

ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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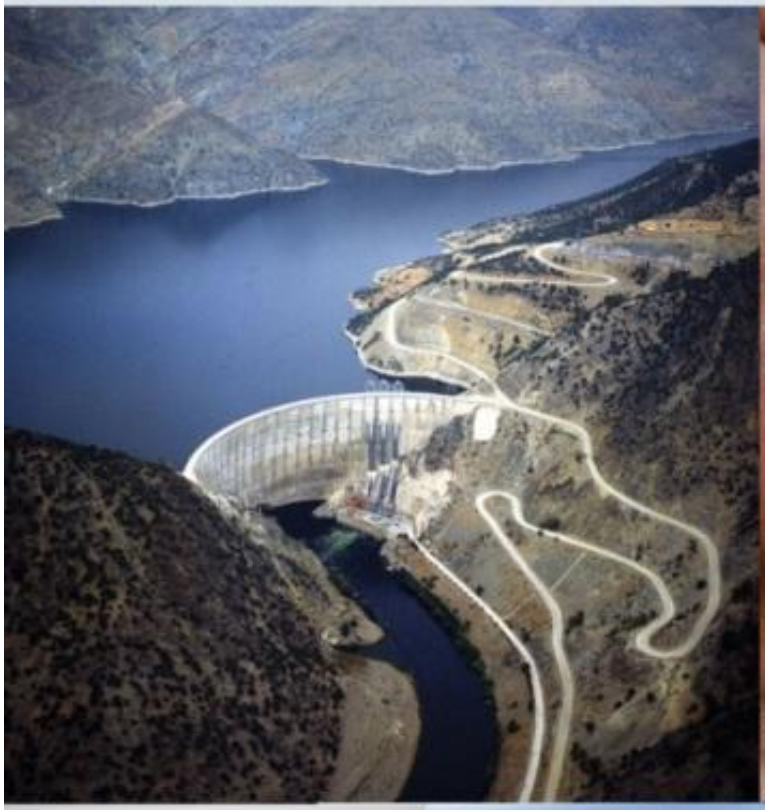



ORSAM WATER BULLETIN

28 March 2017 – 03 April 2017

Water scarcity threatens Iraqi Kurdistan

Kurdish activists on Saturday warned of the increasing water scarcity in the Kurdistan region.

“We have more than 3,000 rivers, almost 1,000 are completely dried out in the Kurdistan region,” Kurdish activist Bayar Shahab said during the TEDxNishtiman conference in Erbil, capital of Iraqi Kurdistan.

“The Alwan River, that used to flow under the old stone bridge in Khanaqin, is completely dried out,” Shahab said.

“While in Kurdistan they use 800 liters water per person, in Sweden they use 120 liters of water,” he said.

Therefore, the activist called on the Kurdish government and the public to take actions to decrease water usage.

“The government should take action and raise public awareness,” he said. “Teach the kids at school and formulate a strong water national security policy and implement smart water solutions.”

“The government also needs to formulate a water policy and minimize the waste of water,” Shahab said, adding: “Kurds should take action on a personal level. We cannot change the whole world, but we can make our own impact.”

According to a report released by the World Resources Institute (WRI), water supplies across the Middle East will deteriorate over 25 years, threatening economic growth and national security and forcing more people to move to already overcrowded cities.

“Drought and water shortages in Syria likely contributed to the unrest that stoked the country’s 2011 civil war. Dwindling water resources and chronic mismanagement forced 1.5 million people, primarily farmers and herders, to lose their livelihoods and leave their land, move to urban areas, and magnify Syria’s general destabilization,” says the report.

02/04/2017 online at: http://aranews.net/2017/04/water-scarcity-threatens-iraqi-kurdistan/

Engineers set to enter ISIS-held parts of Syria dam

Syrian engineers were expected to carry out urgent maintenance Wednesday, March 29 on the country's largest dam, where US-backed fighters have been battling Islamist State (ISIS) group jihadists who still control most of it.

The maintenance work, which entails opening a spillway to relieve the pressure of water on the dam, will involve the engineers entering areas held by ISIS, a technician inside the complex told Agence France-Presse.

The fighting between the US-backed Syrian Democratic Forces and ISIS has raised fears for the integrity of Tabqa Dam, which holds back a vast reservoir in the Euphrates Valley that could cause catastrophic flooding if it burst.

The technician inside the complex said that rising water levels in recent days had submerged some equipment in its lower levels.

"Because the dam has been out of service for 3 straight days, the technical equipment in the lower levels of the dam is under water," the technician said.

"This rise in the level of the reservoir means that one of the spillways must be opened to drain the water so it doesn't build up, which would pose a growing threat to the dam."

Both the SDF and its US-led coalition backers have denied any kind of "structural damage" to the dam.

But the technician inside the complex and the Syrian Observatory for Human Rights said the dam's main control room had been knocked out.

The technician said engineers had arrived from SDF-controlled territory and would "try to enter the dam and carry out the necessary maintenance as quickly as possible, if they are allowed."

The SDF paused fighting for 4 hours on Monday, March 27, to allow technicians to enter the complex and carry out maintenance.

Earlier this year, the United Nations raised concern about the risks of damage to the dam in fighting, warning that water levels in the reservoir were already high.

ISIS has accused the US-led coalition of bringing the dam to near-collapse with its air strikes, and on Tuesday it charged that a US strike had killed the dam's top technicians.

An Agence France-Presse correspondent at the dam's northern entrance saw engineers examining part of the structure on Tuesday accompanied by members of the Syrian Arab Red Crescent.

"The explosions and the clashes are threatening the dam, and we ask for all sides to distance themselves from it," said Ismail Jassem, an engineer from the SDF-controlled Tishreen Dam upstream.

"The water levels are acceptable now. We came to open up one of the gates to relieve the pressure," he told Agence France-Presse.

The SDF assault on the dam is part of a wider US-backed offensive to capture IS's de facto capital of Raqa downstream.

SDF fighters have advanced to within 8 kilometers (5 miles) of the city at their closest point but are between 18 and 29 kilometers (11 and 18 miles) away on other fronts.

29/03/2017 online at: http://www.rappler.com/world/regions/middle-east/165566-engineers-enter-isis-held-parts-syria-dam

War over Water: ISIS and U.S. Battle over Massive Dam that could shape Syrian Conflict

U.S.-backed, majority-Kurd forces in Syria have begun the battle for a major dam held by the Islamic State group, also known as ISIS. Concerns over the structure's stability as the fight raged on have become the war-torn nation's latest water-related crisis since the Syrian army drove rebels away from a primary water source outside of Damascus earlier this year.

The Kurd-dominated Syrian Democratic Forces (SDF), a U.S.-sponsored coalition of Arabs and ethnic minorities in Syria, repelled an attack Sunday by ISIS militants holed up in the southern part of the 3-mile-long Tabqa Dam (also known as the Revolution Dam or Euphrates Dam) in northern Syria, Reuters reported. The dam was located 25 miles away from Raqqa, ISIS' de facto capital and the target of the latest push to defeat the hardline Sunni Muslim militants in the heart of their self-proclaimed caliphate.

