

ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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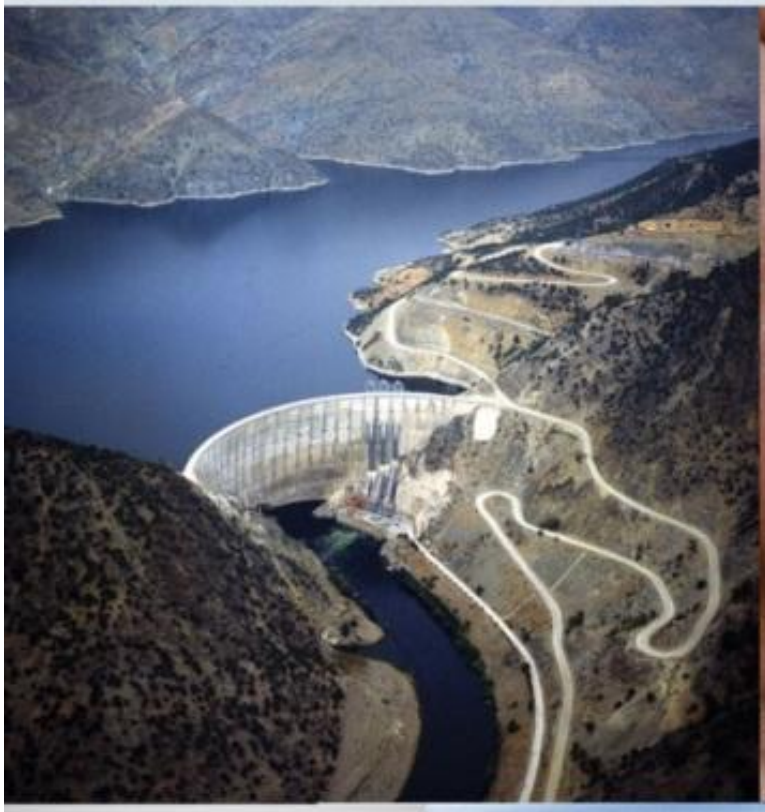



Helping to Restore Water Infrastructure to Iraqi Town Liberated from ISIS

In June 2014, the Islamic State in Iraq and Syria (ISIS) seized Ba'ashiqah, a small town located just outside the city of Mosul in northern Iraq's Ninewa Province. Families were forced to flee their homes, taking with them only what they could carry on their backs or fit in their vehicles. Those who remained suffered two years of brutal occupation by ISIS. Iraqi forces launched a massive offensive to retake the town during the Battle for Mosul, and the town was liberated from ISIS control in early November 2016. However, area residents continue to face daily dangers from improvised explosive devices (IEDs) left behind by fleeing ISIS fighters.

As part of The Global Coalition to Defeat ISIS' efforts to help hundreds of thousands of displaced Iraqis return to their homes in areas liberated from ISIS, the United States is working to clear these explosive hazards. Recently, we told the story of clearing explosive hazards to restore the Hammam Al Alil cement factory outside Mosul. This is another story of how we are helping set the stage for countless towns like Ba'ashiqah to rebuild.

ISIS adopted a "scorched earth" policy in many of the areas it controlled, including Ba'ashiqah. The terrorist group tried to make it impossible for civilians to re-inhabit them either by destroying or by placing explosives around critical infrastructure, such as electrical equipment, water treatment facilities, hospitals, public health centers, and schools. With support from the Department of State and U.S. Embassy Baghdad, our implementing partner Janus Global Operations has undertaken the difficult and dangerous job of finding and safely removing many of these explosive hazards. This work will allow local governments and humanitarian organizations to conduct the hard work of repairing and rebuilding infrastructure, a key first step to enabling families to return home and begin bringing daily life back to normal.

Operations in Ba'ashiqah show the importance of getting key infrastructure back online. The town's water system suffered extensive damage during the fight to liberate the town; what remained was ringed with deadly IEDs. After the town was freed from ISIS, initial efforts to repair the facilities were hampered by explosive hazards that made it unsafe for workers and equipment to be brought in to make repairs. Recently, Janus completed clearance of explosives from around the Basakhrah water well, pump house, and water pipeline which serve the local agricultural office and surrounding homes.

The primary explosive threats hampering repairs were two large IED belts that were placed by ISIS to protect against attacks by the Iraqi forces. One of the IED belts ran parallel to the pipeline and presented a major threat to teams tasked with repairing the conduit. After identifying the threat, a U.S.-funded Janus team swiftly deployed to the site to conduct clearance operations. In 35 days, Janus successfully completed the clearance of the pipeline, pump house, and water well, allowing the site manager to return and begin repair work. Once fully repaired, the facility will provide water for as many as two thousand families. During the

course of this project, Janus cleared 11,700 square meters (approx. 125,938 sq. ft.) of previously contaminated land and removed 237 IEDs.

With smart investments in the work of partners like Janus to support reconstruction, the United States demonstrates its enduring commitment to partnership with the Iraqi people. These efforts are not only making a difference in the lives of ordinary Iraqis, but they are also hastening the defeat of ISIS, a violent and merciless terrorist group which threatens international security, including the security of the United States and its allies.

26/09/2017 online at: https://reliefweb.int/report/iraq/helping-restore-water-infrastructure-iraqi-town-liberated-isis

Draining a lake in Daraa: How years of war caused Muzayrib to dry up

Wooden boats lie scattered on the sunbaked mud of Lake Muzayrib, just 11 kilometers northwest of Daraa city, in a rebel-controlled part of southern Syria.

The lake, which has all but disappeared, was the largest natural body of water in Daraa province, feeding parts of Daraa city and neighbouring villages with drinking water. It also fed the area's agricultural sector and fish farms.

For three years residents have watched the lake slowly wither from a half-kilometre in width to puddles, hoping rain would replenish the depleting waters.

"There is no work and no way, aside from the lake's water, to make a living here," Muhammad, a wheat farmer from Muzayrib who requested only his first name be used, told Middle East Eye.

While the civil war has exacerbated water shortages across Syria, several researchers have linked an extreme drought in Syria between 2006 and 2009 - the worst in the country in modern times – to the emergence of the 2011 protests, though rainfall levels in Daraa province recovered between 2008 and 2009.

Daraa's rural economy, largely reliant on agriculture, has been choked by war, with government forces controlling one third of the province and most of neighbouring Suwayda province. The import of goods has slowed, along with any potential economic activity that remains.

This has left many with no option aside from farming, according to residents living around Muzayrib.

Without a steady income or land, Muhammad staked out a five-acre plot of land next to Lake Muzayrib and began farming wheat, siphoning water directly from the lake using a gasoline-fueled pump that sat on the shore.

"If I had an alternative source of water, I would have used it, but we need to live and I need to feed my children."

But now without the lake to water his wheat crop Muhammad has been forced to search for a new source of income.

Too many wells

Water experts in Daraa caution that Lake Muzayrib's dilemma runs deeper than the pumps near the lake. Muzayrib's dried lakebed, stark as it is, brings into focus the precarious and increasingly dire state of Daraa province's groundwater.

Ali al-Buqayrat, a Syrian water expert working in opposition-controlled territory in Daraa province, has been watching this crisis unfold for years.

"The lake drying up indicates that the springs' flow has been greatly reduced," Buqayrat told MEE, adding that he has been seeing a decrease in one of the feeder springs since 1984, when the flow was "900 litres per second, whereas in 2005 the flow was measured at 720 litres per second".

"The main reason behind the drying of the lake is the spread of unregulated wells in the region," Buqayrat said. "The average depth of these wells has increased from 100 meters to 250 meters."

Buqayrat fears that "the wells are drawing water not just from the confined aquifer but the unconfined aquifer as well, and this is the groundwater that feeds into the natural springs".

Previous years would see the lake "fluctuate in accordance with the amount of rain, but it would never dry out. The fluctuations in both directions were slight," said Anis al-Zubani, a water expert living in Daraa province.

Wider trend

Since 2011, when Syria's revolution began in Daraa, defeats at the hands of rebel groups brought an end to the Assad government's authority in most of Daraa province.

As the government's control waned, so went its regulations.

