

ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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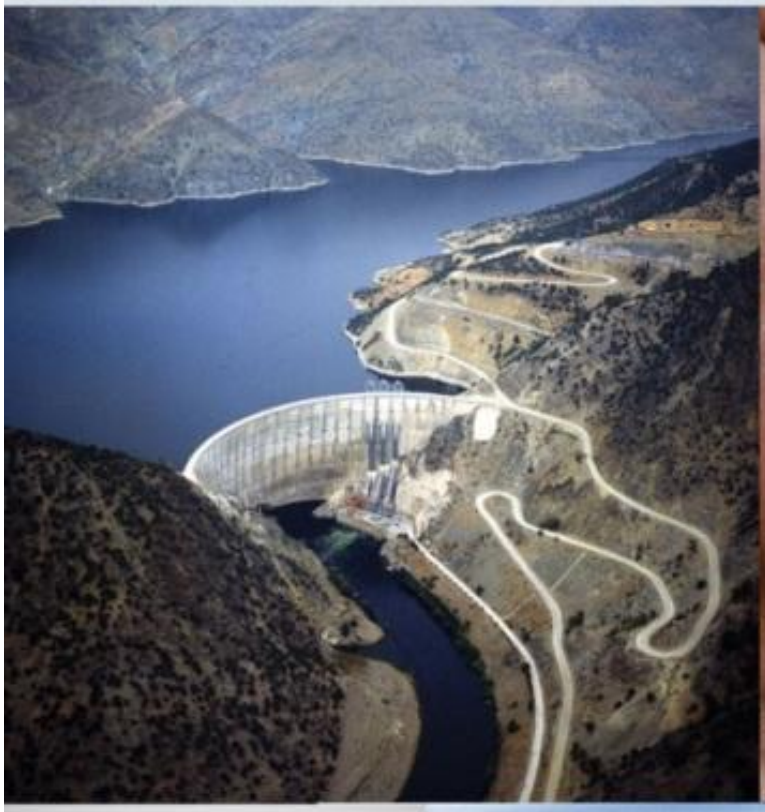



ORSAM WATER BULLETIN

16 June 2017 - 12 June 2017

Stabilization milestone in Fallujah, Iraq: city's largest water treatment plant reopened

Marking a key milestone in Fallujah's recovery after ISIL, the Government of Iraq and UNDP, through its Funding Facility for Stabilization (FFS), have reopened Al Azrakiyah Water Treatment Plant, to provide safe water to nearly two-thirds of the city.

The rehabilitation of the plant was one of the key projects requested by the Anbar Governorate's Command Cell, which is responsible for stabilizing newly liberated areas. The team working on the plant repaired the destroyed pump station and supplied key equipment, including water pumps and generators. All of the plant's buildings and more than 40,000 square meters of land were cleared of explosive hazards by the United Nations Mine Action Service (UNMAS).

Nearly one year after the liberation of Fallujah, the stabilization of the city is well underway. Hundreds of thousands of people have returned home, basic services including water and electricity have been restored, and the local economy is picking up.

Since August 2016, more than 100 stabilization initiatives have been supported in Fallujah through UNDP's Funding Facility for Stabilization (FFS). Electricity grids have been repaired, public infrastructure reopened and thousands of people, many from families living in poverty, have worked on public schemes, earning income while they helped to rebuild the city.

With a partner, UNMAS has cleared almost two million square metres of land and infrastructure contaminated with explosives including five power plants, 12 health facilities, 13 sewage sites, 19 water points, and 88 schools.

At a ceremony marking the reopening of the water treatment plant last Thursday, Sohaib al-Rawi, Governor of Anbar, said, "The newly rehabilitated Al Azrakiyah Water Plant is essential to improve access to safe drinking water for Fallujah households. Water supply projects are critical to improve our communities' access to safe water and functioning sanitation systems. These projects are vital for sustaining the lives and well-being of men, women and children in Anbar."

Ms. Lise Grande, UNDP Resident Representative for Iraq, said, "This is a symbol of Fallujah's recovery. When we first saw the destruction at Al Azrakiyah none of us believed the water plant could be rebuilt so quickly. Everyone has worked together to get the job done in record time. The impact is huge. More than 60% of the city will now have safe drinking water."

Mr. Pehr Lodhammar, Officer in Charge of UNMAS, said, "The identification and removal of explosive hazards is the first step before stabilization initiatives or humanitarian interventions can take place in liberated areas. In Fallujah almost two million square meters of contaminated areas were cleared allowing stabilization activities to begin, and enabling families to return to Fallujah and to resume their lives."

Through the FFS, which was established in June 2015, UNDP is working in newly liberated areas in Anbar, Salah al-Din, Ninewa, Diyala, and Kirkuk Governorates. More than 1,000 projects are completed or being implemented across 23 locations. Since the start of the crisis, more than 1.8 million people have returned to their homes.

06/06/2017 online at:

http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2017/06/06/stabilization-milestone-in-fallujah-iraq-city-s-largest-water-treatment-plant-reopened-.html

Israel removes retaining wall used to stop settlements' wastewater pollution

Israeli authorities Tuesday notified Palestinian farmers of plans to remove a retaining wall built by Palestinians around a water spring in the village of Barta'a, in Jenin, in order to protect it from wastewater coming from a nearby Israeli settlement, said local sources.

Sources told WAFA staff from the Israeli building and planning committee, backed by Israeli forces, stormed the spring water area and notified the village's association they will be destroying the work recently done around the spring, in the next few hours, citing unpermitted construction as a pretext.

The village association carried out maintenance work around the spring, building a surrounding wall to protect it from sewage water leaking from the adjacent Israeli settlement of Katzir, illegally built on Palestinian-owned land.

The water spring is considered the main source of drinking water for the village residents.

06/06/2017 online at: http://english.wafa.ps/page.aspx?id=Z6GUXza91037077956aZ6GUXz

New chapter begins in Israel-Palestine water dispute

After a seven-year hiatus, the Israeli-Palestinian Joint Water Committee (JWC), established under Article 40 of the 1995 Oslo Accord, resumed its meetings May 16. A new mechanism was developed to accelerate the implementation of infrastructure projects — such as supply lines, tanks, water and sewage networks, water pumping stations and treatment plants — in many Palestinian areas in the West Bank.

The JWC reconvened in execution of an agreement signed Jan. 15 between Maj. Gen. Yoav Mordechai, the Coordinator for Government Activities in the Territories, and Palestinian Authority Civil Affairs Minister Hussein al-Sheikh, with the participation of the heads of the Israeli and Palestinian water authorities.

The JWC was formed under the 1995 Israeli-Palestinian Interim Agreement that sought to regulate water issues during the interim period (1995-99). However, in light of the failure to reach a final agreement, the JWC, whose term was supposed to expire in 1999, has yet to be dissolved. The committee's main objective is to approve and oversee every new water and wastewater project in the West Bank, excluding the Jordan River. It is composed of an equal number of delegates representing the Israeli and the Palestinian water authorities, and the

implementation of any water project in the West Bank requires the consent of both parties to this committee. Therefore, the Palestinians must obtain the JWC's prior approval on any water project, such as water extraction in the aquifers and any other water-related projects. However, they also need additional permits from the Israeli civil administration before embarking on any works in Area C of the West Bank. This measure, however, does not apply to the Israelis.

Under the 1995 Interim Agreement, the Gaza Strip was considered a separate water sector and thus Gazan authorities were held solely responsible for meeting the residents' needs using only sources located within Gaza's borders and the small quantities that Israel pledged to sell them, without being able to use water from the West Bank.

On May 25, the head of the Palestinian Water Authority (PWA), Mazen Ghoneim, said during a periodic meeting held by PWA with its funding partners, "The six-year suspension of the JWC's work has led to the suspension of 97 projects in a number of Palestinian communities."

