizations and Arab water utilities, Nasser explained that regional conflicts had destroyed water infrastructure in several Arab countries, adding that water had also been used as a weapon of war.

"The water sector became very fragile in several Arab countries, and the limited water resources are getting scarcer because of climate change, the impact of which is prevailing way sooner than expected," Nasser said.

The minister said that the impact of climate change started sooner than expected in the Arab world because “studies and research on the reality of the Arab water sector fell short from anticipating and evaluating its impact”.

“..., therefore, in light of the changing climate, the increasing population, regional conflicts and lack of resources in fragile environments, the Arab countries are urged to enhance the resilience of the water sector,” Nasser said.

Reliance on renewable sources to reduce energy consumption in the water sector, encouraging innovation and startups in the water desalination and wastewater treatment as well as good governance at water utilities are among the ways to enhance the sector’s resilience, Nasser said.

The challenge of managing water utilities in “fragile environments” in the Arab region is the focus of the fourth Arab Water Week, which is organized by the Arab Countries Water Utilities Association (ACWUA).

Meanwhile, ACWUA Secretary General Khaldoun Khashman highlighted that the water sector in the Arab countries witnessing wars and conflicts paid a hefty price, as infrastructure and water resources have been destroyed.

Khashman noted that the association has lost contact with many Arab water utilities due to regional conflicts and instability, highlighting that water utilities in several Arab countries are now unable to pay their financial obligations to the association.

However, the association is still reaching out to the water utilities in conflict-torn countries, Khashman said, indicating that training people on the management of water utilities in countries such as Syria and Yemen is vital.

ACWUA held the first Arab Water Week in 2011. Founded in April 2007, the association aims at serving as a regional platform for the exchange of knowledge and best practices amongst member experts and professionals, as well as developing resources, facilitating training programmes, and advocating for professional certification to enable member utility staff to perform their duties in a professional, reliable and cost-effective manner, according to its website.

20/03/2017 online at: <http://www.albawaba.com/business/arab-water-week-regional-water-availability-problem-financial-952078>

### **As the planet warms, politics of water looms increasingly large over South Asia**

When Afghanistan inaugurated its delayed-by-decades Salma dam last year, press coverage about it in India and Pakistan was at odds with each other. While the Indian media "celebrated" the completion of the India-funded US\$290 million infrastructure, some sections of the Pakistani press had reservations.

"India will not forget you or turn away," the Indian Express newspaper quoted Indian Prime Minister Narendra Modi as saying during the inauguration, together with his Afghan counterpart Ashraf Ghani's "Your friendship is our honor; your dreams are our duty."

Although the 42MW dam would not directly affect Pakistan as it would Iran and Turkmenistan, some sections of the Pakistani media interpreted it as growing Indian influence in Afghanistan. Coinciding with the news of the inauguration of the Salma dam, some of them published what they said were plans of further dam building by India in Afghanistan.

"Afghanistan's authorities with the help of Indian experts have completed the feasibilities and detailed engineering of 12 hydro-power projects with capacity to generate 1,177MW of electricity to be built on the river Kabul," Pakistani newspaper The News reported. "If the 12 projects get completed, they will store 4.7 million acre-feet of water squeezing the flow in the river reaching Pakistan."

### Indus Water Treaty

While increasing Indian involvement in Afghanistan's water resources was becoming a matter of concern for Pakistan, its water relations with New Delhi plummeted further after India "threatened" to withdraw from the Indus Water Treaty in the wake of the Uri attack in September.

"Blood and water cannot flow together," Modi said in a meeting he called to discuss moves against Pakistan for "backing the militant attack" that left 19 Indian soldiers dead — an allegation that Islamabad denies.

Some sections of the Indian media suggested that the idea of abandoning the Indus Water Treaty was to deprive Pakistan of the water from the Indus basin and put pressure on it.

The treaty survived the crisis, but it has been in very choppy waters since then. The two nuclear rivals have not held the routine meeting of the Indus Water Commission as New Delhi has sought to maximize the use of water it has been entitled to under the treaty.

"The ball has started rolling and we will see some results soon, most of them will be about building new storages in the basin," one top official with India's water resources ministry told me for a report I did for the BBC last December.