Characterized in large part by nepotism, the ministries of agriculture and irrigation's regulations for groundwater use and well-licensing practices were the subject of protests in Daraa in 2011, as grievances expanded initially from focusing on the arrest of 15 children to government corruption and other local issues.

In the years before the 2011 protests, the Syrian government, in partnership with a Russian researcher, funded a study in Daraa province that cautioned against the over-extraction of groundwater in the region, according to Anis Ghazawi, a member of Muzayrib's local council.

"The study concluded that, in order to protect the lake, the government needed to prevent wells from being dug within 30 square kilometers of the lake," said Ghazawi.

But since government influence and regulations have waned in large swaths of Daraa, the number of wells has increased by the thousands.

“Between 2011 and 2017 the number of wells [in Daraa province] has proliferated from 8,000 to 20,000,” Buqayrat estimated.

“These wells have popped up in Tafa, Dael, Abbtaa, West and East Al-Gharaya, Al-Hirak, Al-Musayfra, even in Suwayda and Quneitra province.”

In 2014, Yousef, a tomato and eggplant farmer in Muzayrib, dug his first irrigation well.

“I invested everything I owned to construct the well,” Yousef told MEE.

Before the war, Yousef said, “if you didn’t have connections to someone high up [in the ministries of agriculture or irrigation], it was impossible to get permission to dig a well".

Since the 2011 protests, control of the Syrian ministries of agriculture and irrigation in opposition-controlled parts of Daraa province has largely disappeared, and with them the importance of the personal connections once required to navigate their bureaucracies.

Equally important for farmers, the once prohibitive fees required to license a well - nearly one million Syrian pounds (about $21,285 according to the pre-civil war exchange rate) are no longer in place, said Yousef.

With 30 percent of Daraa’s one million residents displaced and a precarious calm in opposition-controlled Daraa, the local councils in the province have not created any laws regulating irrigation wells, according to Ghazawi.

“Even if they did, the war’s chaos would make them [regulations] impossible to enforce. To control and regulate wells would require a force across all of Daraa province,” Ghazawi said.

Water systems targeted

In many ways Lake Muzayrib follows a wider pattern of the deterioration of Daraa’s water systems.

With most dams in the province under the control of opposition forces, the resources, technical skills and institutional knowledge required to manage reservoirs and dams has by and large left the province.

At the same time, the issue goes far beyond a mere lack of institutional knowledge. Daraa’s water systems have been targets during the war as well.

In a bid to pressure opposition forces near Daraa city, government forces cut off the streams and water ways that flowed into the Daraa city dam from Suwayda province last summer.

Last year, a study conducted by the Jordan Water Project in part concluded that the direct targeting of dams and reservoirs by the government, as well as a dearth of operational

knowledge on behalf of opposition forces, likely forced farmers across Daraa province to increasingly rely on groundwater rather than Daraa province's many dams for irrigation.

The study went on to note that a lack of institutional capacity prevented opposition forces from preventing illegal well drilling.

"The decline of water resources has been gradual, and since it only affected irrigation, the problem went unnoticed. But this year the effects have become clear and have manifested themselves on Muzayrib and Zayzoun springs," Buqayrat told MEE.

"Whenever the lake's water level would go down, we'd say to ourselves, winter is just around the corner, and the rain will reset the water level."

"Now the lake has dried up and we have no crops."

01/10/2017 online at: http://www.middleeasteye.net/news/draining-lake-daraa-how-years-war-caused-lake-muzayrib-largely-disappear-1202640340

Ministry Bemoans Excessive Water, Power Consumption

The caretaker energy minister last week outlined an unsurprising uptrend in Iran's water and electricity use, rendering as insufficient government efforts and public pleas to a population of 80 million to rein in water and electricity consumption.

"Water and electricity consumption rose 2.5% and 7.4% respectively in [the first half of] the current fiscal year [started March 21] compared with the similar period in the last fiscal," Sattar Mahmoudi was also quoted as saying by ISNA.

Referring to unrestrained growth in water consumption of 1-2.5% annually in the last few years, Mahmoudi stressed that daily consumption reached 20 million cubic meters on some days in the present fiscal, indicating a 3.4% rise from the average.

"Iran's rate of precipitation in the 2016-17 water year was normal but some provinces, such as Khuzestan, Yazd, Semnan, South Khorasan, Kerman and Khorasan Razavi, faced serious water shortage in summer," he said.

According to the official, the precipitation rate dropped by 55% and 48% in Ilam and Khuzestan provinces in western and southwestern Iran respectively in the past water year compared to the previous year.

"However, the number of Iranian cities facing water tension decreased from 310 to 290," he said.

Mahmoudi noted that the only upside about rising consumption is the higher demand in the industrial sector.

"Although the rising use in the industrial sector piles pressure on the Energy Ministry to meet demand, the increase implies that domestic industries are expanding," he added.

Mahmoud Reza Haqifam, a deputy manager at Iran Power Generation, Distribution and Transmission Company, said energy consumption in Iran is 4.4 times higher than the global average.

Mahmoudi also said the ministry plans to add 3,000 megawatts to the country's total power generation capacity in the next fiscal, which will guarantee sustainable electricity supply along with an anticipated rise in demand across all sectors.

"The government in the last four years has reduced power wastage from 15.7% to below 11%," he said.

Mahmoudi announced plans to lower the wastage rate to 8.5% by 2021, which marks the end of President Hassan Rouhani's second and last term in office.

The achievement can help curb electricity load across the national network and load shedding in big cities. In addition to environmental advantages, the reduction in power wastage is a great economic achievement, as it can cut costs substantially.

27/09/2017 online at: https://financialtribune.com/articles/energy/73174/ministry-bemoans-excessive-water-power-consumption

Electrofishing Threatens Hour al-Azim Wetland Biodiversity

Electrofishing in Hour al-Azim Wetland in Khuzestan Province is one of the major threats facing the wetland's biodiversity, along with climate change and oil pollution.

Abolfazl Abesht, director of the Conservation of Iranian Wetlands Project, lamented the lack of attention to biodiversity in wetlands over the years, ISNA reported.

"Wetland conservation initiatives have only been restricted to water shortage and drought, and almost nothing has been said regarding the biodiversity loss in these ecosystems," he said.

A number of factors threaten the biodiversity of Hour al-Azim wetland, most of which is anthropogenic. Climate change is the most serious threat endangering marine species. The rise in temperature and higher evaporation lead to higher salinity and lower oxygen levels and consequently the death of wetland species.

Oil spills are also the other cause of mortality among the wetland's floral and faunal communities. However, these are not the only risks for Hour al-Azim's fragile marine community.

"Unsustainable fishing, specifically through illegal methods such as non-standard electrofishing and the use of fish poisons, is another grave threat to the wetland species," Abesht said.

Being cheap and very easy to use, electrofishing is very popular in the region. Fishermen send an electric current through the water to stun fish, making it easier to scoop up shoals of fish.

If not conducted correctly and according to ecological standards, electrofishing may have devastating and irreversible effects on fish and other vulnerable wetland species. This method does not only affect the fish community, but also could kill and paralyze other vertebrates and invertebrates.

Chemical fish poisons are also stupefying substances that are used to stun fish, so they become easy to collect by hand.

"Fishermen in the province sometimes use this dangerous method, but reports indicate that its practice has declined significantly in recent years," Abesht said.

The official stressed that the restoration of a wetland is not possible without preserving its biodiversity.

"Without its flora and fauna, a wetland will have no other significant function," he said.

Hour al-Azim, also known as Hoveyzeh, is a wetland on Iran-Iraq border, one-third of which is located in Khuzestan Province. It is the province's biggest wetland and has a unique biodiversity.

28/09/2017 online at:

https://financialtribune.com/articles/people-environment/73215/electrofishing-threatens-hour-al-azim-wetland-biodiversity

Israeli forces destroy water pipes, agricultural road in Jordan Valley

Israeli forces late Wednesday destroyed water pipes and a rural road that serves Palestinian farmers in the Jordan Valley-area village of Atouf, according to official Palestinian Authority (PA) Wafa news agency.