He pointed out that the resumption of the work of the JWC would "strengthen the PWA's capacity, with the support of its partners, to implement numerous vital water projects faster — especially projects serving Palestinian communities in Area C."

In 2010, the PWA, headed by Shaddad al-Attili, a water expert in the Palestinian territories, had decided to suspend the work of the JWC because Israel conditioned its approval of any Palestinian water projects on Palestinian approval of Israeli settlement projects in the West Bank. The Palestinians saw this as an attempt to legitimize Israel's settlement activity.

Attili told Al-Monitor, "Israel has also refused to grant Palestine the necessary permits to dig water wells or develop water projects in Area C. I do not expect the committee to achieve any positive results. Based on my years of experience with the Israelis, I do not expect much from them in the water dispute."

In the West Bank, dozens of residential areas face weeks of water shortages every summer as a result of Israel's control over water resources and the water quota distributed to the Palestinians.

Attili noted that he does not expect this problem to be solved soon, since the JWC is mainly tasked with getting approval on internationally funded infrastructure projects. He added, "Israel is obstructing the water supply to these projects and preventing the Palestinians from digging wells — not to mention that all water projects in Area C must be approved by the Israeli civil administration."

On Feb. 22, the Coalition for Accountability and Integrity-Aman had held an in-depth panel discussion to debate the JWC renewal mechanism. The experts on the panel concluded that the implementation of the water projects in Area C was still subject to approval by the Israeli civil administration, noting that the agreement to resume the JWC meetings sets the water quotas to be supplied to the Palestinians, but does not set forth any conditions or controls on the water quotas granted to Israeli settlements. The panel concluded that by signing this

agreement the Palestinian authorities have acknowledged that they are not entitled to work in Area C because it is one of the disputed areas.

Samir Abdullah, the former Palestinian minister of planning and labor and researcher at the Palestine Economic Policy Research Institute-MAS, told Al-Monitor, “The resumption of the JWC’s work came as a result of US and international pressure on Israel in light of the deterioration of the Palestinian economy hit by multiple crises for several reasons, including the water [shortage] and Palestinians’ increasing water needs.”

The water dispute is one of final status negotiations issues along with other issues related to refugees, borders, the state, Jerusalem and settlements. All these issues were supposed to be resolved after the expiration of the interim period under the Oslo agreement in 1999, but that did not happen.

Abdullah doubts that the Israelis would give the Palestinians any water rights, saying, “If the Israelis are forced to give us something because of international pressure, they would give us something that has no value."

Israel controls 90% of Palestinian water resources. A March 2015 report by the Palestinian Central Bureau of Statistics stated, “The Israeli daily share per capita of water consumption reached seven times higher than the Palestinian’s,” noting that this is evidence of the inequality between Israel and Palestine in sharing water extracted from aquifers in the West Bank due to Israel’s almost full control over surface and groundwater.

According to Abdel Rahman al-Tamimi, the director general of the Palestinian Hydrology Group, Israel’s increase of Palestine’s water quota would be the main challenge that the JWC will have to face.

He told Al-Monitor, “The JWC’s action will not be reflected on the water situation in Palestine, because the problem lies in the unavailability for Palestinians of water sources, which are controlled by Israel."

Tamimi added, “There is no use or benefit to develop water infrastructure projects such as building reservoirs and water networks, if there is no water to be pumped. This is why the Palestinians hope donors would pressure Israel to give the Palestinians larger water quotas.”

This summer, as the Palestinians suffer from the water crisis, the Palestinian delegates in the JWC would also face a serious test. The outcomes of the JWC meetings will reflect the Palestinian delegates' ability to resolve the crisis, increase the water quantities granted to the Palestinians, allow the Palestinians to conclude public works in Area C and obtain the water rights approved under bilateral agreements.

09/06/2017 online at: http://www.al-monitor.com/pulse/originals/2017/06/palestine-israel-joint-water-committee-dispute-meeting.html

Water Drilling Plan in Golan Heights Draws Ire of Israeli Environmentalists

The Water Authority is planning to approve additional groundwater drilling in the northern Golan Heights over the objections of environmentalists, who argue that the drilling will damage springs and streams in the Golan and the Hula Valley.

A special Water Authority committee authorized to approve new drilling is to convene next week to discuss the plan to drill east of the community of Ortal. Over the past two years plans have advanced to establish four additional drilling sites, two near the Jilabun stream, one near Katzrin and a fourth east of Katzrin. All these plans are for deep drilling to produce water from the Golan's basalt aquifer. The water will be supplied to Druze villages but could also be used for farming.

During the past four years there hasn't been enough rain in the north, which is making it difficult to supply water for various needs, including farming. If the lack of rain is connected to climate changes, the assessment is it will get worse over the coming decades. Desalinated water isn't piped to the north, so that isn't a solution.

The Society for the Protection of Nature in Israel has filed objections to the drilling near Ortal, which is known as Mashtela 4, saying it and other drilling plans approved recently endanger the groundwater that feeds the springs and streams on the eastern side of the Hula Valley, at the foot of the Golan Heights.

"These springs provide a steady water source to unique natural habitats characteristic of the region," the SPNI said. "Moreover, the Hula Valley and Golan Heights springs are a central attraction for hikers and are important to recreation and leisure in the area."

"We argue that if they want to supply water for agriculture they should do so from the Golan Heights reservoirs, or perhaps from the Kinneret, but not to harm the springs and streams," said Orit Skutelsky of the SPNI. "If there are no other sources, then they shouldn't expand agriculture on the Golan Heights if it means harming nature."

Nature and Parks Authority also objects

The Nature and Parks Authority also objects to Mashtela 4. Nissim Keshet, the NPA's water official, told the Water Authority that he objects to its declaration that the drilling will have ill effects only over the long term. "That's like saying the next generation doesn't deserve to have abundant springs and streams," he said.

Water Authority experts argue that there is no proof that drilling deep into the aquifer will affect the northern streams, and that the drop in the flow is primarily due to lack of rainfall. According to a report by the Hydrological Service last year, the quantity of water flowing through the eastern Hula streams dropped 28 percent to 47 percent from 1985 to 2015. During that period precipitation in the area dropped nearly 25 percent.

Other experts disagree. Dr. Alon Rimmer of the Kinneret Research Laboratory wrote in the most recent edition of the journal Ecology and the Environment that the drop in water flow cannot be explained by lack of rain alone.

The Water Authority said, “Every drilling request must of course be examined and get the approval of the Water Authority’s drilling committee. Such a request has indeed been submitted, but discussion of it hasn’t ended. The issue is expected to be discussed by the committee next week and it will be examined with the necessary caution and professionalism, given the needs of the water economy and the state of the water sources. It should be noted that this drilling is aimed at supplying drinking water.”

07/06/2017 online at: http://www.haaretz.com/israel-news/.premium-1.794467

Drought in Sea of Galilee Hits Record Lows, Heralding Isaiah Prophecy

Israel’s Sea of Galilee, also known as the Kinneret, hit an all-time-low recorded water level in May, prompting concerns about Israel’s largest freshwater lake and heralding the fulfillment of a prophecy by Isaiah.

According to Israel’s Water Authority, the Sea of Galilee lost 15 centimeters (5.9 inches) of its water level in May, decreasing the level to 9 million cubic meters (318 million cubic feet), an all-time low since recording began in 1920.

The situation in the Sea of Galilee has deteriorated in recent years, as Israel’s north faces an ongoing drought. Hydrologists estimate that the water level will drop by a meter (3.3 feet) before the rainy season begins in November.