As the SDF clashed with ISIS, the U.S. conducted airstrikes in support of its allied militia. Russia, which has provided training for Kurdish militants in the SDF, accused the U.S. of compromising the stability of the Tabqa Dam with the Pentagon's air support, something the U.S. denied. If the dam were to fail either because of the pressure of the Euphrates River that has already built up due to non-functioning spillways or through intentional sabotage by ISIS, the resulting flooding would threaten the 90,000 remaining residents of Raqqa and anyone else in the region, United Press International reported.

The SDF campaign, which was announced last month, coincided with a jihadist-led insurgency by Syrian opposition groups against positions held by the Syrian army, which has received support from Russia, Iran and allied militias. A loose coalition of various militant groups, including the Al-Qaeda-linked Tahrir al-Sham and ultraconservative Ahrar al-Sham, launched attacks on the capital of Damascus, a stronghold of support for Syrian President Bashar al-Assad. Since the 2011 uprising, Assad has retaken virtually every major population center in the country from rebels and ISIS, causing concern among rebels as to their position in ongoing international peace talks.

Rebels had previously threatened the approximately four million residents of Damascus and surrounding suburbs after seizing strategic water stations in the Wadi Barada last year. Rebels cut off water supplies several times as leverage to discourage an army advance, but withdrew in January, according to Reuters. The government and opposition blamed one another for damage incurred by the water pump facilities during clashes between the army and rebels.

03/04/2017 online at: http://www.newsweek.com/us-isis-war-water-syria-rebels-retreat-army-advance-578625

Israel is world’s leading practitioner of water apartheid

Israel markets its water expertise as an agent of change internationally but uses water as a weapon of war against the Palestinians, according to South Africa's minister of water and sanitation, Nomvula Mokonyane.

The minister was criticizing Israel's policies in a speech during Israeli Apartheid Week delivered earlier this month at the Stellenbosch University in South Africa.

Mokonyane said Israel's water story has "two faces." One is Israel as the "world's leading practitioner of water apartheid." Israel has full control of all water access and water use in historic Palestine – the West Bank, Gaza Strip and present-day Israel. This "skewed distribution" leaves Palestinians in the West Bank with 73 liters per person per day, Mokonyane said, compared to 240-300 liters for Israelis.

The Palestinian share is far less than the World Health Organization's recommendation of 100 liters per person per day for domestic use, hospitals, schools and other institutions.

Water apartheid

In addition, hundreds of Palestinian communities in the occupied West Bank and Gaza Strip are not connected to water supplies, the minister told her audience. And Mekorot – Israel's national water company – frequently shuts down water supply to Palestinians.

High water insecurity combined with daily hardships hamper "any reasonable development." This, "unmistakably," draws parallels to the brutality of South African apartheid and the Bantu homelands, Mokonyane said: Israel is using water as a weapon of war instead of an agent for change, a "tool to control the Palestinian state."

The other face is Israel's role as a leading water technology innovator with a vibrant industry selling its products and solutions to the world. Israeli water technology and related agricultural exports reached $2.2 billion in 2013, according to the minister, some of which was sold to South Africa. This face is what the Israeli government wants us "to see and focus on," Mokonyane said.

Marketing water technology to counter BDS

It is a weapon Israel hopes to use against the growing boycott, divestment and sanctions (BDS) movement in support of Palestinian rights. Assisting Africa with water technology could help to counter the movement, Israeli Prime Minister Benjamin Netanyahu suggested at the Milan Expo two years ago.

"People today around the world have a better quality of life thanks to Israeli technology and innovation," he said. "This is much stronger than any boycott."

But Israel's effort to present itself as a savior in South Africa failed last year when a water summit was canceled after protests against the planned participation of an Israeli diplomat.

Mokonyane concluded her remarks by calling for support of BDS efforts to put pressure on Israel to recognize the right of Palestinians to self-determination.

South African anti-apartheid veterans can speak with authority about Israeli apartheid. It is the reason the Israeli government and its lobby continue to attack South Africans who make the comparison between apartheid in South Africa and Israel. Archbishop Desmond Tutu, Farid Esack, ministers of the South African government, including Mokonyane, and leaders in the ANC, the party once led by Nelson Mandela, have all been denied entry to or censured by Israel at some point or smeared with false accusations of anti-Semitism.

Such efforts will not halt comparisons between racist rule in South Africa and Israel, or calls for BDS.

29/03/2017 online at: https://electronicintifada.net/blogs/adri-nieuwhof/israel-worlds-leading-practitioner-water-apartheid

Israeli Invention Produces Clean Water from Thin Air

At the Israel Innovation Showcase at the annual AIPAC Policy Conference in Washington, DC earlier this week, more than 18,000 Israel advocates learned about a technology to extract water from air; an Arab-Israeli business accelerator; a touch-free smartphone; a user-friendly security system for public venues; and a dance program breaching barriers between Jews and Arabs in northern Israel.

Elliot Brandt, AIPAC Managing Director of National Affairs, said the showcase exemplified the Israeli "mindset of unrelenting determination to overcome all barriers and conventional thinking … to defend and protect and heal and transform the world."

To kick off the showcase on March 26, Prof. Alan Dershowitz introduced Water-Gen of Rishon LeTzion, whose patented GENius technology generates clean drinking water from the air.

Water-Gen's "plug and drink" Atmospheric Water Generator, said to be the world's most energy-efficient module of its kind, can serve the water needs of single households to entire countries, requiring only electricity or solar power.

According to the World Health Organization, tainted water is one of the factors causing 1.7 million children annually to die during their first five years.

Water-Gen also has portable water filtration solutions for emergencies and relief efforts, including Spring, a lightweight battery-operated system.

This April, Water-Gen is launching its first pilot study in Miami-Dade County, Florida, which will be analyzed as a prototype for additional US locations.

"Water-Gen is focused on improving the quality of life for billions worldwide who suffer from inaccessibility to safe drinking water and thus saving millions of lives," said Dershowitz, who noted that "no country in the world has contributed more to lifesaving technology in a mere 69 years than the nation of Israel."

All AIPAC delegates had a chance to try Water-Gen units for themselves.

Arab-Israeli business accelerator

Fadi Swidan and Eitan Sella came from Nazareth to talk about Hybrid, the Israeli Ministry of Economy and Industry's accelerator for startups in the Arab sector.

Swidan and Sella co-direct this unusual accelerator that leverages the expertise and connections of alumni of the famed IDF Intelligence Corps' Unit 8200. This elite group of veterans has spawned some of Israel's most successful high-tech executives.

Hybrid favors startups with at least one Arab cofounder, but above all seeks to build thriving businesses. As Sella noted, "We're not doing anyone a 'favor' except the industry of Israel."

Agreements with the Tel Aviv and Haifa municipalities and with companies such as SAP and EMC enable Hybrid startups to get free workspace near where the founders live.