According to Wafa, Israeli forces accompanied by a bulldozer raided the occupied West Bank village late Wednesday and destroyed the water pipes and the rural road, causing clashes to break out between locals and Israeli forces.

Wafa added that 15 people were treated for unknown injuries following the clashes.

A spokesperson for COGAT, the Israeli agency responsible for demolitions in the occupied Palestinian territory, told Ma’an they were looking into reports.

The Jordan Valley forms a third of the occupied West Bank, with 88 percent of its land classified as Area C -- under full Israeli military control.

Demolitions of Palestinian infrastructure and residences occur frequently in Area C, with the Jordan Valley’s Bedouin and herding communities being particularly vulnerable to such policies.

Israeli forces confiscated cattle and water tanks, as well as agricultural machinery from Bedouin Palestinians in the so-called firing zone earlier this month.

28/09/2017 online at: https://www.maannews.com/Content.aspx?id=779225

Israel's Natural Water Sources Are Drying Up

The Water Authority is proposing the most draconian cuts in water usage of the last decade, because as of the end of September, only one of the Israel's three largest natural water sources was still usable. The other two were below the red line, which means that pumping must stop.

The decision was also prompted by predictions of below-average rainfall in the coming year.

Both Lake Kinneret and the Western Mountain Aquifer were below their red lines in September, which is considered the end of the hydrological year. The Coastal Aquifer was still usable, but it, too, had only a small amount of exploitable water left, located in its southern section.

When a water source falls below the red line, the water quality is endangered, because brackish water can move in from the sea or nearby aquifers.

Collectively, according to the annual report put out by the authority's Hydrological Service, Israel's natural water sources are a billion cubic meters below their optimum levels, meaning the level at which water quality is maximally preserved. Lake Kinneret fell below its red line months ago.

The Coastal Aquifer is 618 million cubic meters above its red line, but of this, only 63 million cubic meters in the southern section is actually usable, because the rest has already been polluted. That amount is roughly half the annual production of a desalination plant and less than a tenth of Israel's annual household consumption.

Although more could theoretically be pumped from the aquifer, doing so would further endanger the water quality.

Currently, desalination plants supply two-thirds of household water use. But since the natural water sources are essential to cover the rest, the Water Authority is very worried by their decline. This worry is compounded by predictions of below-average rainfall this winter, possibly significantly below average.

Last week, the Water Authority's executive committee met to draft recommendations on water use for the coming year. Its decision, which will be sent to the authority's governing council for approval, was to slash 130 million cubic meters from last year's water allocations.

Of this, 80 million cubic meters would be taken from farmers, representing a decrease of dozens of percent. The rest would come from municipal irrigation of parks and gardens.

Farmers are furious over the proposal. The Israel Fruit Growers Association, for instance, said the cut would force growers to uproot their orchards.

But experts told the executive committee that pumping from Lake Kinneret will have to stop almost completely – and even if it does, the lake is expected to fall to its lowest level in

history. They also said most drilling in the western Galilee would have to be stopped if damage to natural water sources is to be averted.

02/10/2017 online at: https://www.haaretz.com/israel-news/.premium-1.815463

Agha: 98% of Gaza water polluted

Representatives of water institutions operating in the Gaza Strip, international figures and Palestinian activists held a press conference in Gaza city on Saturday about the catastrophic situation of water in the Gaza Strip and asked the international community to resolve the crisis.

The Director of UNRWA Operations in Gaza, Bo Schack said, “I hope that we all work together in order to find a solution to the crisis”.

“In light of the Israeli siege and the current crises, we in UNRWA have dealt with big issues that resulted from power shortage which affected all aspects of life including water,” he added.

The UN official opined that finding solutions to the water problem starts from resolving the energy issue.

He pointed out that UNRWA, as part of its works in refugee camps, runs water wells and equip its schools with water filters.

“We try to work with other organizations on coming up with solutions to many issues especially the water crisis”, Bo Schack said.

Maher Salem, Head of Gaza Municipality Water Department, said that Gaza currently has 80 wells with only 67 working.

Salem added, “Unfortunately, there is no well of them suitable for human use, except for house usage only."

Gaza city alone consumes over 30 million cubic meters of water annually while the annual return to the groundwater tank is less than 30% of that quantity, he highlighted.

Gaza municipality set a number of plans and projects to solve the problems of the water situation; most prominently the duplication of water quantities imported from Israel. Gaza Strip imports 30 million cubic meters of water annually from Israel.

Mazen al-Banna, Deputy Head of Water Authority in the Gaza Strip, warned during the press conference of the high water pollution rate in Gaza Strip.

Al-Banna elaborated by saying: “We have a large deficit, which has negative repercussions, including sea water intrusion," noting that the wells near the sea are salty to 1000 mg of chloride and that the maximum water salinity should be 250 mg per liter, according to the World Health Organization.

Al-Banna said that the groundwater reservoir suffers because of its proximity to the surface of the earth and the presence of high permeable sandy soil in addition to the leakage of sewage water to it.

Director-general of the Environment Protection Department in Gaza, Bahaa al-Din al-Agha, said that the percentage of groundwater pollution amounted to 98%, indicating that it is unable to meet world health standards of drinking water.

Al-Agha pointed out that the percentage of the energy shortage reached 70%, which led to shortage in water quantities going to residents' homes.

A media campaign was launched, by Press House and other organizations concerned with water, during the conference in Gaza city on Saturday about the catastrophic situation of water in the Gaza Strip.

Bilal Jadallah, director of Press House, said that the campaign, which was launched in Arabic and English, will continue for a few days.

According to the latest statistical studies by the Water Authority, the water shortage rate in Gaza Strip reached 110 million cubic meters annually, while the need of the population is 200 million cubic meters per year.

Last July, a UN report stated that ground water in Gaza, the only source of drinking water, would be unusable by 2020 unless urgent moves are taken in order to solve the problem.

30/09/2017 online at: https://english.palinfo.com/news/2017/9/30/agha-98-of-gaza-water-polluted

The Dead River? How the waters of the Jordan run foul

Let's dream a little and imagine the bombings in Syria have ceased and the conflict is drawing to a close.

As Syria's farmers once again cultivate their lands, so the taps for irrigating crops are turned back on. But not everyone is happy.

For Jordan, Syria's neighbour to the south, what is a dire water shortage problem could, with the end of the war, suddenly become worse.

The River Jordan, which rises on the slopes of Mt Hermon on the Syria-Lebanon border and flows 250km to end its journey emptying into the Dead Sea, is a vital source of water for the country which is named after it.

The trouble is that Syria – along with Israel and Jordan itself – has been taking vast amounts of water out of the river over the years.

Francesca de Châtel, who has carried out extensive work on water systems in the Middle East, says what was once a meandering river, full of rapids and cascades, has been extensively

developed, with dams, diversion canals and large-scale irrigation projects on the river, its tributaries and headwaters.

“As a result,” says de Châtel, “flow has been reduced to about one-tenth of the historic value and water quality has sharply deteriorated, with raw sewage, saline flows, and agricultural run-off polluting the remaining water.”

Polluted Promised Land

Tourists flock to see the River Jordan, one of the world’s most celebrated and holiest of rivers. It is said to be the body of water which the Israelites crossed to reach their promised land and in which Jesus was baptised. But there is little that is holy about the river now.

These days, those wishing to follow in Jesus’s footsteps and be soaked in the Jordan’s waters have to go to specially designated – and relatively pollution free - baptism areas.

Menawhile hydroelectric schemes which were built along the Jordan’s course have been abandoned. “At one stage the River Jordan was able to be harnessed and move turbines to produce electricity,” said an environmental activist in the area. “The tragedy today is that the Jordan wouldn’t turn a mouse wheel.”

During the past 60 years, Syria has built more than 40 dams along the Jordan and its tributaries, although water-sharing agreements between Damascus and Amman have not been implemented.

In the early 1960s, Israel opened a major dam diverting water from the Sea of Galilee for crops on adjacent lands.

At the same time Jordan built a wide channel to harness water from the Yarmouk river, one of the Jordan’s main tributaries.