The Book of Isaiah foretells of waters “failing from the sea” in the times of redemption:

And the waters shall fail from the sea, and the river shall be drained dry, and the rivers shall become foul; the streams of Mitzrayim shall be minished and dried up; the reeds and flags shall wither. Isaiah 19:5-6

The Sea of Galilee has played a prominent role in both Jewish and Christian history, with much of Jesus’s early ministry centered around the shores of the lake, according to the Christian Gospels.

For modern Israel, the Sea of Galilee has played a key role in providing water for personal and agricultural use throughout most of the country’s history, following the completion of the Israeli National Water Carrier in 1964. Yet in recent years, Israel has substantially invested in water conservation, reclamation and desalination technology, allowing the Jewish state to significantly reduce its use of water from the Sea of Galilee.

Nevertheless, the lack of water flow into the Sea of Galilee has led to deep concern over the lake’s vitality, as the drop in water levels causes the salinity of the lake to rise, threatening marine life.

The Water Authority said the low level “will lead to further withdrawal of water from the shores of the Sea of Galilee and to various environmental and ecological phenomena.”

The low water level also poses a risk for the Dead Sea, which receives water from the lake through the Jordan River, under the terms of an Israeli-Jordanian agreement. The Dead Sea's water levels have also been dropping by a meter each year.

07/06/2017 online at: https://www.breakingisraelnews.com/89214/sea-galilee-hits-time-low-recorded-water-level/#IV6GUT5uzztRZ3O3.97

West Bank water theft drains Israelis and Palestinians dry

To be heard above the din of the water tanker, Migdalim Director Yael Hashash had to raise her voice considerably. "The year is 2017, and we are forced to receive water under these conditions. It's unbelievable!" she said, throwing her hands up in frustration.

As the summer heat engulfs the country, this settlement northeast of Shiloh in the northern West Bank has been riding out a water crisis for the fourth consecutive year.

The Shiloh pipeline, which provides water to Migdalim as well as to nearby Palestinian villages, was shut off this week by Israel's Mekorot water authority. But even a week earlier, scant amounts reached the settlement overlooking the Jordan Valley, and a tanker began shuttling water to Migdalim four to five times a day from various Mekorot sources as had been required in recent years.

"I regularly have to alert residents to limit the amount of water they use. Sometimes we have to tell them not to shower," said Hashash.

The 90 families living in Migdalim depend on her for updates throughout the day on the status of the water supply.

"I am constantly calling Mekorot to confirm that the tanker is coming on time in order to fill our water tower," she said.

As to who was causing the problem, Hashash did not mince her words: "Arabs from the surrounding villages, such as Kusra, steal the water by drilling dozens of holes into the pipeline to reroute it all for themselves."

"Because of excuses from the Civil Administration," the Defense Ministry unit that administers the West Bank, "these thieves are not caught and I am forced to spend my time making sure the kindergarten and daycare here have enough bottles of water because the faucets are empty," she charged.

Hashash angrily dismissed the notion that such problems are the direct result of a decision to live roughly 40 kilometers east of the Green Line. "I don't want to talk about politics. This is a human rights issue. Everyone deserves to have enough water," she said. "We are no different from Jerusalem, Tel Aviv, or the Bedouins in the Negev, and we deserve the same level of services."

She sighed and nodded in the direction of the chugging tanker. “You hear this noise? My secretary sitting outside my office has to deal with it right outside her window. She now suffers from chronic headaches.”

It takes 40 minutes for the tanker to fill the water tower, and since it only comes during the daytime, the noise disrupts much of the working day in the director’s office.

“We are supposed to provide services to the residents of this community, but nobody wants to come here because of the noise and pollution from the water truck,” she said.

Hashash referred to the tankers as a “band-aid” solution and said that the only way to solve the problem was “to catch these criminals, which the Civil Administration absolutely has the capacity to do.”

Still, she sought to clarify that she was not blaming entire Palestinian villages, such as neighboring Kusra.

“They are not my enemies. Many of our residents do their shopping there. My repairman is from Kusra,” Hashash pointed out. “They are suffering from this problem as well.”

Different village, same problem

It only took a ten minute walk down Migdalim to the Palestinian village of Kusra for Hashash’s words to fully register. The super market at the entrance was stocked with six packs of one-and-a-half liter water bottles and nearly a dozen residents were waiting in line to purchase.

The grocery’s owner Muhammad said the water had been shut off a few days earlier. But unlike in Migdalim, there was no water tanker shuttling to the village multiple times a day.

Kusra’s Mayor Abed Al-Adeem Wada was adamant that none of his residents was responsible for the water theft. “There is some theft, but only in Jalud,” he said referring to another Palestinian village located between Shiloh and Migdalim. “And that is only because they are not connected to the water grid and are forced to steal in order to have enough to drink.”

Wada laughed off Hashash’s assertion that Palestinian villagers steal the water for their olive tree groves. “Olive trees barely need any water in order to grow,” he pointed out. Wada claimed it was nearby settlers who were illegally drilling holes in the pipeline to reroute extra water for their vineyards.

“About 40 percent of our residents have wells connected to their homes that prevent them from going thirsty during the summer. The rest have to pay contractors out of their own pockets if they want to get any water at all,” he said.

Most of Kusra falls under Area B of the West Bank, meaning it is under the civil jurisdiction of the Palestinian Authority. For its roughly 7,000 residents to receive water, the PA must purchase from Mekorot, the Israeli national water carrier, through the IDF Civil Administration.

But if Mekorot chooses to shut down the Shiloh water pipeline, as it did last week, the Palestinian residents run out of options. Wada said the PA sends tankers every so often, but not nearly as frequently as in Migdalim. He pointed to the truck filling up the Israeli settlement's water tower and asked, "Why can't it stop in Kusra on its way down?"

The Coordinator of Government Activities in the Territories (COGAT), whose Civil Administration unit oversees water distribution throughout the West Bank, explained the current situation in a lengthy statement.

"In light of the reoccurring water theft from this line, the water supply was not reaching Migdalim and therefore the water flow was stopped. The water theft epidemic is a serious one that harms the residents of Judea and Samaria, Israelis and Palestinians alike. Since the beginning of 2017, Civil Administration teams have disconnected over 400 pirated water line connections," it said.

The statement went on to describe plans for a new pipeline that will circumvent Palestinian villages in order to prevent the Israeli-alleged water theft. Concurrently, COGAT said it was promoting the establishment of new water infrastructure for residents of Ramallah and the Shiloh area that will connect them to the broader West Bank system.

"We would like to emphasize that the activity of the Joint Water Committee (JWC) that was set in the interim agreement has recently been renewed, following about five years in which the Palestinian side refused to promote projects to improve the water infrastructure in the area."

COGAT said the PA was ultimately responsible for tending to the water needs of its residents, including those in Kusra. "Currently, Israel is providing 64 million cubes [per year], about 33 million cubes above the agreed amount in the interim agreement," it said.

The blame game

Amit Gilutz, of the Israeli human rights group B'Tselem, noted that according to the 1995 Oslo agreement that established the JWC, "80% of water extracted from joint Israeli-Palestinian sources was allotted for Israeli use, while the remaining 20% went to Palestinians." Even though the allocation to the Palestinians has increased, he said, it is still considerably less than what the Israelis receive, he said.

"While most of the settlements enjoy a full supply of water, Palestinians only get a fixed quota and they are required to pay more for it," Gilutz claimed. "In the Jordan Valley, for example, there are 10,000 settlers. Yet they receive the same amount of water that a third of the 2.5 million Palestinians living in the entire West Bank receive."

Mekorot spokesman Uri Schor said the JWC has been meeting and making progress on the water issue. However, he insisted that Palestinian water theft lies at the root of the shortages, and not the broader system of water administration in the West Bank.