19/03/2017 online at: <http://www.chinapost.com.tw/commentary/ann/2017/03/19/493825/As-the.htm>

### **Afghanistan's Water Plans Complicated by Worried Neighbors**

More than 40 years ago, the Soviet Union attempted to harness hydropower to modernize Afghanistan. Between 1960 and 1968, they poured money and technical knowledge into the 100-meter Naghlu gravity dam outside Kabul and a village for its workers called Sharnak. Although the town has been damaged and the boons of modernity remain elusive for many Afghans, the dam remains a crucial source of power for the capital and is the largest power plant in the country with an installed capacity of 100 megawatts.

Today, as Afghanistan continues its development with hopes of a brighter future, issues of water management and governance are once again rising to the fore. Industries that are crucial to Afghanistan's economic growth, such as agriculture and mining, depend on effective water supplies, while a number of factors are increasing stress, including climate change, mismanagement, and population surges as refugees return home.

Afghanistan is completely landlocked and has few reservoirs. Consequently, while it has adequate water flow, thanks to the many headwaters in its high mountains, it lacks the capacity to store, use, and manage those flows. Meanwhile, scientists estimate that the need for water in the Kabul Basin will increase six-fold over the next 50 years as levels of available water decline due to increasing temperatures and climate change.

The current government, with the help of international partners such as the Asian Development Bank, which recently announced a \$100 million grant for irrigation systems, hopes to improve water infrastructure to head off these problems.

But there are simmering transboundary water tensions throughout Central Asia. Afghanistan's neighbors have historically laid claim to the waters that flow from the Hindu Kush Mountains and as Kabul appears poised to develop its water infrastructure substantially for the first time, its neighbors worry their shares may be diminished.

#### A Neglected Sector

Decades of war have caused extensive damage to Afghanistan's infrastructure, leaving only 20 percent of the rural population with access to clean and viable water sources, one of the lowest percentages in the world. Bombing and shelling have destroyed many irrigation works, and the various administrations that have ruled pockets of the country at different times have put little emphasis on rebuilding, including the Taliban.

Under these circumstances, questions of water usage and ownership have taken on additional importance, especially in agriculture. An estimated 80 percent of Afghans depend on agriculture for their livelihoods and 95 percent of water usage is for agriculture.

With such a disproportionately large national dependence on farming, one might think water management has been a priority. But only five percent of development funding over the past decade has gone to the water sector, according to the Afghanistan National Development Strategy.

Assessments of Afghanistan's infrastructure therefore point to the need for many new small and large dams to produce power and capture irrigation water. As the government turns to it, there will be new diplomatic challenges accompanying this task.

Disputes over water have been common in Central Asia for centuries. The only treaty Afghanistan has in place to specify water allocation with a neighbor is with Iran, and it has not been without complications.

Water allocations from the Helmand River, which crosses into Iran, have been contentious since at least the 1800s. The 1973 Helmand River Treaty was supposed to solve that. It specifies Iran is to receive 22 square meters per second of flow from the Helmand Basin, with an additional 4 square meters per second thrown in for “goodwill and brotherly relations.” But Afghan officials have stated that Iran is receiving far more than that allocation and announced plans to construct or renovate several dams in the basin. Afghanistan needs the power from the Helmand, while Iran needs drinking water.

The problem is further complicated by the ecologically sensitive Sistan wetlands or “Hamoons.” The Sistan region is one of the most arid on Earth. The Hamoon wetlands, which are protected under the Ramsar Convention, depend on water from the Helmand and its tributaries for their existence. Without adequate flow, the Sistan region could see higher temperatures and waterfowl would lose a critical stop during seasonal migrations.

### Amidst a Contested Region

Perhaps due to the difficulties of the Helmand treaty, Afghan officials have been wary of signing new water agreements elsewhere. In response to recent news that Pakistan may be drawing up a new treaty for the Kabul River, the Afghan deputy minister of energy and water flatly denied it and said they would not sign “any agreement on sharing of water” if it harmed the country’s national interests.

But new water treaties are exactly what’s needed. The Soviet Union heavily influenced water allocation in this region and there have been few formal efforts to update cross-border agreements since its collapse.