For Jordan in particular, the diversion of the waters of the country’s main river has been a disaster. The United Nations has described it as one of the most water scarce countries on earth.

Influx and outflow

The statistics tell a grim tale. According to recent analysis by academics at Stanford University in California, working in cooperation with Jordanian water experts, Jordan’s per capita water availability has decreased from 3,600 cubic metres per year in 1946 to only 135 cubic metres at present – well below what is considered to be a level of “absolute scarcity”.

Groundwater resources in Jordan have been chronically over exploited with aquifers unable to replenish themselves. Other factors have contributed to the country’s water scarcity problems.

Jordan and the surrounding region have had to endure periods of prolonged drought, which was particularly severe from 2008 to 2014.

The country's population has ballooned during the last quarter century, both through an increase in birth rates and the influx of vast numbers of refugees from fighting, first in Iraq, then in Syria.

According to the latest country-wide census, there are nearly 9.5m in the country, up from 2.2m in 1990. Of these, the government classifies nearly three million as non Jordanians, including Syrians, Egyptians, Iraqis and Palestinians.

Clearly, such a growth in population over a relatively short timespan puts severe strain on water and other resources. Every day, hundreds of tankers deliver water to the Syrian refugee camp at Zaatari which, with an estimated 100,000 inhabitants, is one of the largest settlements in the country.

“Jordan is facing a deepening multipronged freshwater crisis, exacerbated by a long-term decline in rainfall, declining groundwater levels and regional conflict and immigration,” says the Stanford study.

The analysis says further steep declines in the flow of the river are likely as climate change intensifies in the region. It forecasts that temperatures in Jordan will increase by more than four degrees Celsius by the end of the century while rainfall will decline by up to 30 percent.

Improvement projects

But there are some optimistic signs amid the gloom.

Considerable progress has been made – mainly by Jordan and Israel – on building sewage treatment plants along the length of the river. There are also plans for sewage treatment for waters flowing in from the Palestinian territories.

Projects involving the cross-border Friends of the Earth Middle East non-governmental organization and other international bodies have raised funds for cleaning up sections, though local political arguments have led to delays.

Israel is releasing more water from the Sea of Galilee into the Jordan and, in some areas, flows have improved. The most ambitious – and controversial - plan for improving access to water in the region is what’s called the Red Sea-Dead Sea project.

The $1.1bn project, first conjured up by colonial engineers in the mid-19th century, involves building a desalination and hydroelectric plant near the Jordanian Red Sea port of Aqaba and pumping the brine – the byproduct of the desalination process - up to the Dead Sea through a 180km long pipeline.

In a complex series of water swaps, freshwater from the desalination plant will be sold to Israel’s southern Arava region, while Jordan will buy water from the Sea of Galilee and the Palestinian Authority will purchase water from an Israeli desalination plant.

The aim is not only to provide more fresh water to the region but also to increase water levels in the Dead Sea, the world’s lowest land elevation.

The Dead Sea – a major tourist resort with hundreds of thousands tourists visiting each year to bob about in its salt and mineral-rich waters – has shrunk by a third during the last 20 years, around a metre every 12 months.

Scientists say the shrinkage is not only because the amount of water from the River Jordan entering the Red Sea has declined but also through increased evaporation caused by higher regional temperatures.

Hotels which once stood on the sea's banks have been abandoned. Buildings have been swallowed up by sinkholes that have opened up on land nearby.

In 2015, Jordan and Israel signed an agreement to proceed with the project, which is being sponsored by the World Bank. The scheme's backers say $400m of initial finance has been raised and five consortia – most of them from the Far East – have been shortlisted for the project. Work is supposed to start next year, with the first phase due to be completed by 2020.

"Jordan is very committed to the Red Sea-Dead Sea project, and we think it is a very important strategic project for us," said a Jordanian water official.

Reviving the river

Yet for all the enthusiasm that might be professed in Amman and Tel Aviv, the project faces several obstacles. Any cross-border agreement in the Middle East is fraught with problems, particularly at a time when moves towards a regional settlement have ground to a halt.

The Palestinian Authority, which has largely been left out of negotiations, is wary of participating at such a time of tension and mutual suspicion.

Environmental groups also question the viability of the Red Sea-Dead Sea project, arguing that mixing the very different waters from the two seas could endanger ecosystems.

If brine – the waste from the desalination process – is dumped into the Dead Sea, then its blue waters could turn a milky white and affect the tourist industry.

Environmentalists argue that the only way to ensure adequate water supplies – and preserve what's left of the Dead Sea – is to stop water being diverted out of the River Jordan.

That would mean less water for agriculture and also for Jordanian and Israeli mining conglomerates which divert waters in the Jordan's southern stretch to evaporation ponds in order to make valuable potash and bromine chemicals.

Persuading all these different interest groups – and countries bitterly divided by conflict and politics – to take action on the River Jordan is an enormous task.

Despite all the problems, water expert de Châtel sees some reasons for optimism. Environmental groups and others are working hard – against the odds – to revive the lower portions of the river.

“While the Jordan river will never return to its natural state," she says, "it could again becoming a living river and a carrier of holy water that is not only worshipped in a religious context but also revered and respected as the key to life and livelihood in this arid region.”

28/09/2017 online at: http://www.middleeasteye.net/columns/syria-conflict-israel-river-jordan-water-pollution-environment-dead-sea-problems-939734993

Green Fatwas: Imams Champion the Environment in Water-Scarce Jordan

Even before the arrival of an estimated 1.3 million refugees, Jordan was one of the most water-scarce countries in the world.

In 2014, annual water availability plummeted from 147 cubic meters to 123 cm per person, far below the international water poverty line of 500cm per capital per year.

Meanwhile, demand is rising.

In the northern Jordanian city of Mafraq, where the population has doubled since the arrival of Syrians fleeing war across the border, pressure on strained resources has exacerbated tensions between local and refugee communities.

“We often hear that Syrians are using more water than Jordanians because it was free in Syria,” says Björn Zimprich, project manager at German Development Agency GIZ. He refers to several cases when a Syrian family has moved into a building and the communal water bill has risen. There have also been reports, he says, that the prices for water tanks to be re-filled are increasing in some areas due to rising demand.

But water subsidies are heavy: up to 70% in some households.

“This sends a mixed message,” says Ruba Al-Zubi, CEO of EDAMA, an association promoting sustainable solutions in Jordan. “Water is cheap to buy but that doesn’t mean it’s not valuable.”

Between 40 to 50% of Jordan’s water is lost in distribution – largely due to leaky pipes and theft.

Faced with severe water shortages, the state has now started to issue green fatwas – and it is enlisting imams to help.

One such religious edict, issued in April, said: “Polluting water, in all forms, is prohibited and contradicts the teachings of the Shari’ah”. Another asked people to report leakages in water networks. Fatwas are published on the department website and in some cases circulated in the local media.

“There is a lot of knowledge here about water scarcity but it’s not effectively communicated to everybody. Fatwas are a good way of doing that” says Zimprich, whose team is working with imams (religious leaders) and waithat (female preachers) to raise awareness about water-saving techniques in Jordanian communities.

In the ablution areas of mosques, where worshippers wash before prayer, taps are often left running.

GIZ has partnered with the Jordanian Ministry of Awqaf and Islamic Affairs, which is responsible for religious affairs in the country, to enlist imams and waithat water ambassadors. Mosques around the country are being used to set an example and some 1800 religious leaders have signed up to be ambassadors.

Now water-saving devices have been installed at mosques and harvesting facilities fitted to recycle the run-off. By 2018, around 2,000 mosques – almost one third of the total – are expected to be running on renewable.

“Places of worship are the best place to send a sustainable message. People see the mosque bills drop and feel the benefits of AC in the summer. It’s more energy for less money,” says

At first, some imams were skeptical, says Zimprich. “They felt that it’s the government’s responsibility to provide enough water, not a problem for them.”

But many others are on message.

Imam Ameen Alawneh first visited Azraq Wetland Reserve, a once-abundant oasis in Jordan’s Eastern desert, on a school trip 30 years ago. Since then, intensive pumping to supply urban areas with water and the drilling of illegal wells for agriculture have seen the pools and streams shrink to 0.04% of their original size.