“In Israel, thieves are deterred from stealing because they know they will get caught, but in the West Bank, no such fear exists,” Schor said.

He dismissed the accusation that Israeli settlers have been stealing water for their vineyards. “Complete nonsense. It’s not in their mentality to do so,” he said. “The problem is on the Palestinian side.

Samaria Regional Council Chairman Yossi Dagan went further. “The Palestinian Authority is encouraging its citizens to damage infrastructure because it creates anarchy that Israeli authorities then have to pay for,” he charged. “These Palestinians think to themselves, ‘Why pay for water when I can just steal instead?'”

Dagan said there was no short-term solution for the residents of Migdalim, apart from the tankers, but noted that his regional council is in contact with government officials in order to address the needs of all Samaria residents.

The current reliance on tankers, he said, was “embarrassing.”

Seat at the table

At her office in Migdalim, Hashash expressed frustration that she’s not directly involved in efforts to solve the problem.

“There is currently a meeting with the deputy defense minister to discuss this issue, and I wasn’t even invited. I had to hear that it was taking place from others,” she complained.

While a representative from the regional council, who Hashash praised, was present at the meeting, this wasn’t enough. “When you hear about the water crisis from people who are actually suffering from it, as opposed to people above the problem, you better understand the daily struggle,” she said.

Deputy Defense Minister Eli Ben Dahan said later he recognized Hashash’s frustration, but insisted that the Migdalim residents were well represented. “With all due respect, only direct decision-makers participated in the meeting. Nonetheless, Migdalim residents have a direct line to my office,” he assured.

Ben Dahan said he was trying to expedite a solution, including through better coordination between the Civil Administration and Mekorot. He also referenced the planned new pipeline bypassing Palestinian villages and predicted it to be ready for Migdalim residents by next summer.

“In the meantime, though, the Palestinians can steal air if they like,” he mocked.

Back in Kusra, though, Wada was looking for water, not air. “The [village] employee responsible for administering water payments has not even showed up to work this week,” he said, pointing to an empty desk. “There’s nothing for him to do.”

“This is a human rights issue. Everyone deserves water,” the mayor said dejectedly, unwittingly using the same words as his Israeli counterpart up the hill at nearby Migdalim.

09/06/2017 online at: http://www.timesofisrael.com/west-bank-water-theft-drains-israelis-and-palestinians-dry/

Construction begins on three water projects in Jordan

Siemens to deliver key components for power plant in Jordan | Jordan's Aqaba Terminal 80% complete | Honeywell UOP inks deal with Jordanian refinery

Construction has begun on three projects in Jordan to improve water supply and reduce water loss that has started in some areas of the country.

Worth $493,000 (JD350,000), the projects will be implemented by local contractors and will be targeting the main water network in Jordan's Balqa area, The Jordan Times reported.

According to the Ministry of Water and Irrigation, main and tertiary pipes are in a deteriorated state as they were installed years ago and pressure on the network has increased. Jordan is one of the driest countries in the world.

Minister of Water and Irrigation Hazem Nasser, said: "The projects will serve thousands of people in Balqa… Several other water projects are being implemented across the country to address the rising demand for water, particularly in light of the influx of Syrian refugees."

The projects are expected to be completed by the end of the year, a ministry spokesperson said.

Several projects in Jordan's power and water sector are currently in the pipeline, with several power plants, including the recently announced Attarat Power Company, under construction.

With Siemens reporting it will supply key components for the Attarat steam power plant, the Attarat facility will supply enough electricity to cover up to 15% of the country's annual power demand.

Amec Foster Wheeler was also awarded a contract in April by China Energy Engineering Group Guangdong Power Engineering Co (GPEC), to design and supply two circulating fluidised-bed (CFB) steam generator boilers, and provide technical advisory services.

09/06/2017 online at: http://www.constructionweekonline.com/article-44809-construction-begins-on-three-water-projects-in-jordan/

Mafraq main water carrier bursts leaving 40,000 without water

The main carrier that supplies Mafraq Governorate with water ruptured on Monday morning, leaving over 40,000 subscribers in the desert town without water, according to an official.

The carrier transfers 500 cubic meters of water per hour from Sama pumping station to most parts of Mafraq, 80 kilometers northeast of the capital, according to Director of Yarmouk Water Company Hassan Hazaimeh.

"The carrier, which is already old, has been pumping water at its highest capacity to meet the increasing demand for water in Mafraq, which hosts thousands of Syrian refugees and is witnessing high temperatures, Hazaimeh said.

The carrier exploded on Monday morning, Hazaimeh said, leaving Mafraq residents without water.

"The company's teams have been working to fix the carrier since early morning. It is expected to be repaired today and water pumping is also expected to resume on Monday night," the official noted.

The water distribution programme will be delayed due to the disruption, the official said, calling on subscribers to understand that the "water disruption is temporary and out of the company's will".

Demand for water in Mafraq and the northern governorates increased by 40 per cent since the start of the Syrian crisis in 2011. The governorate is hosting the Zaatari camp, which is the Middle East's largest refugee camp, where some 80,000 Syrian refugees have been living since it opened in 2012, according to UN figures.

As the conflict in Syria enters its sixth year, Jordan continues to host 1.4 million Syrians, of whom 85 per cent live among host communities.

Established in 2010, the Yarmouk Water Company provides water services to 300,000 subscribers and wastewater services to 100,000 subscribers in the country's four northern governorates of Mafraq, Irbid, Jerash and Ajloun.

The northern governorates' annual water needs stand at approximately 85 million cubic meters of water that is pumped mainly from underground water sources, according to the company.

13/06/2017 online at: http://jordantimes.com/news/local/mafraq-main-water-carrier-bursts-leaving-40000-without-water

Lebanon must protect its water: Aoun

Lebanon must protect its land and water, said President Michel Aoun on Tuesday after being given a report on Lebanon's natural resources from the Energy and Water Ministry.

According to a statement from Aoun's office, the report "proves the theft [of water] in the Wazzani area, the domination of Israel over the waters of the Jordan River basin and its occupation of the Shebaa farms, which consequently eliminates Lebanon's ability to benefit from its international waters."

Energy and Water Minister Cesar Abi Khalil and Director General of Hydraulic and Electrical resources of Lebanon, Dr. Fadi Comair gave Aoun the report.

The document called the protection of resources, the formation of a national committee dedicated to water security and Lebanon's participation in negotiations for the Red Sea-Dead

Sea Canal project between Israel, Jordan and Palestine, as that agreement was signed without upper-basin countries, which include Lebanon.

The committee stressed the importance of cooperation between the Ministries of Defense, Foreign Affairs and Energy and Water in order to demand the return of the Shebaa farms, and to coordinate with the United Nations to demand the construction of a dam to preserve Lebanon's share of waters from the Jordan River basin.

Aoun will soon create a Center for Information and Training in Regional Water Sciences in Lebanon in order to strengthen the water sector on both national and international levels, the statement said.

The first phase of a tunnel project set to provide Beirut with water from the south was completed in May. The tunnel, dubbed the "Joun Tunnel," is the first of a sophisticated network of pipes that will link Beirut's water infrastructure to the Awali River in the south, in order to increase the city's water supply.

The project is expected to be completed within two and a half years and is expected to mostly assist areas of south Beirut.

In 2016, Lebanon saw less-than-average rainfall, leading to frequent water shortages. As future forecasts expect average rainfall to remain low in the coming decades, redistributing the water available in other parts of Lebanon is seen as one of the only options to relieve the capital of its persistent water problems.

Lebanon's water quality has been a source of concern after the country plunged into a trash crisis in 2015.