In its first year, Hybrid accepted nine early-stage startups and also worked with another 20 more mature startups. Many Hybrid alums are now scaling up under the umbrella of the Economy Ministry's Agency for Small and Mid-Sized Enterprises.

"Things are going very well. We're seeing lots of small successes in investment and employee recruitment," says Swidan, whose staff will soon begin working with eight to 12 candidates for the next cohort.

One successful graduate is MindoLife, a Haifa smart-home IoT and cybersecurity company headed by two Arab and two Jewish cofounders. Swidan tells ISRAEL21c: "They have paying customers in Europe and in Israel and are ready now for the next stage of grants from the Israel Innovation Authority and from a special program for exports. "

Sella mentioned NIMD (Noninvasive Medical Devices) in Jerusalem, whose Muslim, Jewish and Christian cofounders are developing a thermal ablation treatment for cancer.

Smartphones and security checks

Oded Ben-Dov, cofounder and CEO of Sesame Enable, came onstage with Gary Fisher, a user with multiple sclerosis from Washington State, to demonstrate how the company's touch-free smartphones and tablets allow mobility-impaired people to make calls, read email, go on social networks, play games – activities most people take for granted.

Two years ago, Caesarea-based Sesame Enable teamed up with Google and Israel's Beit Issie Shapiro to distribute its revolutionary motion-tracking technology free of charge to every Israeli who needs it.

"Now we have hundreds of active users in Israel and in other countries, and we're looking forward to penetrating the US market," says Ben-Dov. There's even a user in Saudi Arabia.

Sesame Enable just closed a financing round and plans to open a US office this year. Maryland, Pennsylvania, Kansas, Oregon, Montana, Missouri and Texas all are in some stage of approving a subsidy for qualified residents to receive this assistive technology.

Ben-Dov explained more about the history and impact of Sesame Enable during Startup Stories, a side event at the Policy Conference.

Attendees also saw a presentation by Lisa Dolev, founder and CEO of Qylur Intelligent Systems, a Palo Alto-based American-Israeli company whose self-service Qylatron Entry Experience is making security checks faster and more user-friendly at airports, stadiums, amusement parks, cultural venues, malls and other large public places – including the Rio Olympics and Levi's Stadium in California.

Qylatron uses cutting-edge technologies including Industrial Internet of Things (IIoT), adaptive machine learning and artificial intelligence. Dolev said Qylur technology could be applied beyond security to other decision-making situations such as in agriculture or fracking.

Minds in Motion

In a separate presentation at the Policy Conference, Virginia Senator Tim Kaine introduced the Richmond Ballet's Minds in Motion Israel program.

This two-week project uses the power of dance to break down barriers between two northern Israeli populations: Jewish students at Beit Yitzhak Elementary School in Emek Hefer and Arab-Israeli students at Al-Salam School in the village of Kalansuwa. Each school's participants learn half of an original dance and then meet to put it all together.

In 2015, for the first time, the young dancers did a joint performance before 1,500 people. And in January 2017, Israeli filmmaker Lior Netzer documented the program by filming staff, teachers and students over the course of several days.

"Minds in Motion has been in existence for 22 years in Virginia and in Israel for the last eight years, with seven programs so far," says Cat Studdard, director of outreach for the Richmond Ballet.

A board member of the Richmond Ballet and of the Virginia-Israel Advisory Board made the connection.

"At the initial program, students at both schools felt a lot of concern about having a joint experience," says Studdard.

"Even this year, at our first performance at the Arab school, the 200 students from Jewish school were late arriving and the Arab children were concerned the kids just wouldn't show up. But they came and everyone relaxed, and the students were eager to meet one another. They do three performances so you see how their relationship develops through their dance collaboration. They're excited about having that experience of sharing it."

29/03/2017 online at: http://www.thetower.org/4788oc-watch-israeli-invention-produces-clean-water-from-thin-air/

Israel's desalinated water could pose major health risk to millions of children

Israel's first-ever national survey of iodine levels in the population revealed widespread deficiencies, which could mean millions of children are at risk of stunted development.

The survey, whose unpublished results were presented last week to endocrinologists in Ramat Gan, found that 62 percent of school-age children and 85 percent of pregnant women have iodine levels below the World Health Organization minimum.

According to the researchers behind the survey, the numbers are among the highest in the world and signal a major national health problem likely related to Israel's world-leading use of water desalination. About half the water Israelis consume is desalinated, a higher percentage than in any other country.

"We could be talking about a significant detriment across the population," said Aron Troen, a nutritional neuroscientist at the Hebrew University of Jerusalem who helped lead the survey. "For anyone below the minimum level, you may loose 7 to 10 to 12 IQ points, which translates into a huge decrease in GDP due to reduced productivity."

"We are concerned that increased reliance on desalinated water in the Israeli food chain is contributing to iodine insufficiency in the population."

Even mild iodine deficiency can limit intellectual development, and mild to moderate deficiency has been linked to decreased cognitive performance. In the womb or early childhood, iodine deficiency has been shown to impair brain development and in severe cases cause physical malformation, dwarfism and intellectual disability. Previous studies have found the children of iodine-deficient mothers perform much more poorly in school.

Researchers from Hebrew University, Maccabi Healthcare Service, Barzilai University Medical Center in Ashkelon and ETH Zurich in Switzerland collaborated on the survey, which analyzed urine samples from 1,0123 school-age children and 1,074 pregnant women. They found similar results among Israeli Arabs, secular Jews and Orthodox Jews.

Based on their findings, the researchers called on the Israeli government to mandate the addition of iodine to salt or other foods, as do many other countries, including the United States. They said the change would be easy, inexpensive and have potentially large public health benefits. In the meantime, Israelis can change their diets, including seeking out iodized salt, which is hard to find in Israel.

"Individuals can improve their iodine status through increased consumption of iodine-rich foods such as milk, dairy and saltwater fish. They can also replace regular table salt with iodized salt," Yaniv Ovadia, the doctoral student and registered dietitian who performed the survey, said in a statement.

In a study last year, Troen and fellow researchers found a "surprisingly high" prevalence of insufficient iodine intake among the residents of the southern Israeli city of Ashkelon, where residents get much of their water from the local desalination plant. They also found a strong

association with thyroid dysfunction among adults and evidence that the problem increased in the 2000s, as Israel was ramping up its water desalination program.

30/03/2017 online at: http://www.jweekly.com/2017/03/30/israels-desalinated-water-could-pose-major-health-risk-to-millions-of-children/

As Sea of Galilee's level lowers, concerns rise over saline in the water

Almost every weather forecast in Israel ends with the level of the Sea of Galilee, or Kinneret, in Hebrew. Children learn songs and poems about it, and tourists take boat trips on the lake where Jesus was said to have walked.

The Sea of Galilee also provides a significant percentage of northern Israel's water. Today, with the sea at one of its lowest levels in a century, Israel has cut back on the amount of water it gives to farmers, and there are fears that there will be ecological damage that may be irreversible.