With Pakistan, there have been disputes over the Kabul River since partition. Thirteen dams planned on the Afghan side are estimated to reduce the river’s 17 million-acre feet of flow across the border by up to 17 percent.

Elsewhere, Afghanistan has raised concerns about the Dasu Dam, a World Bank-funded project under construction on the Indus River. Afghan officials say there have been no cross-border consultations or a proper environmental assessment, while Pakistan has dismissed objections pointing out that as Afghanistan is neither an “upper or lower riparian country on the river” it should not be concerned with the project.

Further complicating the relationship is the involvement of India. India has pledged to help Afghanistan build a new reservoir on the Kabul River as a sign of friendship. And last year, Prime Minister Narendra Modi inaugurated what is known as the “Afghan-India Friendship Dam,” or Salma Dam, in Herat Province on the Hari River.

The new dam, reportedly capable of generating 42 megawatts of power and irrigating 75,000 hectares of land, has created tension on several fronts. Turkmenistan and Iran have expressed concerns about their shares of water being diminished, and Pakistan has opposed it due to its rivalry with India. In 2013, Afghan officials said they stopped a Taliban plan to blow up the dam with 2,860 pounds of explosives and that the attackers had received help from Pakistani intelligence.

## Better Late Than Never?

Afghanistan has the right to develop its water resources, which have for so long been neglected. But without treaties in place to assure its neighbors their supplies are secure, each step of the way will be met with resistance and fear. Much like in other conflictive and stressed basins in the world, preventative hydro diplomacy is necessary to avoid future conflict and pave the way for sustainable and peaceful development.

New water treaties, with Pakistan most urgently, but also Turkmenistan, Tajikistan for the Panj/Amu Darya River Basin, and Iran, are critical to success. It might be most advantageous to begin with Iran, says the Wilson Center's Michael Kugelman.

“Given how ugly relations have become with Pakistan, you just don't want to go there right now, even on a relatively soft issue like water,” Kugelman says. “It's much safer to talk water with Tehran, which is an easier diplomatic lift because bilateral relations are relatively cordial.”

The Afghan government would also do well to involve communities in the planning process to ensure buy-in and avoid local conflicts, and perhaps to explore a joint commission to create an institutionalized regional framework for water management. Ideally, a commission would involve all riparian nations in the region and discuss issues impacting water scarcity – such as climate change, population growth, mass migration, agricultural and potable water needs – that could exacerbate conflict in the near future.

20/03/2017 online at: <https://www.newsecuritybeat.org/2017/03/afghanistans-water-plans-complicated-worried-neighbors/>

### **PM announces to provide 50% funds for K-IV water project**

Prime Minister Nawaz Sharif on Tuesday announced to provide 50 percent of funds on behalf of the federal government for the K-IV, mega water project of Karachi.

This he said while chairing a meeting of PML-N's provincial officials at Governor House in Karachi to discuss preparations of general elections 2018 in Sindh. Minister for Railways Khawaja Saad Rafique Ahmad and Senator Nehal Hashmi were also present on this occasion.

The estimated cost of K-IV project is Rs.25.5 billion. This mega water project will provide 650 million gallons of water a day (MGD) to the Karachiites. Karachi's water requirement is more than 1,100 MGD. While, the current supply is reportedly less than 550 MGD.

Nawaz Sharif said the water crisis in Karachi has become serious. He announced that the federal government will give Sindh 50 percent of funds for K-IV mega water project of the metropolis.

The meeting also expressed concern over the issues of traffic and cleanliness in Karachi. It vowed to soon kick off work on Karachi Circular Railway, a crucial transportation project which has been being delayed for long.

The PM said development and progress in Karachi was not possible without establishing peace in the city. He held “a dictator” responsible for the unrest which has for long marred the city.

“We will not rest until the last terrorist is eliminated,” he said. Nawaz Sharif has arrived in Karachi on a two-day visit to hold political meetings reportedly as part of pre-election campaigning.

He was received by Governor Sindh Muhammad Zubair at the airport. Sharif will spend a night at the Governor House in Karachi for the first time.

The prime minister attended a ceremony to celebrate Hindu religious festival Holi, organised by the minority wing of PML-N.

15/03/2017 online at: <http://pakobserver.net/pm-announces-to-provide-50-funds-for-k-iv-water-project/>