06/06/2017 online at: http://www.dailystar.com.lb/News/Lebanon-News/2017/Jun-06/408678-lebanon-must-protect-its-water-aoun.ashx

Lebanon: Improving water supply through "water is life" program in Akkar district

Acted is honored to announce their new "Water is Life" program, an EU-funded project in collaboration with the North Lebanon Water Establishment (NLWE) aiming to improve water supply in target municipalities of Akkar district, North of Lebanon.

As part of the community engagement efforts to increase subscriptions in the area and improve cost recovery for NLWE, ACTED has hosted a number of events and activities in partnership with NLWE in Akkar as part of the 'Water if Life' program. This program aims to gather students from different schools in Akkar and offer them the opportunity to learn from key stakeholders in the water sector about the importance of preserving water.

Thanks to the support of the EU, ACTED are implementing a project to increase water access for communities in Akkar and ensure sustainable use of precious water resources for current and future generations.

"Water is Life" Forum to mobilize youth community

On April 6, 2017, ACTED organized a conference on the importance of Water in partnership with Balamand University and the NLWE in Baino, Akkar. Students from three different schools in Akkar participated in the event and were addressed by different specialists and stakeholders working on a variety of water related issues, such as water treatment and conservation, in an attempt to raise awareness and mobilize younger generations to take interest in the most important resource in life.

As a next step, students from two high schools in the Qoubayat, Akkar, have completed projects on various topics such as the negative impacts of private boreholes, the importance of water conservation and the beneficial role of community level water infrastructure. On June 1, their parents and the wider community of Qoubayat were invited to the NLWE sub-office in Qoubayat for a student workshop in which the students presented their projects to ACTED's team and NLWE staff.

Following the presentation, students as well as teachers were presented with Certificates of Appreciation for their involvement throughout this program. In addition, the top three presentations were awarded a token of appreciation from ACTED and NLWE staff. This student workshop, led by ACTED, is intended to improve the communication between the population and the water establishment through direct contact with NLWE staff. The ultimate goal is to encourage an increase in subscriptions to the NLWE networks (currently approximately 6% of the population).

08/06/2017 online at: http://reliefweb.int/report/lebanon/lebanon-improving-water-supply-through-water-life-program-akkar-district

Officials laud Kuwait's support to Lebanon's Al-Qasimani Dam project

A number of Lebanese officials lauded late Sunday the support provided by Kuwait Fund For Arab Economic Development (KFAED) to the construction of Al-Qasimani Dam in the Mount Lebanon Governorate.

Speaking on the sideline of the dam's inauguration ceremony, President of the Council for Development and Reconstruction (CDR) Nabil El-Jisr told KUNA that Kuwait was always on the forefront of supporting Lebanon's development and welfare.

The KFAED projects throughout Lebanon had contributed to the development of the country, said Al-Jisr, noting that the current project cost around USD 23 million.

In similar statements, other officials from the town of Faluga also thanked Kuwait for its numerous contributions to Lebanon through the KFAED, noting that the dam project will provide water to some 50,000 people living in areas near the facility.

Yesterday, Lebanese Foreign Minister Gebran Bassil, KFAED Director General Abdulwahab Al-Bader, Kuwait Acting Charge d'Affaires Mohammad Al-Wugayyan, and KFAED Operation Director Marwan Al-Ghanim attended the inauguration ceremony of the project.

KFAED provided a sum of USD 18.1 million to project, funding around 81 percent of the total cost.

12/06/2017 online at: http://www.kuna.net.kw/ArticleDetails.aspx?id=2615989&language=en

LG Chem to supply water filters to Egypt's seawater desalination plants

South Korea's leading chemical company LG Chem has landed a large-scale contract to supply seawater filters to water treatment company Metito's desalination plants in Egypt, the company said Sunday.

LG Chem's latest supply agreement is expected to be worth some 10 to 15 billion won ($9 million to $13 million), similar to the contract signed to provide its filters for the Sohar plant in Oman last year, which was worth at around 10 billion won.

Under the contract, LG Chem will begin providing its reverse-osmosis membranes to Metito's plants in El Galalah and Port Said in Egypt, starting the second half of this year. The total capacity of the two seawater desalination plants is at 300,000 tons of fresh water per day, according to the company.

Meanwhile, LG Chem is currently in discussions with nations in the Middle East and Africa, such as Saudi Arabia, Algeria and Iran, to provide its RO filters, the company spokesperson said.

The sales of residential RO membranes are increasing noticeably in the regions such as fast-growing China, India and Middle Eastern countries that experience water shortages.

The worldwide RO membrane market is expected to grow to 2.2 trillion won by 2020 from 1.5 trillion won in 2015, the company said.

With new contracts to follow in the regions, LG Chem aims to expand its market share in the global RO filter industry down the road, it said.

"We will take bold initiatives and proactive investments to lead the global market," said LG Chem IT&E Materials President Jeong Cheol-dong.

Early this year, LG Chem finished an expansion work of its filter producing facility in Cheongju, where the company spent some 40 billion won.

LG Chem entered the RO membrane market after it acquired NanoH2O in April 2014 for $200 million.

11/06/2017 online at: http://www.koreaherald.com/view.php?ud=20170611000200

Climate Change in Egypt: Death on the Nile

Climate change is creating preconditions in Egypt that precipitated the Syrian Civil War.

The Nile Delta, home to 40 million people and source of two-thirds of Egypt's food production, is disappearing. This is a direct result of climate change and rising sea levels. The

Delta, about the size of Delaware, is almost completely flat and at most only one or two meters above sea level. The land itself is sinking and so the relative sea level is rising even more quickly at about seven millimeters a year.

Before the Aswan High Dam was completed in 1970, the Nile used to deposit about 100 million tons of new sediment in the Delta each year, which compensated for the sinking land. The dam has also prevented the replenishment of the fast-eroding protective sand belts off the coast.

The Nile's problems do not stop there. The Ethiopian Grand Renaissance Dam, a massive hydroelectric dam due for completion in 2017, will further reduce the flow of the Nile by a quarter for between up to 15 years while the reservoir fills. Egyptian farmers who no longer have enough fresh water for irrigation directly from the Nile are already supplementing with well water from the underground Delta aquifer. The result is that the sea and salt water are intruding further and further inland. In some areas as much as 30 kilometers inland, the water from the aquifer is already too saline to drink. In as little as 10 years the coastal regions will no longer be able to sustain either agriculture or human habitation.

Egypt currently imports half of all the wheat it needs for its booming population, which is around 90 million today and is projected to be 140-160 million by 2050. When Egypt loses the first 10% of the Delta as a source of food and human habitation, this alone will be a disaster of gigantic proportions. Millions of people will be forced out of their homes and off their farms to look for new places to live and for new jobs.

This is not something that could or might happen in the distant future: This catastrophe has already begun to unfold. Moreover, some of Egypt's biggest cities in the Delta – for example Alexandria, with a population of 5 million – are also losing the battle of keep the sea out. When the sea level rises just one meter, which is at the low end of the range predicted by the year 2100, most of the city will be uninhabitable.

Climate change was one of the contributing causes of the Syrian Civil War. The prolonged drought caused three quarters of Syria's farms to fail between 2006 and 2011. This forced over 1.5 million Syrians to migrate to the towns. Their plight and protests combined with President Bashar al-Assad's authoritarian response was a major factor if not the primary cause of the uprising and the subsequent civil war.

The same set of preconditions in Egypt exists on a far larger scale. As in Syria, the disconnect between the heavily armed government elite and the poverty stricken masses is stark. When millions of displaced Egyptians find a leader and a purpose it will be too late. The authoritarian and unsympathetic regime of President Abdul Fattah al-Sisi is unlikely to defuse this explosive situation. The result will almost certainly be bloody and destructive.

