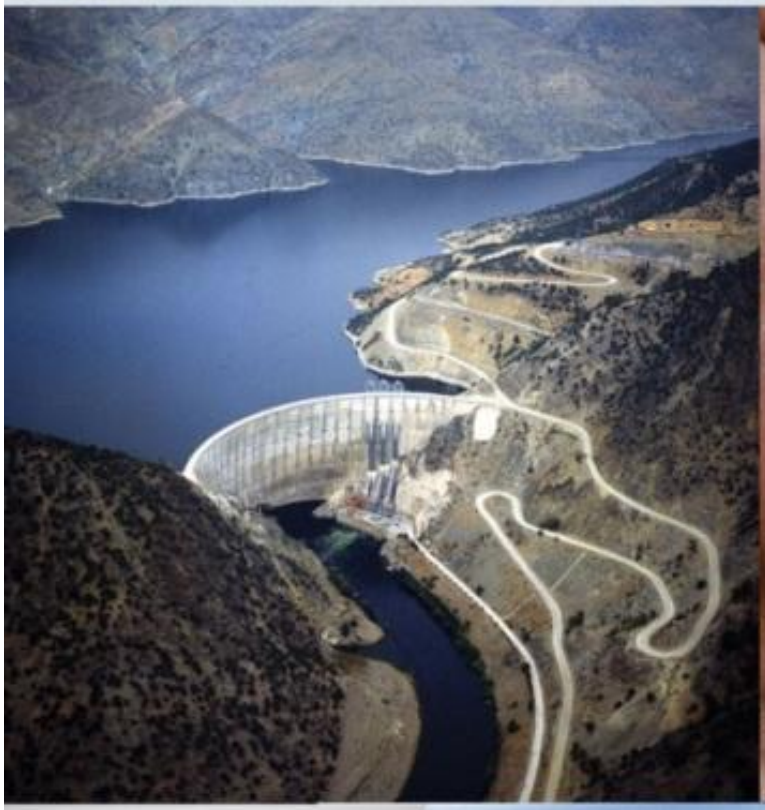


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





ORSAM WATER BULLETIN

12-18 September 2017

Iran's hydrodiplomacy in Euphrates, Tigris River basin

Iran is one of the most water-stressed countries in the world. Its water-related problems are largely structural problems which could not be overcome easily in a short period of time.

Although the adoption of more effective water management policies and the use of more sophisticated technologies could help Tehran to manage its water-related environmental and agricultural problems better, the Iranian authorities seem to be using hydrodiplomacy in a very unconstructive way in order to blame Turkey and other neighboring states for its own ineffective water management problems.

The underlying intention of Tehran seems to be one of the tactics to divert the public attention in Iran from its failures in water management policies, which also suffer from a number of setbacks since the early 2017.

Iran's unconstructive hydrodiplomacy has reached to a new level of blame-game since June 2017, when some of the Iranian authorities have pointed out Turkey, which is one of Iran's key regional competitors, as a scapegoat for Iran's own water-related environmental problems.

More specifically, the Iranian authorities questioned Turkey's existing dams and planned dam projects over the Euphrates and Tigris river basin. These dams are core elements of Ankara's comprehensive Guneydogu Anadolu Projesi (Southeastern Anatolia Project -GAP) which is based on a sustainable multi-sector and integrated regional development strategy.

The GAP, which envisages the construction of around two dozens of dams and hydropower plants each when it is realized in full, is intended to promote social development not only by modernizing the irrigation technologies of the regional agricultural sector but also by generating more electricity for the regional industrial sector as well as improving the health and education opportunities for the people in this region.

In early June, Iran's Minister of Energy, Hamid Chitchian linked the sand and dust storms in Khuzestan (Ahwaz for the ethnic Arabs in this region) Province, which is located in the southwestern part of Iran, to Turkey's policy of dams' construction.

For Chitchian, these dust storms are caused by dried wetlands in Iraq which stems from the declining quantity of water released by Turkey to Syria and Iraq due to its large dam projects. Hamid Chitchian claimed that Turkey's dams on the Euphrates and Tigris river basin have adverse effects on the environmental situation in the southwestern parts of Iran.

More importantly, Chitchian's statements were also echoed by Iran's President Hassan Rouhani during the opening ceremony of the international conference on "Combating Land Desertification and Dust Storms" which was held in Tehran on 3-5 July 2017.

Rouhani criticized Ankara's plans of constructing more dams in the Euphrates and Tigris river basin without naming Turkey. He pointed at Turkey by calling it a neighboring country,

which has built dams without taking their environmental impact into account. The Iranian president also speculated that these dams harm regional environment, including that of Iran.

Nevertheless, this blame-game diplomacy of the Iranian authorities is not based on convincing evidences. In fact, there is no direct causal link between Turkey's dams in the Euphrates and Tigris river basin and the dust and sand storms in Iran's Khuzestan province.