There have been a lot of moves to frame Friday speeches to match our current needs. The environment and water are first on the list

“I was really shocked. The oasis had almost disappeared,” he said, after re-visiting the site recently.

Back in Irbid, the Jordanian city where he is the imam of a local mosque, Alawaneh resolved to teach “lessons on the importance of water saving” and encourage worshippers “to conserve the rest of the resources we have.”

Jordan is among several Islamic countries to pass fatwas urging eco-friendly behavior as momentum builds behind a global drive to harness the reach and resources of religion for environmental causes.

In August 2015, the Islamic Declaration on Climate Change was issued ahead of the Paris climate summit calling on Muslims to phase out fossil fuels and transition to renewable energy by 2050. The declaration led to the formation of the Global Muslim Climate Network and the launch of the Clean Energy Mosques Campaign in 2016, which charged mosques across the world with reducing their energy consumption.

According to sustainability expert Dr. Odeh Al Jayyousi, “Muslims in many countries are starting to connect their faith with climate change.”

These strategies feed into a new National Green Growth Plan, which is designed to lay the foundations for a green economy. Jordan imports around 96% of its energy needs annually but regional conflicts have shut down many of its former supply routes.

Now, the government is investing JOD50 million (£54 million) for renewable energy and energy efficient projects up to 2018, Hamzeh adds.

“Islam can be an easy entry point to our communities,” says Kamal Kakish, a researcher at WANA Institute, a Jordan-based think tank and partner on the project.

Around four million people attend Friday prayers in Jordan, where, he says, “There have been a lot of moves to frame Friday speeches to match our current needs, and of course, the environment and water are first on the list.”But Imam Khaled Al Khatib, who presides over one of the largest mosques in Mafraq, is concerned that while worshippers may be receptive to this message at the mosque, it does not translate into changing habits at home.

But Imam Khaled Al Khatib, who presides over one of the largest mosques in Mafraq, is concerned that while worshippers may be receptive to this message at the mosque, it does not translate into changing habits at home.

His sermons draw on lessons inherent in Islamic teaching to respect the environment. “The Prophet Mohammed said do not overspend water even if you are sitting on a running river,” Khatib says, citing a well-known hadith(sayings of the Prophet Mohammed) exhorting Muslims to be mindful when performing ablution (washing before prayer).

“Whenever people hear that (conservation) is part of our religion, they are happy to make this link. The problem is when it comes to real implementation.”

But others are already starting to see a change.

Huda Al Namrat, a female preacher (waitha) emphasizes the important role played by women in the household. “They can easily maintain the water by changing certain behavior,” she says. “The woman also has a great effect in raising the kids.”

Waitha Wafa Khalil has already seen signs of improvement in her local community, where families have noticed their bills drop since they started implementing her advice.

Many of the families are informing me that they no longer are forced to buy water from water trucks, they can now manage the water quantity they get for the week and are saving the extra money.”

02/10/2017 online at: https://www.mintpressnews.com/green-fatwas-imams-champion-environment-water-scarce-jordan/232694/

Global panel seeks effective policies to protect water resources

The Global High-Level Panel of the Water and Peace, in which the Sultanate is a member, has launched World Water and Peace Report in Geneva, Switzerland.

The report called for intensifying international efforts for preventing water-related conflicts and leveraging water as an instrument of peace.

“Since water supply is likely to become a major source of tension in the coming years, there is huge potential today to make water a key medium for cooperation and a driver of peace,” the head of the Federal Department of Foreign Affairs, Federal Councillor Didier Burkhalter, told the members of the Global Panel on Water and Peace.

The panel, which was established in November 2015 and was chaired by former Slovenian President Danilo Türk, presented the results of their work in the form of a set of recommendations to prevent and resolve water-related conflicts in Geneva on September 14.

01/10/2017 online at: http://www.muscatdaily.com/Archive/Opinion/Global-panel-seeks-effective-policies-to-protect-water-resources-53u3

Qatar ‘committed to water goals’

Minister of State for Foreign Affairs H E Sultan bin Saad Al Muraikhi reiterated the State of Qatar’s commitment as a partner in supporting efforts to achieve the goals and objectives of water-related sustainable development. The Minister stressed that the State of Qatar will spare no effort to contribute to the International Decade for Action “Water for Sustainable Development 2018-2028.”

In a speech delivered at a working breakfast on “Sustainable Development and Water”, which was co-organized by the State of Qatar on the sidelines of the 72nd session of the United Nations General Assembly, the Minister noted the objectives of the International Decade, emphasising the need for enhancing cooperation and partnership at all levels to achieve water-related goals and targets.

H E Sultan bin Saad Al Muraikhi also stressed on the importance of water in preserving life on earth and expressed his belief on the crucial role played by the Group of Friends of Water in which the State of Qatar has joined to meet its objectives.

In this context, HE the Minister of State for Foreign Affairs underlined the Global Dryland Alliance’s initiative to establish an international organization that would complete the work of other organizations to focus on combating desertification and drought as well as the preservation of the environment.

He also referred to the 18th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change hosted by the State of Qatar in 2012. He added that Qatar has taken measures to manage water as an important resource in an effective and sustainable manner.

As an example of these measures, Sultan bin Saad Al Muraikhi said that Qatar General Electricity and Water Corporation (Kahramaa) has launched a National Programme for Conservation and Energy Efficiency to promote the sustainable use of water and energy in the country. The programme has made huge strides in creating awareness.

The Minister stressed on the importance of the sustainable water management and the achievement of universal and equitable access to safe drinking water as well as the use of innovative solutions and sustainable technologies for the successful implementation of the 2030 Sustainable Development Plan.

27/09/2017 online at: http://thepeninsulaqatar.com/article/27/09/2017/Qatar-%E2%80%98committed-to-water-goals%E2%80%99

Bahrain to host Arab water governance meeting

Bahrain will host the Arab Regional Meeting for Capacity-Building of Underground Water Governance.

The meeting will be organized by the Arabian Gulf University (AGU) in association with the Cairo-based Office of UNESCO and UN Food and Agriculture (FAO) Regional Office for Near East.

The meeting in early October is intended to assess the current situation of human and institutional capabilities at the local and national arenas regarding management of underground water and its governance in the region.

The meeting aims to establish the roadmap for development of executive capabilities to support Arab countries in their efforts to achieve the common global vision of underground water governance. It also aims to establish an innovative regional cooperation frames among the countries and stakeholders including UN agencies and the partners of development.

The meeting will focus on capabilities development, bridging the informatics gap for sustainable management and public custody over underground water resources in the Arab region, according to the coordinator of the meeting. He pointed out that several Arab countries rely more than 80% on their underground water reserves in meeting their water demand for the purpose of their socio-economic development.

The Arab region is not alone in facing such challenges regarding the management and preservation of its underground water resources. The global frame for governance of subterranean water reserves was initiated by the relevant UN bodies and the World Bank in 2016.

26/09/2017 online at: http://www.bna.bh/portal/en/news/803158

Dubai to host major congress on water desalination

Dubai Electricity and Water Authority (Dewa) announced that Dubai will host the International Desalination Association's 2019 World Congress on water desalination in 2019.

Previously, the congress was held in Dubai in 2009. This global event is the world's largest and the most prominent conference on water desalination specialty areas. It will be attended by leaders, senior officials, experts, and academics, as well as 2,000 participants from 60 countries.

The event was announced at a press conference at the Burj Al Arab hotel in Dubai, in the presence of Saeed Mohammed Al Tayer, MD & CEO of Dewa, and Helal Saeed Al Marri, director general of the Dubai Department of Tourism and Commerce Marketing, and Patricia Burke, secretary general of the International Desalination Association (IDA).

Al Tayer expressed his pride in the UAE's success in hosting the World Congress on Water Desalination 2019, which was the culmination of a series of major international events successfully hosted by the UAE.

Dubai's success in hosting this important conference came as a result of the fruitful cooperation between Dewa, and the Department of Tourism and Commerce Marketing in the preparation of the proposal to host the event. Dubai was selected by the IDA after careful review of its profile, which surpassing international cities, such as Barcelona in Spain, Busan in South Korea, and Muscat in Oman. The IDA has received nominations from eight countries, including Canada, South Africa, India, and Malta, in addition to the above-mentioned countries.