The Syrian experience tells us that hundreds of thousands, if not millions, of displaced Egyptians will attempt to cross the Mediterranean and come to Europe. Many will die in the attempt. Europe is barely coping with the Syrian situation and is completely unprepared for this coming onslaught of refugees.

Donald Trump’s denial of climate change and withdrawal from the Paris Agreement are not only willfully ignorant but are an abdication of leadership in the face of these challenges. Moreover, in view of the likely civil unrest caused by the looming crisis, Trump’s encouragement of President Sisi to use whatever force is necessary to curtail popular dissent is myopic, if not criminal.

07/06/2017 online at: https://www.fairobserver.com/region/middle_east_north_africa/egypt-north-africa-global-warming-climate-change-environmental-latest-world-news-74584/

Egypt and Ethiopia Still in Dispute for Dam on the Nile

The Egypt and Ethiopia"s governments are still analyzing the preliminary report on the environmental and economic impact of the Grand Ethiopian Renaissance Dam-hydroelectric station over the Nile, an issue that has caused a dispute between the two countries.

According to the spokesperson for the Egyptian Ministry of Irrigation Hossam Imam, Cairo is negotiating with Addis Ababa the period of time during which the dam should be filled after is construction is finished, one of the main points of discord.

In that moment, the Nile's water level will be necessarily affected, according to experts on the subject.

In statements to the media, Imam highlighted that the signatory countries to the Entebbe Agreement, which includes a framework to facilitate cooperation between the countries of the Nile basin, should apply the principle of cooperation for all to enjoy the socioeconomic benefits of the river.

In his statements, the minister recalled how in the past, a project to develop Victoria Lake failed, because not all the countries of the Nile basin were included.

Cairo, has repeatedly expressed its concern that the construction of the Grand Ethiopian Renaissance Dam could affect negatively the water flow of the Nile River section that crosses Egypt.

Addis Ababa holds that the project, vital to generate the electricity that the national economy demands, will not damage the countries down the Nile.

07/06/2017 online at: http://www.plenglish.com/index.php?o=rn&id=13931&SEO=egypt-and-ethiopia-still-in-dispute-for-dam-on-the-nile

CNH Industrial presents its Tunisian sustainable water management project

Organized by the European Commission in Brussels, Belgium since 2006, the European Development Days event is Europe's leading forum on sustainable development and growth issues.

The water management initiative is part of a cooperation agreement signed with the Food and Agriculture Organization of the United Nations (FAO) and benefits the Governorate of Kebili, one of the country’s most arid areas. The project's numerous objectives include building and

repairing traditional water collection systems, creating vegetable gardens for families, improving pastoral activity, and developing orchards and new wooded areas. The overall aim is to ensure the fully sustainable management of water, a resource that is especially valuable in an area at risk of desertification.

CNH Industrial and New Holland Agriculture are contributing $50,000 of funding per year for the duration of the project, which is running from 2016 to 2018, on top of some $200,000 allocated by the Tunisian government and smaller sums donated by other patrons. At the same time, the active involvement of the local population is a key aspect of the initiative, which is intended to benefit not only infrastructure but also education, social and community services.

The project's latest developments were presented at the European Development Days by Hassen Chourabi, General Director of the Ministry of Agriculture of Tunisia; Daniela Ropolo, Sustainable Development Initiatives Manager for the EMEA region at CNH Industrial; and Lars Skjoldager Sørensen, New Holland Agriculture's Head of Harvesting Product Line.

Also in attendance was special guest Elisabetta Lattanzio Illy, a freelance journalist and photographer who has been compiling a photographic record of the initiative. Her high-impact images, which were previewed in Brussels, underline the project’s importance to the local population and document the positive changes that are taking place.

The first results from this project have been made possible thanks to close cooperation between the public and private sectors, an approach that has always been at the core of CNH Industrial's sustainable strategy and is in line with the United Nations’ 17 Goals to Transform Our World, which include "clean water and sanitation", "sustainable cities and communities" and "responsible production and consumption". Even in the most arid parts of Tunisia, these aims can be achieved thanks partly to the crucial support of CNH Industrial and New Holland Agriculture.

11/06/2017 online at: http://cpifinancial.net/news/category/economics/post/41561/cnh-industrial-presents-its-tunisian-sustainable-water-management-project

How India and Pakistan are competing over the mighty Indus River

The Indus is one of Asia’s mightiest rivers. From its source in the northwestern foothills of the Himalayas, it flows through the Indian state of Jammu & Kashmir and along the length of Pakistan to the Arabian Sea. The river and its five tributaries together make up the Indus Basin, which spans four countries and supports 215 million people.

Yet fast-growing populations and increasing demand for hydropower and irrigation in each country means the Indus is coming under intense pressure.

India and Pakistan, the two main countries in the basin, divided up rights to the various tributaries under the Indus Waters Treaty of 1960. The treaty has survived various wars and other hostilities between the two countries, and as such it is largely considered a success. Today, however, the treaty is increasingly faced with challenges it wasn’t designed to deal with.

India recently fast-tracked approval for several major dams along the Chenab, a 560-mile-long tributary of the Indus that was originally allotted to Pakistan under the agreement. This follows several other contentious dams already being built on shared rivers including Kishanganga, on the Jhelum River, which was also allotted to Pakistan.

Under the treaty India does indeed have a right to "limited hydropower generation" upstream on the western tributaries allotted to Pakistan, including the Chenab and the Jhelum. However, many in Pakistan worry that even though these proposed dams may individually abide by the technical letter of the treaty, their effects will add up downstream.

Because the Indus Waters Treaty does not provide a definitive solution, the two countries have frequently sought time-consuming and expensive international arbitration. From time to time, Pakistan has raised concerns and asked for intervention on the storage capacity of Indian dams planned on shared rivers allotted to Pakistan under the IWT.

Basin countries have also not been forthcoming in sharing data and announcing planned hydropower projects ahead of time.

Environmental degradation

Other challenges are completely outside the scope of the treaty. First, global warming will raise the sea level and make Himalayan glaciers, the ultimate source of the Indus, melt ever faster. Dangerous flooding is expected to become more frequent and more severe.

Climate change is also expected to affect monsoon patterns in South Asia, and could result in less rainfall for India and Pakistan. This could be disastrous as summer monsoon rainfall provides 90 per cent of India's total water supply.

The basin's watershed area has suffered tremendous environmental degradation and massive deforestation on both sides of Kashmir, leading to a decrease in the annual water yield.

The IWT does not rule on such issues. Currently, there is no institutional framework or legal instrument for addressing the effects of climate change on water availability in the Indus Basin.

India and Pakistan also share an important aquifer – essentially a vast pool of underground water covering an area of 16.2 million hectares across both countries. This "groundwater" helps support the huge population in the Indus region, accounting for 48 per cent of all water withdrawals in the basin.

But far more water is being taken out each year than is replenished by rain and other recharge sources. One recent study said the Indus was the most overstressed major aquifer in the world, thanks to population growth and development pressures in both countries.

Despite this, the 1960 treaty also does not have any clause to deal with transboundary aquifers, and there are no agreed rules for the allocation and management of shared groundwater.

A whole new conflict

As with most of Asia's great rivers, the Indus ultimately begins on the Tibetan plateau, in Chinese territory. India currently has no treaty with upstream China on their shared rivers. How that relationship develops will determine India's future water availability and in turn how India behaves towards downstream Pakistan.

Similarly, Pakistan and Afghanistan have no water sharing agreement for the Kabul River, an important tributary of the Indus which supplies up to 17 per cent of Pakistan's total water. As Afghanistan strives to develop its hydropower, with the help of Indian finance, this could instigate a whole new conflict on the Indus itself.