In other words, there is no scientifically observed relationship between Turkey's dams and Iran's desertification problem, which is the main source of dust and sand storms.

The existing literature on this topic suggests that the sand and dust storms in Iran's Khuzestan province seem to originate from long-time existing, but not newly formed, deserts in this province.

Actually, in the last two or three decades during which Turkey's dams have been operational, newly formed deserts which could generate such dust and sand storms, are not observed in this part of Iran.

In the absence of scientifically proven objective data on the sources and characteristics of desertification as well as dust and sand storms in Iran's Khuzestan province, the Iranian claims turn out to be politically motivated subjective statements against relatively more effective water management policies of Turkey, which is also Tehran's one of the key competitors in regional politics in the Middle East.

Contrary to these claims of the Iranian authorities, Turkey's dams are not part of the regional water-related problems, but rather parts of the solutions to the regional challenges of the water management in the Euphrates and Tigris river basin.

These dams regulate water flows and enable the most effective use of water resources for agricultural productivity as well as socio-economic development of the Euphrates and Tigris river basin in Turkey.

They also provide the other riparian countries of Iraq and Syria with regular and sufficient quantity of water even at times of dry weather conditions and droughts.

Similarly, these dams also play a crucial role in preventing floods in these riparian countries when the river basin gets excessive rainfall.

Regarding these risks of droughts and floods, Turkey's dams contribute positively to the water management in both Iraq and Syria directly and to the environmental situation in Iran indirectly.

According to the existing literature, the underlying reason behind the environmental crisis in Iran's Khuzestan region seems to be the late Iraqi President Saddam Hussein's radical policy of drying up of the swamplands in the southern part of Iraq, which caused the intensification of the dust storms in the neighboring Khuzestan region.

In addition, there are also some structural factors which intensify Iran's desertification and other water-related environmental problems. Among these problems, high population growth rate in Iran increases the demand for water as well as water consumption levels.

Another structural problem seems to be the lack of investment in modern technologies and irrigation projects in order to increase the effective use of water resources for enhancing agricultural productivity. In this sense, Iran's ineffective water management policies play a decisive role in the worsening water-related environmental problems of Iran.

Last but not the least factor that contributed to the deteriorating environmental situation in Iran's Khuzestan province seems to be the construction of a number of dams and canals in order to divert the water resources of the Karun River in this region to Zenda Rud River in Isfahan region.

This controversial project seems to have also contributed to the land desertification as well as dust and sand storms in Iran's Khuzestan region.

More significantly, a closer look at this last factor could be very helpful in explaining why the Iranian authorities prefer to blame on Turkey's existing dams and planned dam projects for the environmental problems in Khuzestan (Ahwaz for the ethnic Arabs) Province, which is densely Arab populated part of Iran.

Although there is no convincing evidence for this either, one could even allege that the blame-game diplomacy of the Iranian authorities might serve to contain the dissatisfactions of the ethnic Arabs, who form the majority of the population especially in the rural parts of this province, over the water diversion from Karun River to Zenda Rud River.

In other words, Iran's domestic need to prevent the use of water-related environmental problems for ethnic mobilization among the local Arab community might have played a role in Iranian blame-game diplomacy vis-à-vis Turkey in the Euphrates and Tigris river basin.

To conclude, Iran's blame-game hydrodiplomacy is not a sustainable and constructive approach to Iran's diplomatic relations with Turkey and its other neighbors.

Iran could cope with its water-related environmental problems by modernizing and improving the effectiveness of its own water management policies.

13/09/2017 online at: http://aa.com.tr/en/analysis-news/iran-s-hydrodiplomacy-in-euphrates-tigris-river-basin/909209

Future Wars in Mideast Probably on Water: Iranian Diplomat

Deputy Foreign Minister for Legal and International Affairs Seyyed Abbas Araqchi says the issue of water, water resources, coping with water scarcity, as well as the use of common water areas have always been top on the agenda of Iran's foreign ministry.

"In the past few decades, water has become a global concern and in line with it, Water Diplomacy and a science called Water Policy or Hydropolitics have come into existence, and

they are currently being taught in some of the world's leading universities," Araqchi stressed in a Farsi interview with ISNA on water diplomacy.

"In recent years, water and its scarcity have turned into a sensitive and serious issue in our country, and has even become a security concern."

"Considering the importance of this issue, the foreign ministry has tried to focus more on water diplomacy. In this context and in the light of the legal and international dimensions of water diplomacy, the matter has been given more attention in the Legal and International Affairs Department of the Foreign Ministry," the Iranian diplomat added.

In response to a question on the lack of freshwater in the Middle East, he said it is possible to see a water conflict in the region in the near future.

"Water war is not a new issue; it has always existed and has been considered for years as a serious threat in the Middle East. It is likely that future wars in the region would be over water, but history has many lessons for us. According to historical experiences, the grounds for a war on the issue of water can lead to cooperation in this regard, and for the same reason, water has become very important in foreign policy."