"As the water level drops, the salt remains the same and it gets more saline," Clive Lipchin, the Director of the Center for Transboundary Water Management at the Arava Institute, said. "In the south of Israel, farmers have access to treated wastewater but in the north, they still rely on fresh water."

Israel already has five desalination plants, mostly in the south and along the coast. Until now there had always been enough rainfall in the north to ensure a reasonable supply. Rainfall all over Israel, but especially in northern Israel, is down significantly. At this time of year, after the winter, the water should be gushing into the Sea of Galilee, but it is hardly moving.

Earlier this month, the level of the Sea of Galilee was 13 centimeters (a little more than 5 inches) below the lower red line, the lowest level at which water can be safely pumped from the lake without endangering the pumps.

The salinity level is 298 milligrams of chloride per liter. Experts say that the natural salinity level was once 350 milligrams of chloride per liter, which made it difficult to use the water for irrigation. But a special water channel built in 1967 diverted the saline springs away from the lake, causing the salinity to decline and the water to be usable. Experts say that the current level of salinity will continue to rise until the next rainy season and is expected to reach 320 milligrams per liter.

One result has been that the shallows, which are where many of the fish lay eggs, have retreated. The number of St. Peter's fish, one of the most important fish for maintaining the Kinneret ecosystem, is falling.

The Society for the Protection of Nature (SPNI) this week called on Israel to urgently address the growing water crisis in the Sea of Galilee by building a desalination plant in the Western Galilee. That would reduce dependence on the sea's water, but it is an expensive solution. SPNI also called on the government to cancel plans to expand agriculture in the Golan Heights and the Upper Galilee as long as there are no alternate water supplies.

Israeli water experts say the main culprit is climate change.

“Of course it’s climate change,” Doron Markel, the manager of the Lake Kinneret Watershed Monitoring and Management Authority, said. “The annual amount of precipitation in the north is decreasing year after year. Rainfall has decreased over time in the eastern Mediterranean — Israel, Lebanon, Jordan and Turkey. This is the fourth successive weak winter.”

The low level of the Sea of Galilee comes as Israel already supplies 50 million cubic meters of water to Jordan as part of their 1994 peace agreement. Markel says Israel has no intention of reneging on this commitment despite the current water situation.

The main danger is ecological. Greater salinity could cause more algae blooms and cyanobacteria, Markel says.

“This type of algae makes it harder to filter it and could release some toxins in low concentrations,” he said. “Once you chlorinate and disinfect the water, you eliminate the toxins totally. However, we still treat it as a water quality issue and we don’t like this phenomenon.”

31/03/2017 online at: http://jewishjournal.com/news/israel/217405/sea-galilees-level-lowers-concerns-rise-saline-water/

Hamdallah denounces Israeli control of Palestinian water resources

Palestinian Prime Minister Rami Hamdallah denounced Israel’s policies affecting Palestinians’ access to water during a speech on Wednesday, calling on the international community to intervene in improving access to safe, clean water in the occupied Palestinian territory and Gaza.

In his speech, intended to commemorate International Water Day which occurred a week earlier on March 22, Hamdallah said that Israel was using its control of water resources to “apply pressure on the Palestinian people” and attempt to erode the economic and social fabric of the Palestinian community, as well as to obstruct the establishment of a viable independent Palestinian state.

Hamdallah added that the Palestinian Authority (PA) had prioritized the issue of water and established a water committee which he claimed would enable the PA to work on water infrastructure projects in the occupied West Bank, including in Area C -- the 60 percent of the West Bank under complete Israeli military control.

Hamdallah was seemingly referring to the Palestinian-Israeli Joint Water Committee (JWC), whose activities resumed in January after a years-long PA boycott over its imbalance of power, which has allowed Israel to consistently veto developments in Palestinian water infrastructure.

Israelis, including settlers in the occupied Palestinian territory, have access to 300 liters of water per day, according to water rights NGO coalition EWASH, while the West Bank

average is around 70 liters, below the World Health Organization's recommended minimum of 100 liters per day for basic sanitation, hygiene and drinking.

According to Amnesty International, nearly 200,000 Palestinians in the West Bank do not have access to running water.

Meanwhile, just half of Palestinian proposals for wells and improvement projects to the water network were approved by Israel between 1995 and 2008, compared to a 100 percent approval rate for Israeli projects, according to a 2013 report by Palestinian human rights group Al-Haq.

The Palestine Liberation Organization (PLO) affirmed in a statement earlier this month that "since 1967, not a single new well has been approved by Israel in the Western Aquifer," adding that wells built by Palestinians without Israeli-issued permits were extremely vulnerable to demolition at the hands of Israeli forces.

"As the occupying power, Israel has very specific obligations toward the land and population it occupies," the PLO statement read. "Unfortunately, Israel not only fails to fulfill these responsibilities, which are obligations under customary international law, but in fact continues to exploit Palestinian natural resources in the territory it occupies."

With regards to the besieged Gaza Strip, Hamdallah warned that the water crisis in the small Palestinian territory had reached a "very dangerous point," and that the PA was working hard to raise political and international awareness of the issue.

Hamdallah called on the international community to join a funders' conference in April and support the establishment of a desalination plant in Gaza projected to cost $600 million, while also demanding that Hamas give away the land where the plant is set to be built.

The Gaza Strip has suffered under an Israeli military blockade since 2007, when Hamas became the de facto ruling party in the territory. Residents of Gaza suffer from high unemployment and poverty rates, as well as the consequences of three devastating wars with Israel since 2008.

The UN has warned that the besieged Palestinian territory could become "uninhabitable" by 2020, as its more than 1.8 million residents remain in dire poverty due to the nearly decade-long Israeli blockade that has crippled the economy and the infrastructure.

In November, the World Bank stated that only 10 percent of the population in Gaza had access to safe drinking water.

In its 2013 report, Palestinian rights group al-Haq said that "Israel's illegal exercise of sovereign rights over Palestinian water resources... (is an) integral element of an institutionalized system of Jewish-Israeli domination over Palestinians as a group, in the form of a colonial and apartheid regime."

"Despite all the difficult challenges, our ambition and will are strong, as well as our trust in our partners and the international society who believe in our just cause," Hamdallah said.

“This strengthens our determination to build a better future for our generations, a future where Palestinian children will live a normal life just like other children around the world.”

29/03/2017 online at: https://www.maannews.com/Content.aspx?id=776184

Palestinian Authority pollutes Israeli water supply, again

Two months after the Civil Administration informed the organization Green Now that it had stopped the dumping of illegal waste near Givat Ze'ev, the organization's representatives learned that PA trucks had returned to dump waste on the road, which was also illegally built.

In an urgent letter sent by Green Now attorney Tomer Israel to the director of the control unit, Marco Ben Shabbat, he writes that the pollution is being carried out along the Ayalon river outlet, and the resulting waste water reaches the center of the country.

"There is no need to elaborate on the serious harm caused by this environmental damage. The severe damage is to the soil, vegetation and life, and the rehabilitation of the area is becoming more complex as the pollution continues," Israel wrote.