The authors of the Indus Waters Treaty can't be blamed for not anticipating climate change, huge population growth or modern hydropower issues. After all it was drawn up in the 1950s. The IWT does have a clause for "future cooperation" which allows the two countries to expand the treaty to address recent challenges like climate-induced water variability or groundwater sharing. But the historical trust deficit between the two countries has prevented meaningful dialogue.

But it is clear that these new challenges require all countries in the basin to acknowledge their dependence on each other and discuss joint solutions. Expanding the water sharing agreement to include Afghanistan and China would be a start. Including these two countries, especially China, would also help to address the power asymmetry between India and Pakistan and pave the way for a more holistic sharing agreement over the Indus waters.

07/06/2017 online at: http://www.independent.co.uk/environment/how-india-and-pakistan-are-competing-over-the-mighty-indus-river-a7769506.html

In Pakistan's Sindh, Water is only For the Rich and Powerful

In the late 1990s when we were working on an irrigation reform project in Sindh, an old man in his 70s walked into the office and narrated the story of unequal canal water distribution. I still remember the story two decades later, and in that time the situation has only deteriorated.

I cannot recall his name, but do remember that he was from the Notkani caste, living near the tail-end of the Jamrao canal, which is supplied by the Nara canal, near the town of Jhudo, in Sindh. While telling his story, he could not control his tears. He said:

Despite owning 200 acres of land, my sons are cutting and selling firewood because water does not reach our land for us to cultivate. We could also live like you if we cultivated even one-fourth of our land.

Water has always been wealth in these agricultural areas. In 1816, at a time when the British still ruled the subcontinent, Sir Charles Trevelyan said:

Irrigation is everything in India; water is more valuable than land, because when water is applied to land it increases its productiveness at least six-fold and renders great extents of land productive.

The province of Sindh in Pakistan is bestowed with an irrigation network with 14 main canals and over 40,000 field channels. Despite this very integrated water distribution system that covers the entire province – with the exception of Thar desert and Kacho area – it is mindboggling to learn that the province is plagued in rural poverty, hunger and malnourishment.

The Worst Indicators in the Four Provinces

A 2010-11 report by the research think tank Social Policy and Development Centre had stated that 45.34% of the rural population of Sindh was living below the poverty line. This is the highest among all the four provinces, despite Balochistan and Khyber Pakhtunkhwa lacking a well-established irrigation network like Sindh's.

A paper by the SPDC estimated rural poverty rates to be between 45% and 36% in the cotton/wheat and rice/other agro-climatic zones.

Similarly a low calorie (2,490) intake was observed in Sindh, compared to that in Punjab (2,636); even KP and Balochistan (2,700) had higher calorie intakes. The latest Pakistan Demographic and Health Survey (2013) estimated that 63% of rural children under the age of five are victims of malnutrition in Sindh – again the highest among all the provinces of Pakistan.

Despite a regular supply of irrigation water and its reach to the far flung areas, why is there so much poverty, hunger and malnutrition in Sindh? There are multiple reasons, but one significant issue is the unequal distribution of land and irrigation water.

In the last 70 years, successive government has been unable to implement land reforms. Of all rural households in Sindh, 71% are landless, the highest amongst all the provinces. The remaining 29% of rural households own land between one and 25 acres.

Sajan Sheikh owns a piece of land at the tail-end of Mirwah canal in district Badin in the coastal areas. According to him he faces two interrelated problems: Most of the time the river water does not reach his land, and what does reach is saline water from the sea. In the last decade or so much of the land has been rendered unproductive. Sheikh says helplessly:

We are in extreme difficulty; we have protested in front of the irrigation officials but to no avail.

There are several reasons for the unequal distribution of water in Sindh in which tail-end farmers are denied their due share of water. The political economy of water has contributed largely to the current state of water distribution.

A few people own large tracts of land and have become powerful. Using their political clout, they have gradually taken control over the irrigation department, manipulating existing laws to divert more water towards their land through sanctioning direct outlets from canals which were not allowed long ago.

The topography also works towards the advantage of the farmers with lands near the head of the canals. They tamper with the outlets or pump out more water than they are allocated using lift machines. This often happens in collusion with people from the irrigation department.

Interestingly, the cultivated command area on direct outlets has been increasing but they also receive water from distributaries, which means in most cases those farms are drawing water from two sources.

The Hidden Water Economy

Political influence has weakened the irrigation department. The very department assigned to distribute water equitably is engaged in serving vested interests and earning through rent seeking. During my personal observation in Mirpurkhas district for five years in the late 1990s, in each cropping season farmers upstream tampered with the outlet with support of a darogha (a lower level irrigation official who monitors the distribution network) and were paying about PKR 25,000 (USD 240) per outlet.

So, if a distributary has 20 outlets, the darogha was collecting about PKR 500,000 (USD 4,800) in one season and about a million Pakistani rupees (USD 9,600) in a year, a substantial sum in Pakistan.

This cash was over and above what such officials would receive in kind, including foodstuffs such as wheat and mangoes. Informal sources reveal that this hidden market for water has now increased to a charge of PKR 100,000 (USD 960) per season per outlet.

Yet another reason is increasing demand in comparison to supply of water, with many factors contributing to it. Whatever the reasons for the increase in demand, it leads to water theft and encourages hidden water markets.

Farmers who can afford to, buy water from the informal market. Farmers at the head reaches of the canals use their topographical advantage to deploy all means, either legal or illegal, to meet their demand.

And still another factor contributing to the woes of tail-end farmers is the physical limitation of the system. Most of the irrigation infrastructure is ageing, and therefore needs more care and maintenance.

But due to inadequate maintenance the system is unable to carry the required water and its distribution instruments such as head regulators have been damaged over the years.

A Farmer's Experience

Karamullah Qazi, a farmer, recounts how his family is affected by this:

The problems are caused by heavy tampering upstream, political intervention in water distribution for water diversion and – more importantly – the unauthorized discharge to direct outlets [if the authorised amount is 2 cusecs, some farmers take 10 cusecs]. Our distributaries Sangi Pharao, in district Badin, which offtakes from Nasir Branch of Rohri canal, gets 2-3

feet water against six feet sanctioned and it does not reach the last five watercourses that are supposed to water 5,000 acres of land.

Our family owns 310 acres land on this distributaries, out of which we only cultivated 14 acres of banana crop this year which is drying out as well. Earlier we were cultivating more than 50 acres of cotton and chilly crop as well.

The situation started worsening from 2008; we protested in Karachi and also went to Islamabad but nothing really happened.

Rather than using water resources for shared prosperity and poverty alleviation with a progressive political vision, irrigation officials and influential people have devised a system to further inequality.

Until these political issues are addressed, mere infrastructure will not solve the problems of the poor farmers of Sindh.

08/06/2017 online at: https://www.thequint.com/india/2017/06/08/unequal-water-distribution-in-sindh

Shortage of drinking water

There are millions of people all over the world who don't have access to water, if they have access that water is unable to be used. About 70% of Earth's surface covered with water and 3% of it is actually fresh water that is for human consumption. On the entire earth, water is the most important thing, but there is shortage of clean drinking water in Balochistan.

Moreover, Gwadar city has been facing this problem acutely but no remedial measures have been taken yet. People have to walk for miles in search of water and one can imagine the endurance one has to face in the holy month of Ramadan. Sometimes, the poor have to use sea water because they cannot afford to buy clean water. According to the reports 62% of Balochistan is deprived of safe during water and more than 58% of its land is unculativable due to water scarcity.

It is hardly imaginable that why the people of Balochistan are left to suffer. They are deprived of electricity, water, nutritious food, healthcare, education and many more to name them, but water shortage is the main problem because of it no one can survive. While the government is trying to build a world-class port but the city remains deprived of water and electricity. We feel disappointed. The looming water crisis in Gwadar deserves immediate attention of the government.

