

ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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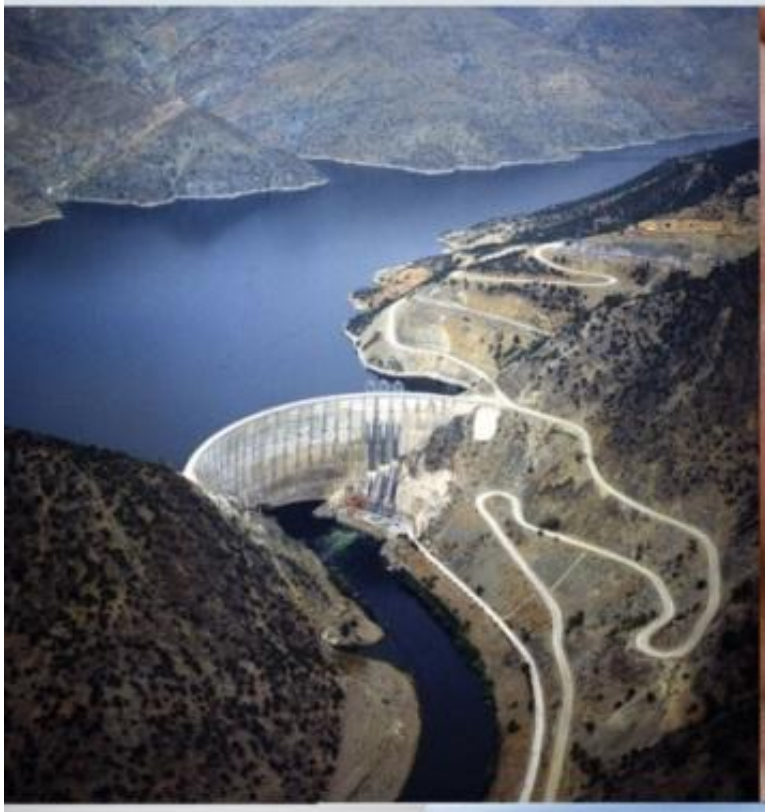



ORSAM WATER BULLETIN

18 July 2017 - 24 July 2017

In Rukban camp, residents now 'beyond desperate' without water

In a remote camp in southern Syria along the border with Jordan, 75,000 displaced residents are entering their second month without a steady source of water. At the same time, pro-Assad forces are advancing across southern Syria's remote rebel-held Badia region. In their wake, they are reportedly seizing an unknown number of naturally occurring rainwater pools within newly captured desert territory.

Last month, a Jordanian-built water line supplying the Rukban border camp broke down. People must now buy and transport any water they use from a source more than six kilometers away, a Rukban resident told Syria Direct at the time.

"Things are beyond desperate," Emad Abu a-Sham, a citizen journalist living in Rukban, tells Syria Direct's Noura al-Hourani.

Q: Describe the pools of rainwater that were seized.

They are collections of winter rainwater. Their sizes differ from one place to another.

This water is not safe for drinking—rather, it is used for bathing, cleaning and for watering livestock and other animals. For [these purposes], it is the main source [of water] for residents of the desert.

It is also the main source [of water] for the internally displaced in the [Rukban and nearby Hadalat border] camps, as well as the Bedouins who live in the desert. It gets them through the summer season.

Q: What is the short-term impact on civilians of the regime taking control of the rainwater pools?

Residents depend on herding livestock, so they are very afraid of not being able to secure drinking water for their herds.

In addition, displaced people in Hadalat and Rukban rely on these water sources in their daily lives—especially recently, since the interruption of the water network coming in from Jordan, which remains broken. Today residents are still relying on water tanks.

Q: How far are the natural rainwater pools and water tanks from the Rukban camp? How do people retrieve water?

Distances vary because the water sources are spread out. Some are around 20km away [from Rukban] while others are as far away as 50km. People who own water tanks or water trucks will fill them up and sell the water to refugees in the camp for anywhere between SP500 [approx. $1] and SP1,000 [approx. $2] per barrel.

Q: People actually sell something so naturally occurring as rainwater even when there are those in the Rukban camp living in such abject poverty?

People here in Rukban would sell stones if they thought that it would help them out. Things are beyond desperate and families will do whatever they can to feed their children in light of the situation. I don't even have the words to describe it. Nothing can compare to actually seeing what the situation is like here.