Israel demanded the "immediate cessation of the construction and expansion of the unauthorized road be undertaken as soon as possible in order to punish the offenders and act to rehabilitate the area."

Green Now first warned of the illegal waste dumping and construction in November.

30/03/2017 online at: http://www.israelnationalnews.com/News/News.aspx/227525

UNRWA and Switzerland: Working to support access to water in Palestinian refugee camps in Lebanon

The United Nations Relief and Works Agency and Switzerland are working indeed closely together to tackle one of the most complex issues affecting Palestine refugees in Lebanon – access to water. Switzerland has supported UNRWA in the implementation of its camp infrastructure improvement program since 2011.

We would like to take this opportunity to go on record, reflect our achievements and challenges, and correct inaccuracies reflected in an article published in the Daily Star on March 23, “Lots of aid for water, little to show.”

Access to quality water is a critical issue in Palestine refugee camps in Lebanon – poor quality water and water supply has an impact on the health of individuals and communities, and the cost of water is a significant burden on already impoverished refugee communities.

The introduction of new technologies, rehabilitation of existing structures and the development of sustainable management structures are required and need to be implemented in a tight resource environment. It is true, unfortunately, that there is no simple solution. However, working with the community and introducing new technologies is one way we have indeed made progress. Switzerland has invested $2.6 million in a project supporting

innovative approaches to providing safe water, and it has been facilitated by UNRWA and the Popular Committees in seven camps.

In Shatila, Burj al-Barajneh and Mar Elias, UNRWA, Switzerland and the Popular Committees have been working together to improve water production at its source, to plan and implement water treatment systems (through reverse osmosis), and to train local community representatives in the operation and maintenance of upgraded water plants.

Reverse osmosis systems that meet World Health Organization standards allow salty water to be treated to provide safe drinking water and to reduce the cost to the community of clean water. These have been installed in the three camps, on time, and as designed.

As the article notes, we have had success in Mar Elias camp – the system is now working and self-sustaining. This deserves to be celebrated; it is a unique example of sustainable community-managed service provision.

UNRWA and Switzerland are currently working to support Popular Committees to operate the reverse osmosis system in Shatila. Water taps are now installed in two sectors of four in Shatila camp and providing treated water. We anticipate that the results achieved in Mar Elias camp will be duplicated in Shatila very soon. In Burj al-Barajneh camp, the Popular Committee has recently re-established a water committee, and UNRWA and Switzerland will continue support for its implementation.

We acknowledge that the project still needs to be completed and we are committed to working with all those responsible to ensure that we soon reach the day when every Palestine refugee can have access to safe and clean water as is their right.

Water services in these camps are provided by, and are under the primary stewardship of, the camp's representatives/Popular Committees. UNRWA's water-related interventions in the camps aim to boost the capacity of the pre-existing system to deliver sufficient quantity of water of international standard for the benefit of the Palestine refugees that reside in them.

Each of the Popular Committees in the three camps receiving reverse osmosis systems is responsible for operating the water systems. We are committed to seeing the reverse osmosis systems achieve their full potential and have been working tirelessly since they were first installed to ensure that the Palestine refugees can benefit to the fullest extent possible from this world-class technology.

UNRWA would like to advise that its budget is under strain to meet the growing needs of the Palestine refugees at this time of regional crisis. The Agency's budget for 2017 is $115 million short of the $715 million required to meet the minimum operational requirements to serve the Palestine refugees in its five fields of operation (Lebanon, Syria, Jordan, Gaza and the West Bank).

The implication in the article that there is a surplus amount of humanitarian funding and that this is being misused is wrong and unfair.

UNRWA continues to call for regular and dependable funding to support its services to Palestine refugees in Lebanon from the international community.

The funds provided to UNRWA are tightly scrutinized by the donor community, including Switzerland. UNRWA can account for every dollar of funding it has received from the donor community.

UNRWA and Switzerland take all claims of corruption seriously. Claims or suggestions of corruption should be corroborated by evidence. UNRWA invites The Daily Star and all interested media to a full and open briefing on the project and to observe its implementation.

Anne Colquhoun is the communications manager at UNRWA Lebanon.

01/04/2017 online at: http://www.dailystar.com.lb/News/Lebanon-News/2017/Apr-01/400100-unrwa-and-switzerland-working-to-support-access-to-water-in-palestinian-refugee-camps-in-lebanon.ashx

Jordan's Irbid water network to be expanded

Construction on a project to install and renovate water networks to improve the water supply before the start of the dry season in Irbid is under way, a government official said on Wednesday.

The water network in three of Irbid governorate's districts will be covered by the project, which will cost JD800,000, funded by the German federal ministry for economic cooperation and development, the official at the Ministry of Water and Irrigation said.

"A total of 15,000 people will benefit from the project, under which new main and tertiary pipelines will be installed to serve more people, while deteriorated pipes will be replaced to improve supply and reduce water loss," the official told The Jordan Times.

The new network is scheduled to be ready in three months, the official said, noting that the project seeks to improve water supply in communities hosting refugees.

"Communities hosting Syrian refugees are suffering from decreased water supply due to the mounting pressure on resources and networks," the official said.

He underscored that the renovation and installation of new water pipelines seek to ultimately link Irbid and the northern governorates to the national water carrier project, which plans to transfer 10 million cubic metres of water to the north annually to address the water shortage as part of the Disi Water Conveyance Project.

The Disi project conveys 100 million cubic metres annually from the ancient Disi aquifer in southern Jordan to the capital via a 325-kilometre pipeline. The project started pumping water to Amman in 2013 via several water stations in Maan, Tafileh, Karak and Madaba.

The ministry considers the national water carrier project as a mid-term solution to the country's water crisis, according to the official, who noted that the desalination of Red Sea

water under the Red Sea – Dead Sea Water Conveyance Project is the country's long-term solution to water scarcity.

Under the first phase of the Red-Dead project, due to begin this year, a total of 300 million cubic metres of water will be pumped each year. Eventually, up to 2 billion cubic metres of seawater will be transferred from the Red Sea to the Dead Sea, according to the ministry.

A total of 85-100 million cubic metres of water will be desalinated every year, while seawater will be pumped out from an intake located in the north of the Gulf of Aqaba.

In addition, a conveyor will be extended to transfer desalinated water, as well as a pipeline to dump the brine into the Dead Sea in order to stop its constant decline, estimated at one metre every year.

30/03/2017 online at:

https://www.zawya.com/mena/en/story/Jordans_Irbid_water_network_to_be_expanded-ZAWYA20170331071451/

Deputy PM opens Gulf Water Conference

His Royal Highness Prince Khalifa bin Salman Al Khalifa the Prime Minister deputized Deputy Premier Shaikh Khalid bin Abdullah Al Khalifa in inaugurating the 12th edition of the Gulf Water Conference/Exhibition.

The event is organized by the Society for Water Sciences and Technology on March 28-20 and themed "Towards integrated water strategies in the Gulf Cooperation Council (GCC) countries."