"International assessments show that by 2025, the entire Middle East region will be officially recognized as a dry area, and Iran will not be an exception. This situation will become much worse by 2050, and water scarcity next to drought will become a very serious issue for Middle Eastern countries, including Iran," he said.

Araqchi also underlined that even some parts of Iran may be completely or largely abandoned because of this issue.

This official added that there are two solutions regarding this global crisis. "The first step is to provide water supplies from abroad, and the second is the management of water resources inside the country."

Araqchi said that in both ways, foreign policy plays an important role.

In response to a question on how it is possible to provide water from abroad, he said such ideas exist in Iran as well, but how physically these ideas can be operational is another issue.

"At the moment, there are a number of countries that suffer from water scarcity, and they are transferring water into their land from water-rich countries through digging special water channels," he pointed out.

16/09/2017 online at: http://ifpnews.com/exclusive/future-wars-mideast-water/

Aras River Not Decontaminated Yet

While decontamination measures are underway, laboratory studies on the waters of Aras River in northwestern Iran have revealed no signs of heavy metals in the river's water, an official at the Department of Environment announced.

Shina Ansari, the head of DOE's Environmental Monitoring Office, explained that heavy metals exist in the sediments of the riverbed, but the pollution has not leaked into the water, IRNA reported.

“The pollution in sediments is due to the mineral waste from copper and molybdenum mines located upstream and household waste released into the river,” she said.

Aras River has long been struggling with pollution caused by effluents from Armenian power plants and aluminum factories, compelling the officials to think of a solution.

In 2013, the Iran-Armenia joint project of monitoring Aras water became operational in 17 stations across the provinces of Ardabil, East and West Azarbaijan.

As per the agreement, Iranian and Armenian experts constantly analyze the chemical features of the river's water and the amount of heavy metals, including arsenic, cadmium, and lead.

Aras River’s water surface, riverbed and sedimentation are monitored regularly based on standards approved by the two sides. Armenia has agreed to establish three wastewater treatment centers to prevent contamination.

“So far, Armenia has built one treatment plant and two others are currently under construction,” Ansari said.

According to the agreement, Armenian ministers of energy and environment, Yervand Zakharyan and Aramayis Grigoryan, respectively have pledged to completely decontaminate the river by 2017. Nine months from the deadline's expiration, contaminants have not yet been completely removed.

Authorities believe that the river’s pollution poses serious health risks to people living in northwestern Iran, particularly in Moghan Plain in Ardabil Province where cancer fatality rate is high. Aras River flows through Turkey, Armenia, Azerbaijan and Iran. Its Iranian sections pass through the provinces of East and West Azarbaijan and Ardabil.

18/09/2017 online at: https://financialtribune.com/articles/people-environment/72602/aras-river-not-decontaminated-yet

Chicago mayor signs water and innovation deals in Israel

Chicago has abundant water, from the Chicago River to Lake Michigan. Israel is situated in the desert-like Middle East where water is a precious commodity. But it is water that has brought the city and the country together in several new ventures.

Chicago Mayer Rahm Emanuel visited Israel this week to sign agreements with Ben-Gurion University of the Negev and the Technion – Israel Institute of Technology focusing on water research.

The Technion agreement is with Chicago's "Current," a platform for positioning the Windy City as "a global leader in developing and deploying technology for the next-generation of water infrastructure."

The Technion will collaborate with Northwestern University, the University of Chicago, the University of Illinois, the Metropolitan Water Reclamation District of Greater Chicago and the Chicago Department of Water Management.

Emanuel said he wanted Chicago wanted to partner with Israeli institutions because of the country's high level of expertise in water reclamation, recycling, desalination and purification.

"Working together to develop solutions to water challenges will strengthen economic development and protect public health in both Israel and the US and far beyond," Emanuel said.

He traveled from the Technion in Haifa down to Beersheva, where BGU's Zuckerberg Institute for Water Research and Northwestern University's Water Research Center entered into a collaboration agreement involving student exchanges, post-docs and new research projects.

"We are bringing together the heartland of America with the Holy Land," Emanuel quipped. "We are bringing both the Mideast and the Midwest together."

BGU had collaborated previously with the University of Chicago in a project led by Prof. Moshe Gottlieb from BGU and Prof. Matthew Tirrell from UC. Emanuel was present during the signing of that agreement in 2013.

The mayor also signed a cooperation partnership with the city of Tel Aviv focusing on general innovation and technology.

Five startups associated with the SOSA tech hub in Tel Aviv's trendy Florentin neighborhood made presentations to Emanuel and his delegation.

The five companies included Optibus, a vendor of mass transit software based on artificial intelligence; POP Medical Solutions, which has developed the FDA-cleared NeuGuide for treating pelvic organ prolapse; Water-Gen, which is building a "plug and drink" technology to extract water from the air; Myndyou, a data-driven platform for monitoring Alzheimer's patients and improving their care; and PixCell Medical, which produces portable diagnostic products for blood testing.