The conference will coincide with the 21st Water, Energy, Technology and Environment Exhibition (WETEX), which will be held under the directives of Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, and under the patronage of Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai, Minister of Finance and president of Dewa.

The IDA, the organizer of the conference, is based in Topsfield, Massachusetts, USA. It is a non-profit organization within the United Nations NGO Network, comprising of scientists, engineers, consultants, and researchers from the public and private sectors, as well as academic institutions. IDA World Congress 2017 will be in São Paulo, Brazil, from October 15 to 20. –

02/10/2017 online at: http://www.gdnonline.com/Details/256922/Dubai-to-host-major-congress-on-water-desalination

Suqia launches big water projects in Egypt, Iraq

UAE Water Aid Foundation (Suqia) said it has launched over 60 infrastructure development projects across the globe in partnership with Mohammed bin Rashid Al Maktoum Charity and Humanitarian Establishment and the Emirates Red Crescent.

UAE Water Aid Foundation (Suqia) said it has launched over 60 infrastructure development projects including setting up of water plants, wells, and desalination plants across the globe.

The key focus countries included Afghanistan, Bangladesh, Mauritania, Somalia, Thailand, Djibouti, the Philippines, Ghana, Burkina Faso, Benin, Mali, Somalia, Egypt, Sudan, China, and Iraq.

Upon completion, these projects are expected to serve over 250,000 people, said a statement from Dubai Electricity and Water Authority (Dewa).

The work was done in co-operation with Mohammed bin Rashid Al Maktoum Charity and Humanitarian Establishment and the Emirates Red Crescent, it stated.

"At Suqia, we are committed to achieving one of the key objectives set by the Mohammed bin Rashid Al Maktoum Global Initiatives foundation, which is to combat poverty and disease by contributing to finding permanent and sustainable solutions to water scarcity around the world," remarked Saeed Mohammed Al Tayer, the chairman of the board of trustees of Suqia.

"We do this by conducting research and studies to develop innovative and affordable technologies to help millions of people around the world who suffer from shortages, scarcity, in addition to providing water to millions of the needy around the world," said Al Tayer, who is also the managing director and chief executive of Dewa.

He was addressing the third meeting of the Suqia board of trustees in Dubai to discuss the charity projects for 2017.

27/09/2017 online at: http://www.tradearabia.com/news/CONS_330808.html

Death of the Nile: Egypt fears Ethiopian dam will cut into its water supply

The only reason Egypt has even existed from ancient times until today is because of the Nile River, which provides a thin, richly fertile stretch of green through the desert.

Now, for the first time, the country fears a potential threat to that lifeline, and it seems to have no idea what to do about it.

Ethiopia is finalizing construction of the Grand Ethiopian Renaissance Dam, its first major dam on the Blue Nile, and then will eventually start filling the giant reservoir behind it to power the largest hydroelectric dam in Africa.

Egypt fears that will cut into its water supply, destroying parts of its precious farmland and squeezing its population of 93 million people, who already face water shortages.

Dam construction on international rivers often causes disputes over the downstream impact.

But the Nile is different: few nations rely so completely on a single river as much as Egypt does. The Nile provides over 90 per cent of Egypt's water supply.

Almost the entire population lives cramped in the sliver of the Nile Valley. Around 60 per cent of Egypt's Nile water originates in Ethiopia from the Blue Nile, one of two main tributaries.

Egypt hardly gets by with the water it does have. It has one of the lowest per capita shares of water in the world, some 660 cubic meters a person. The strain is worsened by inefficiency and waste. With the population expected to double in 50 years, shortages are predicted to become severe even sooner, by 2025.

Egypt already receives the lion's share of Nile waters: more than 55 billion of the around 88 billion cubic meters of water that flow down the river each year. It is promised that amount under agreements from 1929 and 1959 that other Nile nations say are unfair and ignore the needs of their own large populations.

Complicating the situation, no one has a clear idea what impact Ethiopia's dam will actually have. Addis Ababa insists it will not cause significant harm to Egypt or Sudan downstream.

Much depends on the management of the flow and how fast Ethiopia fills its reservoir, which can hold 74 billion cubic meters of water. A faster fill means blocking more water, while doing it slowly would mean less reduction downstream.

Once the fill is completed, the flow would in theory return to normal. Egypt, where agriculture employs a quarter of the work force, is worried that the damage could be long-lasting.

One study by a Cairo University agriculture professor estimated Egypt would lose a staggering 51 percent of its farmland if the fill is done in three years. A slower, six-year fill would cost Egypt 17 percent of its cultivated land, the study claimed.

Internal government studies estimate that for every reduction of 1 billion cubic meters of water, 200,000 acres of farmland would be lost and livelihoods of 1 million people affected, since an average of five people live off each acre, a senior Irrigation Ministry official said. He spoke on condition of anonymity because he was not authorized to discuss the figures.

Other experts say the impact will be far smaller, even minimal. They say Egypt could suffer no damage at all if it and Ethiopia work together and exchange information, adjusting the rate of filling the reservoir to ensure that Egypt's own massive reservoir on the Nile, Lake Nasser, stays full enough to meet its needs during the fill.

Unfortunately, that isn't happening so far.

"To my knowledge, this situation is unique, particularly at this scale," said Kevin Wheeler at the Oxford University's Environmental Change Institute. "I just can't think of another case that has two large reservoirs in series without a plan on how to operate them together."

Originating in Ethiopia, the Blue Nile flows into Sudan, where it joins with the White Nile, whose source is Lake Victoria in east Africa. From there it flows through Egypt to the Mediterranean.

For Ethiopia, the $5 billion dam is the realization of a long-delayed dream. Ethiopia's infrastructure is among the least developed in the world, leaving most of its 95 million people without access to electricity. The hydroelectric dam is to have a capacity to generate over 6,400 Megawatts, a massive boost to the current production of 4,000 Megawatts.

The dam, around 60 percent complete, is likely to be finished this year or early next. Ethiopia has given little information on when it will start the fill or at what rate.

"We have taken into account (the dam's) probable effects on countries like Egypt and Sudan," Ethiopia's water, irrigation and electricity minister, Sileshi Bekele, told journalists. He added that plans for the fills could be adjusted.

In a 2015 Declaration of Principles agreement, Egypt, Ethiopia and Sudan agreed to contract an independent study of the dam's impact and abide by it as they agree on a plan for filling the reservoir and operating the dam. But the deadline to complete the study has passed, and it has hardly begun, held up by differences over information sharing and transparency despite multiple rounds of negotiations among the three.

Frustration among Egyptian officials is starting to show.

In June, Egyptian Foreign Minister Sameh Shukri spoke of "difficult talks" and complained of delays in the impact study.

A high-ranking government official acknowledged there's little Egypt can do. "We can't stop it and in all cases, it will be harmful to Egypt," he said, speaking on condition of anonymity because of the sensitivity of the talks.

Egyptian leaders in the past have rumbled about military action to stop any dam, but that option seems less likely after Egypt signed the Declaration of Principles.

Salman Salman, a Sudanese water expert, said Egypt has long had an attitude of "this is our river and no one can touch it."

Now, he said, "Egypt is no longer the dominant force along the Nile. Ethiopia is replacing it."

02/10/2017 online at: http://www.telegraph.co.uk/news/2017/10/02/death-nile-egypt-fearsethiopian-dam-will-cut-water-supply/

UN Agencies, Partners Support Water Cooperation in Africa

When water becomes scarce in Sudan, pastoralists migrate along traditionally recognized routes to access water for their livestock, but increased water stress and competition with agriculture threatens longstanding cooperation arrangements. The EU is supporting pastoralists' access to water along their seasonal migration routes, through a project funded through UN Environment. Meanwhile, UN Economic Commission for Europe (UNECE), the Global Water Partnership (GWP) and the Sahara and Sahel Observatory are supporting cooperation on the sharing of groundwater resources in Algeria, Libya and Tunisia, especially in relation to the North-West Sahara Aquifer System – an area of more than one million square kilometers.