The 12th edition is the fourth edition of the conference hosted in the Kingdom of Bahrain which attracts the participation of the GGC ministers, officials and members of the Water Resources Council as wells as experts from Bahrain and other GCC countries.

Shaikh Khalid expressed his gratitude and appreciation of the HRH Premier's consenting and task him to open the conference sessions reflects HRH the Premier's care and attention to water resources in Bahrain and the GCC countries.

The deputy PM said Bahrain has been one of the leading countries in the region that alerted to the importance of water resources arrangement and management according to scientific policy aimed to achieve the necessary sustainability and efficiency of this vital natural resource.

Law Decree 7/1982 was issued which established Bahrain's first Water Resources Council more than 35 years ago and defined the nature of the work of this Council, which has recently been restructured by HRH the Prime Minister's Edict 42/2015.

28/03/2017 online at: http://www.bna.bh/portal/en/news/777682

Egypt asks for more time to consult in River Nile water disagreement

The extraordinary Nile Council of Ministers (Nile-COM) meeting in Entebbe has rejected demands by Egypt for greater control of activities related to the flow of the river Nile.

Uganda, Burundi, Kenya, Tanzania, Rwanda, South Sudan and Sudan were unanimous on Monday in seeking a revision of proposals that Egypt, led by Minister of Water Resources and Irrigation Mohamed Abdel-Ati, had submitted to Nile-COM. Nile-COM is the supreme policy organ of the Nile Basin Initiative (NBI).

According to a statement from the Bile Basin Initiative, Egypt took note of the report on the responses by Nile-Com and asked for more time to study, consult and report back to Nile-COM on their formal position.

Chairman of the Nile-COM Cheptoris, who is also Uganda's Minister of Water and Environment, told the press after their meeting that their position is that all the countries have equal rights over the water under the Co-operative Framework Agreement (CFA).

"We have rejected demands by the Egyptian government to take full control of the Nile's water," said Sam Cheptoris, who is also Uganda's Minister of Water and Environment. "The other countries also have a say on how the water is used, as they have growing populations that need to use the water as much as the Egyptians."

The purpose of Monday's meeting was to facilitate the resumption of Egypt's full participation in NBI activities that had been frozen since 2010.

The meeting chaired by Cheptoris, was attended by Ministers in charge of Water Affairs from Burundi, Egypt, Rwanda, South Sudan and Sudan. The ministers received a report on the concerns of Egypt and accordingly responded to those concerns.

The Republic of Kenya was represented by the Principal Secretary for Water and Irrigation, while the United Republic of Tanzania was represented by the Deputy High Commissioner to Uganda. DR Congo did not participate.

Egypt froze its operations in NBI in 2010 after six out of 10 upstream states signed a Cooperative Framework Agreement (CFA) to seek more water from the River Nile — a move strongly opposed by Egypt and Sudan.

The Nile Basin Initiative has ten permanent members — Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, South Sudan, Tanzania, and Uganda. Eritrea has observer status.

The upstream countries said they were "tired of first getting permission from Egypt before using river Nile water for any development project like irrigation", as required by a treaty signed during the colonial era between Egypt and Britain in 1929. The new agreement is designed to eventually replace the Nile Basin Initiative.

One key recent concern by Egypt is the construction of the Grand Ethiopian Dam, which when complete will be Africa's biggest hydroelectric dam. Some experts argue that filling and operating the dam will reduce the amount of water that flows downstream to Egypt.

Museveni earlier this month, suggested that because the region's ministers were failing to resolve the dispute over the waters of the River Nile, a Summit of Heads of State will be considered to address the issue.

He was speaking at a joint press conference with visiting Ethiopian Prime Minister Hailemariam Desalegn at State House Entebbe after bilateral talks early this month.

Museveni clarified that Uganda had not yet ratified the "Nile Agreement" on the use of the River Nile waters, as it is pursuing a maximum consensus on the issue. He said the disagreement between Egypt and other nations on the River Nile is either due to misinformation or not enough discussion.

"The problem of Africa is not water. The problem of Africa is confusion, under-development and ideological disorientation. Instead of quarreling, we should agree on the Nile, develop the population so that we do not waste the water," Museveni said.

Responding to a question from the press on the "Nile Agreement", Museveni said "I have not yet ratified because I want to dialogue. To get a consensus, it is better we have more dialogue, more talking. If you preserve backwardness in Uganda, how does that help the Nile?".

28/03/2017 online at: https://www.independent.co.ug/egypt-asks-time-consult-river-nile-water-disagreement/

Egypt may face fresh water shortage by 2025

The ongoing reduction in Egypt's Nile fresh water may subject the country to fresh water and energy shortages by 2025, according to a report published in the Geological Society of America's (GSA) March issue.

It explained that any further decrease in Nile fresh water would be 'grave' because at best, the river barely supplies 97 percent of Egypt's water needs, and now provides only 660 cubic meters per capita, which is one of the world's lowest water shares.

"With a population expected to double in the next 50 years, Egypt is projected to reach a state of serious country-wide fresh water and energy shortage by 2025," the report said.

Since 2005, Egypt has been classified as a country that suffers water scarcity because water resources provide less than 1,000 cubic meters of fresh water annually per capita, while the population is expected to reach 95 million in 2025, which means the annual indivdual share will drop to 600 cubic meters per capita.

While in August 2015, the Central Agency for Public Mobilization and Statistics (CAPMAS) said that the fresh water per capita consumption declined dramatically, as the average per

capita consumption of fresh water in 2013-2014 was 103.4 cubic meters, compared to 116.3 cubic meters in 2012-2013, a decline of 11.1 percent due to the population increase.

Moreover the report pointed out that Egypt's Nile delta which is 1 meter above mean sea level at the Mediterranean coast is subjected to high rates of submergence due to three factors including the neotectonic lowering, compaction of Holocene sequences, and diminished sediment replenishment.

"Among present critical challenges are marked reduction of Nile water and sediment below the High Aswan Dam that can now reach the delta coast. It is expected that problems of fresh water and energy poverty in the lower Nile Basin are likely to be seriously exacerbated in years ahead by construction of Ethiopia's Grand Renaissance Dam (GERD)," the report said.

While on another side, the GSA report predicted a minimal relative sea-level rise of approximately 100 cm between now and 2100 at the Nile delta's coast; "Total relative sea-level rise by year 2100 could be further increased locally by neotectonic lowering as has occurred sporadically and affected the delta's margin in the recent past".

Due to higher rates of polar ice melt that in years ahead, may possibly accompany global warming, the study envisioned increase in the rates of eustatic rise in sea level.

The report believes that land subsidence along with the rise of the sea level led to intrusion of the saline water into the delta's aquifer which raised the researchers' concerns that the growing salinity levels and shortage of Nile delta freshwater may threaten the country of becoming uninhabitable by 2100.

In January 2017 the Bank Information Center released a report saying that rising sea-levels have already begun to impact the Nile Delta and in the near future could displace over 2 million people and destroy significant agricultural production.