14/09/2017 online at: https://www.israel21c.org/chicago-mayor-signs-water-and-innovation-deals-in-israel/

180,000 Palestinians in Nablus suffering acute water shortage since June

Residents of Nablus in the occupied West Bank are suffering from increasing water shortages, according to a new report by B'Tselem.

The rights group reported: “Israel prevents the Palestinians from digging new wells and refuses to sell them more water to ease the suffering.” Consequently, “in summer residents must purchase water privately, at high costs, and use it for essential needs only.”

Israel abuses its control of all water sources between the Jordan River and the Mediterranean by subjecting Palestinians to a permanent shortage of water.

In 2014, Palestinian water consumption in the West Bank was about 80 liters per person a day, lower the than the 100-litre minimum recommended by the World Health Organization. That same year, “average water consumption for household, commercial and industrial needs in Israel was some 287 liters per person a day – almost four times the average Palestinian consumption.”

B’Tselem notes that “Israel impedes the development of new Palestinian water infrastructure, destroys and confiscates existing infrastructure, and limits Palestinian access to local water sources such as fresh water springs, drilled wells and rainwater cisterns”.

“Together,” the NGO concludes, “these factors have created a permanent water shortage for Palestinians in the West Bank.”

This “state of affairs clearly illustrates how Israel views water – and all other resources in the West Bank – as its sole property, to be used for Israeli needs only, at the expense of Palestinians.”

14/09/2017 online at: https://www.middleeastmonitor.com/20170914-180000-palestinians-in-nablus-suffering-acute-water-shortage-since-june/

Israeli water treatment firm to help US Prepare for hurricanes

The next time a hurricane rolls around, the water could be safe to drink. And that’s due to the efforts of one Israeli-founded company.

“Because of a natural or manmade disaster, you have the risk of your No. 1 water treatment plant being totally out of commission,” said Henry Charrabe, the CEO of the Israeli-founded Fluence, a water and wastewater treatment company..

In many American municipalities, there is only one central water treatment center and if that plant gets flooded or loses electricity, the water in the city may no longer be drinkable.

In response to the rising threat of climate change and ailing infrastructure, Fluence sells portable and prefabricated water and wastewater treatment systems that have been installed worldwide. That could prevent a repeat of officials ordering residents to boil water because a treatment plant was flooded or lost electricity “We put the treatment unit at the site of the customer so you save on the infrastructure cost and you also save on the pumping cost for distributing it, that’s in the US,” Charrabe said, speaking at the biannual WATEC water-technology conference in Tel Aviv on Wednesday.

With a market value of $250 million and expected profits of $90m. this year, Fluence was formed in 2017 after Israeli wastewater company Emefcy was merged with RWL Water, owned by Jewish billionaire and philanthropist Ronald Lauder.

The company's mobile and prebuilt water treatment plants which can be installed quickly and filter some 1,000 to 1,500 cu.m. of freshwater water daily, or enough to meet the needs of 10,000 people to wash, cook, bathe for 24 hours.

Its wastewater cleansing module, the Membrane Aerated Biofilm Reactor, allows smaller cities to quickly and easily deal with sewage using much lower energy levels.

Encased in a spiral, steel-framed container, it uses water-tight membranes to defuse oxygen into the sludge without a high-energy compressor.

Such compact water treatment filters use 80% less energy than regular plants.

The decentralized water and wastewater market is worth $13 billion, with countries like China increasingly interested in installing such portable treatment plants in order to treat rural wastewater. Such packaged, decentralized plants are much more economical and easier to install, which is where Fluence comes into the picture.

Today, the company's headquarters is in New York and its stock is listed in Australia, but a third of the company's staff is Israeli. All of the company's research and development is based in Caesarea, north of Tel Aviv, with an assembly line in the Galilee town of Karmiel.

Fluence also specializes in desalinization, waste-to-energy and water reuse and recovery. The company has designed and built some 7,000 installations worldwide.

Part of Fluence's growing market share is due to Israel's reputation in the agricultural-technology field. That allows local water and wastewater treatment companies to maintain a competitive edge.

Charrabe, a German-American who volunteered on a kibbutz and met his wife in Israel, is personally committed to trying to help the region.

"It's like what cars in Germany used to be or engineering in the US. If you say that you're an Israeli water treatment company that already has a lot of gravitas. Israel is known for reusing 90% of its wastewater, for having innovative technology.

And for a country that was based in the Negev desert, it's now a net exporter of water, which is as unusual as it can get. It's become a name," he explained.

"Water has always been the key to peace in Middle East," Charrabe said, referring to how Lauder, the company's co-owner, has invested millions in different peace initiatives between Israel and the Palestinians.

"That's a hope of mine here."