Pastoralists in Sudan herd camels and sheep in arid conditions that receive less than 18 days of rain annually. Seasonal migration is a survival strategy. To avoid pastoralists coming into conflict with farmers and local people, the EU-UN Environment project is re-vegetating pastoral grasslands, marking traditional routes and maintaining existing water infrastructure such as pumps and dams. The project is also organizing communities to meet with migrant pastoralists to discuss cooperation on accessing water resources, supported by SOS Sahel, a

national NGO in Sudan. The EU funding comes from its 'Instrument Contributing to Stability and Peace.'

In North Africa, the UNECE and partners organized a workshop on the North-West Sahara Aquifer System (NWSAS), for government officials from Algeria, Libya and Tunisia. The two-day workshop took place in July 2017 in Algiers, Algeria, drawing more than 50 participants to discuss an assessment of the shared groundwater resource and the existing Coordination Mechanism of the NWSAS. Participants considered the impact of the water-energy-food nexus on groundwater demand. They called for urgent monitoring of available water resources, adopting water pricing measures, and rethinking economic development to favor less water-intensive activities. The workshop organizers are currently preparing an intersectoral study on this subject.

The UNECE highlighted the value of its Convention on the Protection and Use of Transboundary Watercourses and International Lakes (the Water Convention), which opened in 2016 for signature by countries beyond Europe. The agency noted that the Water Convention's provisions can support countries in implementing the 2030 Agenda for Sustainable Development, by facilitating transboundary cooperation for water resources management. The Sustainable Development Goal on clean water and sanitation (SDG 6) calls for, by 2030, the implementation of integrated water resources management at all levels, including through transboundary cooperation.

28/09/2017 online at: http://sdg.iisd.org/news/un-agencies-partners-support-water-cooperation-in-africa/

Urgent action needed for water sustainability in MENA

Water scarcity has always been a major challenge in the mostly arid MENA region. However, overdrawing of ground-water compounded with climate change, high rates of population growth and the effects of con-flicts and forced displacement have jeopardised the region's stability and the livelihood of generations to come.

A World Bank report titled "Beyond Scarcity: Water Security in the Middle East and North Africa" highlighted the exacer-bating challenges, stressing, however, that limited water resources "need not restrict the region's future" and that a "combination of technology, policy and management can convert scarcity into security."

"Over the past decade, the water situation for most coun-tries (in MENA) has become more challenging," said Steven Schon-berger, practice manager at the World Bank's Water Department for MENA region. "While the amount of freshwater available has not changed, its reliability and the pressures on the resources are growing with particular impact on groundwa-ter, which serves as the 'water savings account' for difficult years and future generations."

Climate change is expected to have the greatest effect on water resources in the region and could cause economic losses of 6-14% of GDP by 2050, Schonberger cautioned. That would

happen “unless major efforts are made in terms of building resilience and undertaking significant realloca-tions of diminishing water resources to higher value uses,” he said.

Smart water management in terms of the policies, technolo-gies and management systems for water in urban and agricultural settings has become an urgent priority for a region where 60% of the population lives in areas with high or very high water stress.

Despite being the most water-scarce region in the world, the region has the lowest productiv-ity of water use in terms of economic production, the world’s lowest water tariffs and, by far, the highest level of subsidies (2% of GDP). Also, the effects of degradation of water quality are often overlooked though they represent a major cost to the region, estimated at 0.5-2.5% of GDP yearly, in terms of health and other effects, the report stated.

“Clearly there is a need to rethink how water is being managed in the region, starting with a general recognition of its value and a commitment to use water for the greatest good of society,” Schonberger said.

Many Arab countries, espe-cially in the Gulf area, rely largely on desalination to compensate for limited water resources. Desalination should be part of the solution in the region, which accounts for almost half of all desalination capacity world-wide.

“You cannot ‘desal’ your way out of the problem,” Schonberger said. “Desalination has to be part of an overall strategy of more efficient use through demand management, leakage reduction, recycling of water and more sustainable management of groundwater where that is available in the Gulf.”

The World Bank report stated that the solutions to water saving in MENA should focus on ration-alising water use and making it more efficient in the agriculture sector, which accounts for about 80% of water usage across the region.

It is a common challenge for all Arab countries but the differ-ences lie in the role of technol-ogy, the report said. More water abundant countries, such as Lebanon and Syria, should meet their needs through better management of existing resources. The more extremely water scarce places, such as Jordan, the Palestinian territo-ries, the Gulf countries and Yemen would need to integrate “non-conventional water” from desalination and recycling on a larger scale.

Solutions may include policies that create incentives for water conservation and water use efficiency, such as fees, fines and pricing, as well as wastewater recycling and reuse. Engaging and educating civil society by raising public awareness about water value and conservation through schools, the media and government campaigns are also crucial.

While water is often pointed to as a potential source of conflict, it has more frequently been the source of cooperation, even between antagonists, Schon-berger noted, citing the example of Vietnam and Thailand, which cooperated on sharing the Mekong River’s waters despite being on different sides of an armed conflict.

“We see similar examples of cooperation in the MENA region, such as the Yarmuk and Jordan rivers (Syria, Jordan, Israel and the Palestinian territories) and the Disi Aquifer (Jordan and Saudi Arabia). However, it is important to ensure that an effective technical cooperation is in place for exchange of informa-tion,” Schonberger said.

“We firmly believe that regional cooperation around management of water resources, combined with technological and management innovations, which can emerge from a better valua-tion of water in the region, can lead to both a more peaceful as well as a more prosperous Middle East.”

01/10/2017 online at: http://www.middle-east-online.com/english/?id=85137

Pakistan can face absolute water scarcity, drought by 2025: Experts

Health experts have warned that Pakistan can approach absolute scarcity levels of water and face a drought as early as 2025.

These hazards, pose not only threats to individual health but also to economic growth, food security and environmental sustainability, they said and added efforts to include environmental considerations in all phases of policy making, planning and development must be actively pursued.

The experts expressed these views during a seminar held to observe “World Environmental Health Day 2017”, here on Tuesday. Project Management Unit-Punjab Public Health Agency (PMU-PPHA), Primary and Secondary Healthcare Department, Government of the Punjab organized the event in collaboration with UNICEF.

Dr. Shabnum Sarfraz CEO PPHA welcomed the Chief Guest, Begum Zakia Shahnawaz Khan, Provincial Minister for Environment Protection, Provincial Minister Primary and Secondary Healthcare, Khawaja Imran Nazeer and Provincial Minister Specialized Healthcare and Medical Education Khawaja

Salman Rafique. Also present at the occasion were Member Health Planning and Development Department, Dr. Shabana Haider, and Captain (R) Saif Anjum, Secretary Environment Protection Department.

On this occasion, government officials from both federal and provincial departments and ministries including Punjab’s Environment Protection Department, environmental health experts, development professionals, and technical experts from UN agencies, as well as leading national and international organizations were also present.

Speaking on the occasion, Begum Zakia Shahnawaz Khan, Provincial Minister for Environment Protection, remarked that addressing the interactions of environment and health is vital for sustainable development. Moreover, the government is committed to providing safe water and food, adequate shelter and clean air to all people for ensuring prosperity and growth, she added.

Khawaja Salman Rafique highlighted the increasing burden of environmental factors on health systems and added that personal steps needed to be taken to combat the effects of climate change and its implications on human health.

Khawaja Imran Nazir emphasized upon the fact that environmental health today is not a single group's challenge, we need the meaningful engagement of everyone to improve the health of the people of the Punjab and tackle emerging challenges.

Captain (R) Saif Anjum, Secretary Environment Protection Department, remarked that the Environment Protection Department is keen to play an integral part in promoting healthy living practices and sustainable development to ensure long term viability.

The celebrations were followed by a meeting of the technical working group in order to solidify long-term action plans for various policies including Punjab Environmental Health Strategy, Punjab Drinking Water Policy and other associated agendas.