Given that Egypt cosumes 85 percent of water on agriculture, the study pointed out that the high salinity levels in the delta plain weighed badly on the ability of the fertile soils to produce fresh water and food . "Most of the now-limited volume of Nile water that reaches the delta is diverted and channelized into the complex water distribution system, most utilized for agricultural, municipal, and industrial needs. Egypt now releases less than 10 percent of its water supply, a mostly saline and highly polluted aqueous mix, to the sea, with little sediment available for coastal replenishment," it said.

The researchers believed that the country presently needs much more fresh water than can be provided by the Main Nile. "Without it, the delta's coastal margin, for the most part depleted of its former sediment supply for replenishment, continues to erode locally and subside," the report said.

To ameliorate these salinization and coastal erosion problems, the report propsed that the country should construct "laterally extensive, continuous, and deeply emplaced protection structures along the delta's coastal perimeter" which onclude protection structures such as jetties, seawalls and breakwaters.

28/03/2017 online at: http://www.egyptindependent.com/news/egypt-may-face-fresh-water-shortage-2025

Four water wells dug in Morocco

Sheikh Thani bin Abdullah Foundation for Humanitarian Services (RAF) has dug four surface-water wells in the rural areas of Morocco.

More than 1,000 poor families benefited from the project. A delegation led by Dr Ayed bin Dabssan Al Qahtani, Chairman of the Board of Trustees, and General Director of RAF, inaugurated the project.

The project was financed by the Endowment Fund of Sheikh Thani bin Abdullah for charity works.

Cemented water tanks were built near the wells for the storage of water and to supply it to neighboring houses. More than 250 homes received water connection from a single well. The well will also provide water to small farms.

The villagers walked for long to bring water, said Dr Ibrhaim Talwi, Chairman of Al Salam Social Development Association, RAF's partner in Morocco. The project provided drinking water to the residents and saved the time of children who often reached their schools late as they went to fetch water, said Talwi.

29/03/2017 online at: https://www.thepeninsulaqatar.com/article/29/03/2017/Four-water-wells-dug-in-Morocco

Afghanistan- Kunduz defaulters warned of water supply cut

A number of government departments and powerful individuals owe millions of afghanis to the water supply department in northern Kunduz province, an official said Sunday.

Farid Gul Sakhizada, the water and canalization department acting director, told Pajhwok Afghan News a list of the defaulters, including government offices, powerful individuals and public representatives, had been shared with the governors house.

We warn the defaulters to pay their water bills or their names will be revealed to the public and their drinking water supply will be cut if we do not receive the payments, he said.

He said the water and canalization department provided potable water to people for 16 hours a day. He asked consumers to pay their dues on time for the sake of improvement in the service.

Currently 18,000 families in Kunduz City and districts use the departments water and the service is expected to be expanded this solar year, Sakhizada said.

On the other hand, Governor Asadullah Omarkhel asked defaulting families to pay their water bills or face the law.

Safiullah Amiri, a provincial council member, said many people would suffer if the water supply department disconnected the service to people as a result of non-payment of bills.

He said 50 percent of Kunduz people used the water supplied by the canalization department because water in deep wells was not healthy.

Hamidullah, a resident of Kudnuz city, said: The government should disconnect water supply to defaulters and take legal action against them. If the water supply is stopped, it would be injustice with poor people.

Each cubic meter of water is offered for 25 Afghanis to people, according to the water supply and canalization department.

03/04/2017 online at: http://menafn.com/1095366526/Afghanistan--Kunduz-defaulters-warned-of-water-supply-cut

Efforts required at all levels to avert potential water crisis

Pakistan is one of the few countries facing serious water shortage. The safe drinking water is not in access of majority of the population and hence, serious and collaborated efforts at every level are required to respond to the challenge and to prevent it from becoming a bigger crisis.

The panel of speakers comprising experts from water sector said this during the seminar 'Why Waste Water?' held as a collaborated effort by Sustainable development Policy Institute (SDPI) and Nestle Pakistan. In the wake of recent acute water crisis in Islamabad and public hue and cry for addressing the problem on water footing, the seminar assumed all the more significance and one could see a large number of people from civil society, councilors of Metropolitan Corporation Islamabad (MCI), CDA officials and general public attending the seminar.

Dr. Muhammad Ashraf, Chairman Council of Research in Water Resources, Ministry of Science & Technology (MoST), said water is the most precious resource on the earth and demand a careful usage of it. He said that besides conserving water, we need to release that the contaminated water was damaging our food as well as our eco-systems.

According to him, we have drinking water policy but there are gaps in implementation and thus it was time to raise awareness about the water crisis among all the stakeholders.

Dr Abid Qaiyum Suleri, Executive Director SDPI, conserving water was a challenge that could not be left upon a single stakeholder to deal with. Hence, he said, the government, CSOS, think tanks and corporate sector should join hands to find common solutions for this grave issue. He said that our collective efforts should respond to two basic paradigms i.e. sustainable production and sustainable consumption. Moreover, the availability of affordable safe drinking water to common people should also be worked upon.

Waqar Ahmad, Head of Corporate Affairs at Nestlé Pakistan on the occasion presented details about the efforts that were being carried out for water conservation at various levels. He said

that his company was working with government, academia, civil society as well as communities and industry to raise awareness about water conservation.

Other speakers including Wolfgang-Peter Zingel, a water expert at Quaid-e-Azam University, Rab Nawaz, Senior Director World Wide Fund for Nature (WWF), Pakistan and Dr. Imran Khalid of SDPI also covered various dimensions of water related issues in Pakistan. They said that water shortages and access to safe drinking water in Pakistan had become serious issue and coherent efforts were required to respond to this urgent issue.

29/03/2017 online at: http://pakobserver.net/efforts-required-at-all-levels-to-avert-potential-water-crisis/

India should sign a bakery-fresh Indus Water Treaty with Pakistan

India and Pakistan returned to the negotiating table over pending disputes on hydropower projects in Indus river systems. P.K. Saxena and Mirza Asif Baig – Indus Water Commissioners of India and Pakistan respectively, held talks with their counterpart on 20th March on water disputes between the two countries. India send a 10-member delegation to Islamabad for the two-day talks on 1,000MW Pakul Dal, 120MW Miyar and 48MW Lower Kalnai projects.

"The US has intervened at the highest level to help both countries resolve the issue. There will be secretary-level talks on the Ratle and Kishangangahydropower projects in Washington on April 11, 12 and 13,"said Pakistan Minister. But Pakistan's contention that 'US and World Bank helped to bring India to the table' is most laughable as neither USA nor World Bank can impose their will on India. You can bring a horse to water but you can't make him drink. Pakistan fears that Kishanganga will affect power generation at Jhelum. It is also keen to protect its rights on Ratle hydroelectric project which explains Pakistan's eagerness in welcoming Indian decision and the visit of the Indian delegation. However it is unclear and difficult to speculate at this stage whether or not the water talks could ultimately lead to the resumption of long-awaited composite dialogue between two hostile neighbours.