15/09/2017 online at: http://www.jpost.com/Business-and-Innovation/Israeli-water-treatment-firm-to-help-US-prepare-for-hurricanes-505157

Gaza electricity crisis causing rise in sea water pollution

Gaza Strip has been going through one of its most severe humanitarian crisis's for the past few months, a crisis that has nothing to do with bombs.

Gaza's power supply has dropped back to being capable of supplying only 2 hours of electricity to Gaza's residents per day.

The drop in power has been a major contributor to Gaza's inability to treat water being dumped into the sea.

Right now Gaza's pollution is at a level over 300ml per litre currently and has consistently been on the increase throughout the year, that means that Gaza is polluting 240ml more than the internationally accepted standard, yet neither Israel (which have a legal obligation to prevent this), nor any international body do a thing.

Over 100 million liters of un-treated water is being released into Gaza's sea, making its 25 miles of beach an un-swimmable one.

After the death of 5 year old Gazan boy – due to his choice to swim with his relatives, back in July – many Gaza residents think twice about entering the sea, but it doesn't stop all as the sea is the only option for a cool down in such intense heat.

18/09/2017 online at: https://www.almasdarnews.com/article/gaza-electricity-crisis-causing-rising-pollution-sea-water/

Jordan seeks to become an oasis of water-saving technology

For centuries, the land now called Jordan has been one of the world's driest places. Today, the nation's water supply is more constrained than ever: wells are running dry, groundwater is increasingly polluted and precious water leaks from old pipes. Waves of refugees are stretching resources even thinner: Jordan's population has swelled from 5.9 million in 2006 to 9.5 million in 2016.

The average amount of water available annually per person is less than 150 cubic meters — one-sixtieth the amount that is available to a person in the United States. Researchers, who expect the situation to worsen as temperatures rise and precipitation levels drop with climate change, are coming to Jordan to collaborate on water-technology research and development.

Samer Talozi, a water expert at the Jordan University of Science and Technology in Irbid, says that the country has become an inter-national test bed because of the environmental, structural and social challenges to its water supply. "If we can build systems that work in Jordan," he says, "they will work everywhere."

But not all technologies evolving in Jordan are new. In August, Hassan Fahad al-Rhaibeh, the mayor of the Jordanian town of Umm el-Jimal, was re-elected after pledging to restore reservoirs built by Arabs as early as ad 90. Winter rains and run-off from mountains in Syria — 10 kilometers to the north — once streamed through canals and into basalt-block reservoirs, which stored the water throughout parched summers. People maintained the system for 800 years, through the Roman, Byzantine and Islamic eras, until the town was abandoned around ad 900. Today, those living around the ruins rely almost entirely on deep wells drilled after 1990. They complain that the well water smells and tastes salty.

Mayor al-Rhaibeh recalls an evening in November 2015, after archaeologists and engineers had restored the first of the original reservoirs — a rectangular basin the size of four Olympic swimming pools. “About one hour before midnight,” he says, “water began streaming into the reservoir, and I stayed up late into the night to watch it.”

The project continued this summer under the watch of Bert de Vries, an archaeologist at Calvin College in Grand Rapids, Michigan. Engineers from the college’s Clean Water Institute mapped which canals channel the most run-off. Al-Rhaibeh expects that, once completed, the system will provide 10% of the supply needed to support about 4,000 people in the community surrounding the ruins. “It’s becoming apparent that if people don’t return to some reliance on surface water, they will run out and farms will dry up,” de Vries says.

In 2012, a report from US intelligence agencies predicted that water scarcity, coupled with poverty, social tensions and weak political institutions, could lead to conflict in the Middle East. It was not the first such warning. The US Agency for International Development has invested more than US$700 million since 2000 to develop water technology in Jordan, as a way of preventing that outcome.

Researchers are choosing to work in Jordan, as opposed to other arid nations, because of its geopolitical stability and support from the Jordanian government. Talozi spent this summer teaching officials and private-sector staff how to use modelling software from the Jordan Water Project, an international consortium of researchers based at Stanford University in California. The software takes into account an array of factors, including urban growth and water prices, to guide decisions about repairing or replacing water infrastructure and siting developments that might pollute groundwater, such as a refugee camp or a landfill. “Previously, there was software for the management of water according to physical parameters like precipitation, surface run-off and the efficiencies of the system,” Talozi says, “but we wanted software that not only recognizes physical elements, but institutional behaviors that govern those systems, and considers economics.”

He is also collaborating with scientists at the Massachusetts Institute of Technology in Cambridge on a low-pressure ‘drip’ irrigation technology that’s thrifty with water and requires about half the energy of standard drip irrigation. The team has tested its technology in olive, citrus and pomegranate farms this summer, and plans a version in the next two years that will be powered by solar energy.