10/06/2017 online at: http://pakobserver.net/shortage-drinking-water/

How NASA's Satellites can Help Solve the Middle East Water Crisis

For at least six of the past 10 years, Ali Saed, a farmer, grew no crops. The rain in his little corner of northern Iraq was too meager, as was the flow of a nearby irrigation canal. He was

only a few months away from ditching agriculture for good when he reached out to a distant relative, a government scientist in Baghdad. Saed was told some farmers had tapped groundwater stores, and he wondered if he might be able to do the same. By sizing up satellite images of the surrounding fields, the cousin identified a nearby dip layered with porous rock through which rainwater might once have seeped.

After pooling cash from his neighbors and calling in a drilling team, Saed hit wet pay dirt early last year. “Thanks be to God, we found water,” he says, straddling the new borehole on the periphery of his land. “Finally, we can grow!”

Thanks be to NASA too. Ever since it was established in 1958, America’s national space agency has produced a raft of invaluable scientific data. From tracking melting glaciers to identifying mineral deposits, its efforts to accumulate enormous troves of information have helped inform U.S. government decisions and spurred impressive breakthroughs. With up to 30 science-focused satellites in orbit at any one time, it even serves as a sort of one-stop life-saving shop for other countries—like Iraq—that lack eyes in the sky. Since 2008, most NASA research has been freely available from its website.

'It's a Crisis'

Of all the challenges NASA technology has faced on Earth, the one scientists in the Middle East are battling might prove its most daunting. Desperate to head off a regional water crisis, these experts have pinned their hopes on U.S. satellite imagery to boost water efficiency and sniff out additional water resources. At a time when droughts are growing more frequent and populations are booming from Yemen to Morocco, some suggest salvation by satellite might be the region’s best chance of averting catastrophe. “Already, we are unable to produce much of the food we need; it’s a crisis,” says Farouk El-Baz, director of the Center for Remote Sensing at Boston University, an adviser to Egypt’s president and a longtime NASA scientist. “But if we can use satellite images to identify suitable water and places with the right soil for agriculture, then we’d be very, very stupid not to use it.” Aquifers in the Arabian Peninsula are so tapped out that some countries—notably Saudi Arabia—have had to drop much of their agriculture.

Nowhere has this technology proved more valuable than in the Middle East. Authorities in Jordan weren’t even sure what their farmers were growing until satellite imagery enabled them to build aerial crop maps. They’ve since cracked down on the cultivation of water-intensive plants, like rice. In Lebanon, where a dysfunctional political system has hampered data collection (there hasn’t been a census since the 1930s for fear of upsetting the sectarian balance), satellite imagery has allowed officials to make up the shortfall in information on everything from urban planning to abuse of the food subsidy system. After analyzing the country’s farmland from above, the National Council for Scientific Research (CNRS) worked out that farmers were growing roughly half the 20,000 hectares of wheat that they’d claimed. The government was subsequently able to slash its wheat subsidy handouts by over two-thirds.

But it's space technology's capacity to better regulate water usage, and therefore grow more food with fewer resources, that's really excited the science community. By gauging the temperature of a field, which if irrigated properly should be below that of the surrounding area, researchers can determine if a crop is water-stressed or, crucially in the Middle East, consuming more water than it needs. Through measuring the amount of moisture in tree canopies and snow melts, they can learn how much water they'll have to toy with in the first place. "It enables us to make better predictions, to learn how much irrigation will be needed, to see if a country is in a state of drought," says Rachael McDonnell, head of the climate change modeling adaptation section at the Dubai-based International Center for Biosaline Agriculture (ICBA), which frequently partners with NASA.

Unfortunately, the Middle East, already the world's driest region, appears to be getting even drier. And so satellite imagery might really come into its own in the bleakest of circumstances. Using NASA's Landsat program—"the Land Rover Defender of the data world," McDonnell calls it—aid organizations have created drought and famine early-warning systems, through which they try to tackle crises before they worsen. They scan images for signs of desertification and look for indications of widespread vegetation stress. When Morocco was struck by a severe drought last year, which cut grain production by almost 60 percent and led to the loss of almost 200,000 agricultural jobs, remote-sensing analysts took the lead in pinpointing and directing assistance to the worst-affected areas.

Still, satellite imagery's rollout hasn't been without its problems, in large part because many governments have yet to recognize the technology's importance. On many occasions, quality research and useful data never reach policymakers, instead gathering dust on bureaucrats' desks. "One of the big problems in the entire Arab region is that we can do the science, but a lot of it's just thrown in a drawer," says Chadi Abdallah, a researcher at Lebanon's CNRS. In other instances, underappreciated national science institutes have been among the first to lose their funding during economic crises. Egypt's lone science satellite, NileSat, is out of operation for financial reasons; Iraq's science and technology budget has been eviscerated. No manner of high-resolution data from the sky can help when there's no one on the books to interpret the often complicated raw information.

And then there are the security issues. Starting in the 1970s, when El-Baz, then working on the Apollo-Soyuz mission, first brought NASA images to Egypt, many intelligence services have taken a dim view of foreign space technology. Some still see it as overly sensitive, almost a form of spying, and try to regulate its use. In 2015, authorities in Cairo inexplicably denied entry to two American data analysts from the Department of Agriculture who'd come to calibrate their satellite readings on the ground. Other security agencies have brought these institutions under their wing—Morocco's Royal Center for Remote Sensing falls under the purview of its Ministry of Interior, rendering many of its findings inaccessible to independent researchers. In an unfortunate sign of the times, Lebanese scientists have found that even when they do identify problems via satellite—in this instance, the growth of an invasive plant near Al-Qaa in the country's north—sometimes there's nothing they can do about it. "The war [in neighboring Syria] prevents us from accessing certain areas. We're not allowed to go there," says Ghaleb Faour, director of the Center for Remote Sensing at CNRS.

'Have to Be Smart'

Nevertheless, there are plenty of signs that satellite imagery's role in the Middle East will only get bigger, better—and perhaps slightly less reliant on NASA. Since the 1970s, Americans have dominated the remote sensing field, offering a mostly free—and by far the largest—archive of images. They even broadcast data directly from space to up to 20 countries at a time. "We got a head start on the world," says James Irons, director of the Earth Sciences Division at NASA's Goddard Space Flight Center.

Over the past few years, however, alternatives have emerged, a number of which offer superior resolution—and therefore a wider range of uses—than the Landsat satellites. The European Space Agency launched Sentinel 2A last year, and Sentinel 2B this year, both of which can arrow in more closely than most other publicly available satellites. The ESA recently made some of its data free for the first time, which is crucial given that most Middle Eastern scientists are operating on shoestring budgets. And some private satellite operators that have even superior resolution capabilities have been known to drop their prices when public research institutions ask. "We find a way [to make it work] ," says Kumar Navulur, interim president at DigitalGlobe, a U.S. company. Lebanon's CNRS pays the company roughly $100,000 every five years to build detailed digital maps of the country. As satellite revisit times and image quality improve, researchers hope that skeptics within their own governments will come to see technology's value.

Above all, though, it increasingly looks as if satellite imagery might be one of the Middle East's few means of confronting its terrifying array of environmental challenges. With most states in the region grappling with some kind of conflict or weak economy, water and food crises are worsening by the day. The solution, it seems, might well have to come from above. "Particularly with climate change, we know we're going to have less water. We're going to have to get much better at managing water across the entire board," says ICBA's McDonnell. "We're going to have to be smart with satellite imagery."

11/06/2017 online at: http://www.newsweek.com/nasa-satellite-solve-middle-east-water-crisis-623803