Pakistan has been persistently protesting over the design and construction of the two projects — the 330MW Kishanganga hydroelectric project and the 850MW Ratle hydroelectric project- in Jammu and Kashmir for impeding water flows to Pakistan. It objects to the project design and insists that India should share the design of the three proposed projects, so that if they are found to hurt Pakistan's interests, it could enforce its rights to raise objections at the appropriate forum. (Has Pakistan ever sent designs of its hydro projects to India?) Pakistan fears that Kishanganga Project would adversely affect the generation capacity of the 969 MW Jhelum Hydropower plant located downstream by about 10pc. It claims that the World Bank-sponsored International Court of Arbitration had given its verdict in Pakistan's favour over the Kishanganga project and demands its implementation. Pakistan recounts that 116 project inspection visits have been undertaken so far in over 56 years since the treaty was signed in 1960.

Contradicting minister's contention, a former water and power secretary disagreed that International Court of Arbitration did not entertain Islamabad's main objection over the diversion of the river waters by India as it could not establish through evidence its water uses from the Line of Control to Muzaffarabad. A high-level secretary-led Pakistan delegation had visited New Delhi in July 14-15, 2016 to discuss these projects but heat in the aftermath of Uri attack put paid to such efforts. Impatient Pakistan approached the World Bank in September, 2016 and prematurely sought intervention of the Permanent Court of Arbitration. While Islamabad has been demanding international arbitration through the World Bank — the so-called guarantor of the 1960 treaty – India upholds the intention to utilise its due share of up to twenty per cent of river water. Resumption of talks on water disputes is a positive way of resolving problems between both countries which should help farmers of Pakistan, Kashmir and Punjab. An amicable settlement will help the poor and downtrodden.

Indus Water Treaty was signed in 1960 under highly partial dispensation of World Bank which delivered a treaty that is highly partial towards Pakistan and goes totally against India's interests. Moreover, it is highly unreasonable objection of Pakistan to stall India's justified right to use its twenty per cent share of water stipulated under the treaty. The population of Kashmir has grown considerably during past 56 years; hence their increased requirement of water can not be denied. So many other things have also changed in the last six decades of Treaty's operation. All these render the Treaty totally out of tune with the times. If necessary, in national interest and in the interests of people of Jammu Kashmir, India should, free of undesired pressure from any third party like World Bank, independently negotiate and sign a bakery-fresh, brand new Indus Water Treaty with Pakistan.

02/04/2017 online at: https://www.newdelhitimes.com/india-should-sign-a-bakery-fresh-indus-water-treaty-with-pakistan123/

Pakistan on Verge of Disastrous Water Shortage

Two weeks ago a minor water crisis hit Pakistan. The flow in rivers fell below agricultural requirements. Then temperatures rose, glaciers melted, and river flows increased threefold, evading a disaster.

"Had the temperatures not increased for another 10-15 days, we wouldn't have been able to give the required amount of water to the provinces," said Mohammad Khalid Rana, the Indus Water Regulatory Authority spokesman.

That would have meant a delay in planting crops like cotton, sugarcane, and rice.

The fluctuation in river flows, blamed mostly on climate change, was not unprecedented. Nor was it unexpected. Yet its solution does not appear to be in the works, for the near future.

"If we want to ensure our food security and meet our climate change challenges, we'll have to increase our water storage on a war footing," warns Rana.

Even though Rana works for a government agency, his warnings appear to be making little difference in policy, according to independent water experts.

Pakistan started off as a water affluent country in 1947, with per capita availability of renewable water at more than 5,000 cubic meters, to the verge of becoming water stressed, with per capita availability down to almost 1,000 cubic meters. Mainly due to an explosive growth in population that now stands at an estimated 190 million people.

“Nobody in this country is doing anything to slow down the rate of population growth,” complained Shafqat Kakakhel, a former ambassador who has worked extensively on water related issues. “All other countries that were notorious for high population growth rates, Bangladesh, Subsaharan Africa, have done something ... we are doing absolutely nothing.”

More than 90 percent of Pakistan’s water resources are used in agriculture, which is much higher than the global average of 70 percent. The high consumption of water is blamed on outdated irrigation systems, loss of water during transmission, and the choice of crops.

Wrong choices

Pakistan mainly grows wheat, rice and sugar cane, which are all water intensive and some say the wrong choice for its agrarian economy.

“There is absolutely no justification in Pakistan for sugarcane,” according to Kakakhel. “Sugarcane is like growing trees, like growing a forest, in the amount of water it consumes. And the rate of recovery, the amount of sugar you get from a litre of sugarcane juice is the lowest in the world.”

Another water and energy expert Arshad Abbasi insisted Pakistan’s problem is less of resources and more of management of resources.

“More than 86 countries of the world are surviving on less water than us,” he said. They are doing so through efficient water management as well as modernizing their agriculture, he added.

“Over the next 10 years, the way the crops are becoming hybrid internationally, our farmers will not be able to compete,” he cautioned.

Giving an example of Indian Punjab, with topography similar to Pakistani Punjab, Abbasi explains Indian agricultural yield was two to three times higher than Pakistan.

Outdated infrastructure

Pakistani farmers' irrigation systems also require an unnecessarily high amount of water.

Fields are flooded with water from canals or tube wells. Other water scarce countries have moved to drip irrigation systems or sprinkler systems that use much less water. In addition, the waterways built to transport water from rivers are not lined, leading to transmission losses of up to 40 percent.

The problem also exists in modern cities, like Islamabad that was designed and built only half a century ago. Abbasi said mismanagement of water during transmission leads to 60 percent leakage in the capital.

Adding to the difficulties is the fact the country has not increased its water storage capacity for several decades.

“You get 145 million acre feet of water throughout the year in your rivers, 70-80 percent of that water comes during only 70 days of Monsoon, July, August and 10 days of September,” according to Rana of IRSA. “If you don’t have the capacity to carry over that water for the rest of the 295 days, you will always be in trouble.”

Farmers make up for the shortage by extracting water from the ground. In his analysis published in Development Advocate Pakistan, a UNDP funded publication, Shahid Ahmad, a water resources development and management expert, wrote Pakistan has around one million tube wells and any use beyond 10 percent of groundwater will result in rapid lowering of the water table.”

In the past 40 years, he added, groundwater contribution to agriculture has doubled and now provides 47 percent of water available to farms.

But the government complains of a lack of funds.

One major storage project, the Diamer-Bhasha Dam on River Indus, has been approved for almost a decade. But work on the almost $14 billion project was stalled because Pakistan failed to acquire funds from international financial agencies.

Prime Minister Nawaz Sharif approved a plan last December to raise domestic funding for the dam and ordered physical work to be started before the end of 2017. Construction of such projects usually takes 8-10 years. The dam was originally supposed to come online in 2019.

03/04/2017 online at: https://www.voanews.com/a/pakistan-water-shortage/3794176.html