And the Helmholtz Centre for Environmental Research in Leipzig, Germany, is collaborating with the Jordanian government to test small, soil-filtered waste-treatment facilities that could lessen the leakage and inefficiencies seen in large plants, which can pollute nearby groundwater. Securing Jordan's water supply would also benefit Germany, says Roland Müller, a biotechnologist at Helmholtz. "The flow of Syrian refugees to Germany more or less started when camps in Jordan could not support them."

Talozi says the country might take its cue from ancient systems in Petra and Umm el-Jimal and store more rain — although these conduits alone cannot support today's population. Migrants are not the only cause of shortages, he says. "Jordanians want to go to the grocery store and buy apples and tomatoes and lettuce year round, not just eat wheat and barley."

But to de Vries, the resurrection of ruins in Umm el-Jimal serves as a hopeful reminder that people have survived harsh conditions by ingenuity. "As civilizations rotated through this land, one constant over time is the reuse and reliance of the water system," he says. "People in antiquity were not backwards; they were clever and thought of a technology we can revive."

13/09/2017 online at: http://www.nature.com/news/jordan-seeks-to-become-an-oasis-of-water-saving-technology-1.22598

World's largest water reservoirs nearing completion in Qatar

Construction of five mega-reservoirs that aim to boost Qatar's emergency water supply is now 70 percent complete, Kahramaa officials have announced.

When finished, they will be among the world's largest reservoirs, with a capacity of some 100 million gallons of water each.

They aim to supply Qatar's population a seven-day strategic reserve of freshwater.

Currently, the nation has at best a two-day emergency supply. This is problematic given Qatar's growing population, which has put an increasing strain on the country's resources.

Work on the $4.7 billion Water Security Mega Reservoirs Project began in 2015, with the initial phases slated to be done next year.

The reservoirs are being built in Um Baraka, Um Salal, Rawdat Rashid, Abu Nakhla, and Al Thumama.

Progress report

According to the Qatar Tribune, more than 70 percent of reservoir construction has been completed and the facilities are now in the testing phase.

Additionally, water pipelines work is 95 percent complete and is now in testing phase.

Now, attention is being turned toward linking the five reservoirs through water pipelines that span a distance of up to 660km.

The newspaper reports that these pipelines are being imported from France and Japan.

After the reservoirs are complete, Kahramaa aims to construct additional pipelines and 16 more reservoirs at the initial five sites to achieve an "ultimate total storage capacity of about 3,800 million gallons of water," it said on its website.

This work won't begin until after 2020, however.

17/09/2017 online at: https://dohanews.co/worlds-largest-water-reservoirs-nearing-completion-in-qatar/

Spain's FCC to build $320m water treatment plant in Egypt

Once completed the facility will treat 1.6 million cubic meters daily and serve more than six million people. The project will be delivered in collaboration with FCC Construcción.

FCC said the economic situation in Egypt necessitated changing a previous agreement with the Egyptian government, which involved a 20 year concession.

Egyptian contractor Orascom is part of the consortium, and the African Development Bank is financing project.

The contract includes a three-year operation and maintenance period. The initial agreement with the Egyptian government included an operating concession for 20 years but the economic situation in Egypt led the government to seek to maintain direct control of the scheme.

This is the third major project undertaken by FCC Aqualia in Egypt after it was chosen in 2010 to design, build, finance and operate for 20 years the New Cairo wastewater treatment plant (pictured). Located in the capital of Egypt, this was the first contract awarded in the country as a public private partnership (PPP).

15/09/2017 online at: http://www.globalconstructionreview.com/news/spains-fcc-build-320m-water-treatment-plant-egypt/

Tobruk water crisis said to be imminent

Tobruk's sole working water treatment plant is again on the verge of collapse meaning that some 400,000 people could in the town could soon be without safe drinking water.

The town's problems are nothing new. It has long been short of water. But since 2015 outdated and poorly maintained equipment has been threatening disaster. The steam desalination plant is currently working at only ten percent capacity. But now the boss of the water plant Fatalla Selim is warning that he is running out of chemicals needed to make water potable. Selim told the Turkish broadcaster TRT that for over a year he had been pressing for funds to buy new supplies but, he said, "no one is listening".

His colleague Tarek Al-Safi at the Tobruk Water and Sanitatiion Company warned “This is a real crisis and could stop the only steam plant we have in the town. This could hit water supplies to more than 400,000 people. The plant is working at only ten percent of capacity”.

Last November, Beida government premier Abdullah Thinni called an emergency meeting of water chiefs to find out what was going wrong. The reality was that, as with state electricity company GECOL throughout Libya, there has been a dearth of government funding simply to maintain let alone expand capacity. In January 2016 Thinni had allocated LD6.5 million for urgent maintenance, largely at the Tobruk plant where cracked pipes and boilers had slashed output. In the event only LD1.3 million was ever paid.

Tobruk municipality has been looking at digging new wells and even building a brand new desalination plant able to produce 150,000 cubic metres of water daily. But with no central funding and no way to raise the money itself, such schemes have remained pie in the sky.