Human health is profoundly affected by weather and climate, and despite considerable progress in health services delivery and reforms over the last few years, a mixture of environmental health challenges is emerging as a threat to healthcare services, the experts said and added that deaths from extreme weather events such as heat stress, along with cardiovascular and respiratory diseases, infectious disease outbreaks, and malnutrition are on the rise. On top of that, Punjab is experiencing a population boom and consequently, the burden of disease on limited healthcare resources is reaching critical levels.

They said effects of climate change aren't limited to human health or healthcare systems either, they also undermine food and water supplies, overload the existing infrastructure, and stress existing social protection systems.

Project Management Unit – Punjab Public Health Agency is working to coordinate efforts among cross-sectoral stakeholders for an integrated multidisciplinary public health approach in Punjab. Existing health challenges cannot be surmounted comprehensively without adapting the "One-Health Triad" approach, and Environmental Health is the third critical component of this model. Keeping this in perspective, the event was organized in a manner that gathered key stakeholders from government, health, environment, and development sectors, academia, civil society and the media.

The follow-up meeting of the technical working group culminated with a commitment to adopt measures that improve knowledge sharing and collaboration between various stakeholders and ensure sustainable action towards national and provincial policy agendas for environmental health, drinking water and sanitation.

Dr. Shabnum Sarfraz, Chief Executive Officer welcomed the participants and contextualized environmental health in Punjab, its importance for human health and the need to adopt a cross-sectoral approach towards environmental challenges.

Speaking at the occasion, Dr. Shabana Haider, Member Health, Planning and Development Department, called on the stakeholders to increase cross sectoral collaboration and adopt effective measures to improve environmental health indicators in the Punjab.

The presence of the Provincial Ministers for Environment Protection, Primary and Secondary Healthcare, and Specialized Healthcare and Medical Education communicated the resolve of the Government of the Punjab towards addressing cross-cutting development challenges in the province.

The ministers appreciated the efforts and support of the organizers in highlighting environmental health as a vital issue for the wellbeing of the people, and reaffirmed the government's commitment to support efforts made in the domain of environmental health.

27/09/2017 online at: https://www.samaa.tv/pakistan/2017/09/pakistan-can-face-absolute-water-scarcity-drought-2025-experts/

Punjab govt neglecting water resources management

Punjab's water resources have remained a neglected area for the government as it was unable to build a comprehensive management plan throughout its tenure, a highly placed official confirmed.

The indifference can be gauged from the fact that all projects were undertaken without taking into account the status of water resources. On the other hand, sources said that the government wanted to improve productivity of agriculture and livestock while announcing the Punjab Growth Strategy-2018 in 2013.

The documents available with Pakistan Today mention that government wanted to obtain results of agricultural productivity without accounting for water resources. The only area that the government focused on in terms of strategy was of developing better on-farm water management and that too with the existing Canal and Drainage Act of 1873.

Punjab Growth Strategy 2018 says that agriculture productivity will be increased via substantial improvements in the quality of agriculture research, developing better value chains by creating and preserving value at the farm level and improving connectivity of farms with markets; promoting high-value agriculture and better use of energy for agriculture; improving land resources and environment by tackling water logging, improving soil quality and mitigating the impact of climate change; increasing the area under cultivation; implementing critical regulatory and institutional changes to improve the business climate in agriculture and facilitate the private sector to establish agriculture markets.

However, on the practical side the government capped the allocation of Rs 41.031 billion in Annual Development Program (ADP) 2017-18. Besides, it has reduced the allocation by Rs 1.054 billion, for tasks that were primarily meant for repair & maintenance, building infrastructure and canals, drainage network, research, extension and field services to farmers and vocational training of the labor force.

ADP 2017-18 says that irrigated agriculture is the major determinant of the province's economic growth potential as it accounts for 26 per cent of the GDP and caters for over 40 per cent of the available work force. However, the ADP adds that the system faces major sustainability challenges associated with serious environmental, social and economic implications.

"Deteriorated irrigation and drainage infrastructure with large O&M deficits has led to sub-optimal service delivery levels characterized by low water conveyance efficiencies and inequitable water deliveries, indicating huge investment needs to address deferred rehabilitation and maintenance backlogs currently estimated as Rs 170 billion" the ADP said, adding that development in the sector needs to embed cost-effective rehabilitation and modernization of the infrastructure with holistic reforms, which aim at improved management and service delivery levels.

On the other hand, key irrigation sector issues keep on plaguing the sector with low surface water delivery efficiency (only about 35-40% from the canal head to crop root zone); water distribution inequities; lack of storage capacity and control structures; wasteful on-farm water use; waterlogging and salinity; poor operation and maintenance (O&M) and low cost recovery; and a constrained investment climate. These issues are a manifestation of institutional weaknesses due to near exclusive control by the public sector entities characterized by the usual inefficiencies of centralized bureaucracies, lack of corporate skills, poor farmer focus and accountability.

29/09/2017 online at: https://www.pakistantoday.com.pk/2017/09/29/punjab-govt-neglecting-water-resources-management/

Water desalination plant to be set up in Gawadar city: Ahsan Iqbal

Federal Interior Minister, Ahsan Iqbal has said that a water desalination plant would be constructed to provide five million gallons of water per day to the residents of Gawadar city.

"An approval to this important project will be accorded during the next meeting of Joint Coordination Committee," he told APP in an interview.

He hoped that the 300 MW coal power plant being set up in the port city would also start functioning this year, adding, it would not only cater to the requirement of Gawadar city but the surplus electricity would be supplied in other parts of Balochistan province.

The minister informed that an electricity transmission line is also being constructed to link Gawadar city and other areas of Balochistan with the power plant.

Terming Gawadar as the gateway of China-Pakistan Economic Corridor (CPEC), he said that after the development of infrastructure by the government in the first phase, an expressway to like the port was being completed.

Ahsan Iqbal said the construction work on the Gawadar airport was likely to start this year and added, a Chinese team would soon visit Pakistan and review the design of the airport.

He said that a university had also been set up in Gawadar to provide higher education to the youth while a vocational training institute already set up to impart technical training to the locals was being expanded.

To make Gawadar a modern port city, the government has started work on the master plan with help of a Chinese top design company which will complete its task this year.

All the construction work will be carried out under this master plan to avoid congestion and other environmental issues.

About health facilities to the residents, he said a hospital with all modern facilities was being set up in the city, adding, all these projects would pay a key role for socio-economic uplift of Gawadar.

To a question, he said the CPEC had become an economic magnet which was attracting other regional countries to join this project of common development and shared destiny.

He informed that Saudi Arabia, Iran, and the Central Asian countries could benefit from this project through connectivity, adding, “It is up to us how can we include other countries in the CPEC and create opportunities for them.”

He said a special force comprised of 15,000 personnel had been set up for providing foolproof security to CPEC projects and Chinese workers in Pakistan.

All the provinces had also raised counterterrorism forces for this purpose, he said, adding, a task force had been made at the federal level for the coordination and information sharing between intelligence and security institutions.

“The Chinese workers are our guests and providing them security is the duty of every Pakistani,” he added.

Pakistan, the minister said, had recently join Shanghai Cooperation Organization (SCO) and through this platform, Pakistan could play a role of the bridge between Asia and Europe.

He said the other countries of the SCO wanted a positive role of Pakistan in this organization, adding, “We can share our expertise in counter-terrorism with the SCO countries and promote regional trade.”

“As Chinese and Russian languages are spoken in most member countries of the organization, we also want to introduce the Russian language in our country.”

He said thousands of Pakistanis were already learning Chinese language and now we took benefit from science and technology through the Russian language.

For this purpose, the government would announce scholarships for those who want to learn Russian language, Ahsan added.

Regarding cooperation in policing, he said a memorandum of understanding would soon be signed between Islamabad police and Beijing police for capacity building and sharing each other experiences.

The minister said that drug smuggling, human trafficking, and cyber crimes had become a challenge and these problems could only be dealt with the mutual cooperation.

The minister said he held a meeting with the head and officials of Chinese ministry of public safety and discussed integrated safe city projects being set up in various cities including Islamabad, Lahore, and Gawadar.

02/10/2017 online at: http://nation.com.pk/national/02-Oct-2017/water-desalination-plant-to-be-set-up-in-gawadar-city-ahsan-iqbal