17/09/2017 online at: https://www.libyaherald.com/2017/09/17/tobruk-water-crisis-said-to-be-imminent/

Indus Waters Treaty: Second time in two months; India and Pakistan hold talks

India and Pakistan have submitted themselves to the World Bank for the second time in two months, to help resolve a dispute over their respective interpretation of the Indus Waters Treaty, signalling a softening of Prime Minister Narendra Modi’s tough line on Pakistan. The presence of Deepak Mittal, joint secretary in charge of the Pakistan desk in the Ministry of External Affairs, in the delegation led by Water Resources Secretary Amarjit Singh is significant. The World Bank-brokered water talks with Pakistan are taking place over Thursday and Friday, in Washington DC. Since the Pathankot and Uri attacks last year, Delhi has discouraged any kind of dialogue unless cross-border terrorism comes to an end. Reacting to India’s participation in the talks, Bimal Patel, member of the National Security Advisory Board (NSAB) and Law Commission, told The Indian Express that he “doesn’t know what the government’s intention is, but it is uncalled for to participate in such meetings to perpetuate a third party role”.

Patel said he was speaking in his personal capacity. The five-member NSAB is led by National Security Advisor P S Raghavan. “I don’t know why we are going to the World Bank. We should not go to the World Bank. I fail to understand why they (the government) are doing this, inviting the World Bank to play a role which should not be there,” said Patel. The dispute is over the construction of two hydroelectric plants on the Kishenganga (330 MW) and Ratle (850 MW) tributaries of the Jhelum and Chenab respectively. Pakistan complained that India was violating the 1960 Indus Waters Treaty, signed under the aegis of the World Bank, because it was given unrestricted use of the waters of the two “Western Rivers” in the Indus system under the treaty.

But the treaty also allows other “uses”, including the construction of hydro-electric plants. India has taken this to mean that it can not only construct the Kishenganga and Ratle dams, but also several other projects, such as the 1000 MW Pakal Dul, 120 MW Miyar and 48 MW

Lower Kalnai on various tributaries of the Chenab. Pakistan objected and asked the World Bank to set up a Court of Arbitration; as the upper riparian state, India was not adhering to its treaty obligations, Pakistan said. India, meanwhile, requested the World Bank to appoint a neutral expert to look into the matter.

Asked about the Bank's role in the India-Pakistan talks and what it expected from them, Bank spokesperson Elena Karaban told The Indian Express: "The meetings between India and Pakistan on the technical issues of the Indus Waters Treaty are taking place in Washington, DC on September 14-15. These meetings are a continuation of a discussion on how to safeguard the treaty for the benefit of the people in both countries."

Delhi's decision to drop its earlier objections and agree to participate in a Bank-brokered dialogue with Pakistan in August in Washington DC surprised all sides. Senior Bank officials even complimented both delegations for displaying a new spirit of "goodwill and cooperation".

Deepak Mittal, the MEA official, was present in those talks as well. His participation in this second round is being seen by all sides as a signal that the Modi government is softening its position on Pakistan.

15/09/2017 online at: http://indianexpress.com/article/india/indus-waters-treaty-second-time-in-two-months-india-pakistan-hold-talks-4844218/

Pakistan could face mass droughts by 2025 as water level nears 'absolute scarcity'

Pakistan could face drought in the near future according to experts in the country, who have warned the country will approach the "absolute scarcity" level of water by 2025.

The Pakistan Council of Research in Water Resources (PCRWR) made the grim forecast in a new report which claimed the country touched the "water stress line" in 1990 before crossing the "water scarcity line" in 2005.

An unnamed government official in the south Asian country told Pakistani media that urgent research is needed to find a solution – but warned of a lack of available government funds.

Pakistan has the world's fourth highest rate of water use but is dependent on water from a single source – the Indus River basin in India – and rainfall has been steadily declining, with some experts claiming this is down to climate change.

An estimated million people live in Pakistan's largest city, Karachi – but very few have running water after the land has gradually dried up, forcing many residents to queue for hours for supplies to be given to them.

Shamsul Mulk, former chairman of the Water and Power Development Authority in the country, said water policy is simply non-existent in Pakistan. Policymakers act like "absentee landlords" over water, he added.

“Because of this absentee landlordism, water has become the property of the landlords and the poor are deprived of their share."

Experts say that population growth and urbanisation are the main reasons behind the crisis. Some say the issue has been exacerbated by climate change and poor water management.

Energy sector expert Irfan Choudhry said the authorities appear to lack the political will to tackle the problem.

“There are no proper water storage facilities in the country. Pakistan hasn't built new dams since the 1960s. What we see is political bickering over the issue. The authorities need to act now. We can store water for only 30 days, and it is worrisome,” Mr Choudhry told local media.

Some politicians have warned of “massive corruption” in the water sector with some seeking to profiteer from the scarcity of a vital resource.

Others blame India for the Pakistani water crisis and claim that New Delhi is failing to uphold the terms of the Indus Waters Treaty brokered by the World Bank in 1960 which regulates control of the rivers between the two nations.

15/09/2017 online at: http://www.independent.co.uk/news/world/pakistan-droughts-2025-warning-water-levels-a7949226.html

Pakistan is a water-stressed country and an innovative mindset is needed

Despite having one of the world’s largest glaciers, Pakistan is at risk of water scarcity and is among the 36 most water-stressed countries in the world. Per capita water availability in the country has declined from 5,260 cubic meters in 1951 to below 1,100 cubic meters in 2010.

This is an alarming indicator of falling into the category of water-stressed countries with continuation of the trend ultimately leading to water scarcity.

Factors contributing to increased water demand include rapid increase in population, low water-usage efficiency, an extremely water-intensive economy and poor management of water resources and absence of a national water policy.

Water scarcity feared to affect upcoming crop sowing

As is the case in most countries of the world, Pakistan’s agriculture sector is the largest consumer of water and hence, a major cause of water shortage. Resultantly, it is extremely important to devise mechanisms and methods for making crop irrigation more efficient to leave room for domestic and industrial supply.

By 2025, the demand for water is expected to increase up to 274 MAF with the supply remaining constant at 191 MAF, causing a demand-supply gap of 83 MAF.

Pakistan has the world's fourth-highest water-usage rate. Pakistan's economy is the world's most water-intensive economy; which means that the amount of water utilised in cubic metres per unit of GDP is the world's highest, which signifies that productivity/efficiency is the lowest in the world.

As Pakistan uses 93% of its freshwater resources on agriculture; there is a need to improve the efficiency rate which currently stands at 50%. Some studies suggest efficiencies as low as 33%, for canal irrigation. This means that only 33% of the water released into canals reaches from the farm gate.

Water infrastructure and weak project implementation are a few examples of what causes efficiencies to be low.

Despite this situation, Pakistan still has substantial potential of increasing water-usage efficiency. The country can increase productivity of water without increasing water supply. Increasing pressure on irrigation departments by farmers to become accountable and efficient, emergence of progressive farmers, introducing high-value crops and using latest agricultural technologies can greatly increase the efficiency of irrigation-water.

As a nation, we cannot hope for an endless water supply as the best solution. On our part, we need to ensure effective pricing of water, involvement of communities, and utilisation latest technologies that help increase equity and sustainability.

Pakistan's to-be thriving port suffering from crippling water scarcity

Innovative technologies such as direct seeding drip irrigation, micro irrigation, low-energy precision application sprinklers, recycling and treatment of wastewater can increase efficiency of water.

All interventions in the Indus basin have compromised sustainability in favour of temporal suitability. Projects worth billions of dollars are still being proposed to build dams and divert the rivers, but nothing at this scale has ever been proposed to address demand management or to improve basin-wide irrigation-efficiency.

The policymakers must devise mechanisms that reward efficiency in the irrigation sector and promote emerging efficient technologies. Simultaneously, economic engines, which thrive on green technologies and flowing rivers, should be invoked to add commercial and intrinsic value to water that comes back to the environment.

Adoption of water-conserving practices has already shown better results. For instance, Paddy was grown in Pakistan on beds and furrows which utilise lesser water than the traditional flooding method resulting in water-efficiency almost getting doubled through a mere change in the irrigation technique. In Brazil, rice irrigation using centre pivot system reduced water use by 50% compared to surface system.

Drip irrigation and micro sprinklers can increase efficiency from less than 60% to more than 95%. Pakistan, despite being one of the ten biggest exporters of wheat in the world, has a per hectare lower yield (2.6 tonnes) than India (2.8 tonnes) and China (4.8 tonnes). Drip Irrigation can reduce water requirement from 35% to 40%, though it is expensive for the poor farmers.

The Human Development Report (2006) states that Pakistan allocates 47 times more funds for its armed forces than it does on water and sanitation. The difference of ratio is among the highest in the world.

The report suggests 1% of GDP as the optimum allocation for water and sanitation. Technology and know-how for effective water husbandry does exist and with the methods already in use, farmers can cut their demand for water by 40% to 90%.

When food goes in the bin, the poor go on an empty stomach

The United Nations World Water Development Report of 2015, states that by 2050, the world will have to increase its food production by 60% and developing countries by a 100%. The need of water for agriculture will consequently increase, but the availability may not match the increasing demand.

So, there would be a need to adopt innovative methods as already explained to cope with the forthcoming situation. Bottom-line is that if we cannot increase the supply of our freshwater, then efficiency must be increased to balance supply and demand for a sustainable future.

The writer works at the Sustainable Development Policy Institute as Project Assistant and specializes in environment, water governance and flood management.

18/09/2017 online at: https://tribune.com.pk/story/1509400/pakistan-water-stressed-country-innovative-mindset-needed/