Q: Is the Hadalat camp [a similar border camp roughly 70km southwest] suffering to the same extent as Rukban?

The situation in Rukban is far worse because the water lines that came from the Jordanian side of the border are still broken due to technical failure. People are now paying a lot of money to obtain drinking water and now they depend mainly on water tanks.

20/07/2017 online at: http://syriadirect.org/news/in-rukban-camp-residents-now-%E2%80%98beyond-desperate%E2%80%99-without-water/

Is Syria really a 'climate war'? The links between drought, migration and conflict

The Syrian civil war has raged for more than six years now. You've probably heard the following story linking it to climate change: an intense drought, made more likely thanks to global warming, caused "mass migration" within the country from rural to urban areas, which in turn contributed to the 2011 uprising which then escalated into civil conflict.

This narrative assumes that there is a relationship between drought, migration and conflict. However, the connection is not so clear-cut. Our worry is that putting too much emphasis on the climate overlooks the role of political and socio-economic factors in determining a community's vulnerability to environmental stress. Conflict is not inevitable in the face of drought.

That's one conclusion from our work on drought and resource management in Syria. In our research, we broke down the popular "climate war" claim into two parts – the link between drought and migration, and the link between migration and conflict – to see if and how these factors fit together.

We started with the very idea of environmentally induced migration. The problem is that it's very difficult to determine the actual reasons why people leave home and look for opportunities elsewhere – a changing environment is likely to be only one among several factors and not necessarily the most significant. For instance, having the capital to move is a major factor for migration, so only those who can afford to move in response to drought are able to.

In the case of Syria, there has been no scientifically proven link between reduced rainfall or failed crops, and rural-urban migration. The evidence that has been used to prove the drought-migration link comes from displacement reports published by the Syrian government and UN assessment missions. The two phenomena are claimed to be linked because they coincided in time. Scientifically, however, this is not enough.

Is Syria really a 'climate war'? The links between drought, migration and conflict

Green fields in western Syria, before the civil war started. Credit: Jakob Fischer / shutterstock

The drought which affected Syria has been described as a severe, multi-year drought that lasted between 2006 and 2010. But rainfall levels in 2006, 2007, 2009 and 2010 were close to normal, both in Syria as a whole and in the northeastern "bread basket" region. This suggests that only 2008 was a real drought year.

A drought can be devastating for one community but barely noticed in another. Just look at the Kurdistan region of Iraq, which was affected by the same dry period as Syria but without any mass migration flows at the time. A community's vulnerability to drought is more important than the drought itself.

Various factors meant Syrian farmers were particularly vulnerable to drought. An overuse of water to nourish thirsty crops such as cotton had left the land dry and degraded. The government had also cancelled subsidies for fuel used to power irrigation pumps and to take produce to market – and it had dismantled a micro-finance network that had served as an income security net. A national drought strategy that had been approved in 2006 was not implemented once the rains dried up.

From migration to conflict

The second stage of the Syrian narrative is that migration causes violent conflict. While some research does suggest a connection, there is also evidence suggesting no strong link at all.

By simply looking at migration flows past and present, we can see that violent conflict is rare. In fact, migration may actually strengthen social and economic conditions in receiving communities in the developing world. While urban migration does not cause development per se, sustained economic development does not occur without it.

Religious, social and ethnic integration may also improve as contact with one another increases. However, migration can also promote conflict, through increased competition for resources and services, and tensions due to ethnic and demographic changes. The potential for conflict in a given urban space is mitigated by factors such as the destination area's ability to absorb migrants, the permanency of people's migration, and whether there is already social and/or political instability.

In the case of Syria, there was a mass exodus of farming families from the worst drought-affected areas in the north of the country (the agricultural bread basket of Syria) to the nearby cities of Damascus, Hama and Aleppo. However, what role this migration played in helping to fuel the uprisings and then the conflict is far from clear.

The initial protests broke out in the city of Daraa, in the south-east of the country, in response to the arrests and mistreatment of a group of youths allegedly caught painting anti-government graffiti. What started as a provincial uprising spread to other parts of the country where deep-seated socio-political dissatisfaction had been simmering for years.

What this sequence of events highlights is that the conflict is a culmination of several interconnected factors that had been steadily developing over decades. While drought, migration and conflict may all be linked by association, such links are not established facts and, in the case of Syria, they are difficult to gauge.

What can be said with much greater certainty is that economic struggles stemming from drought vulnerability, the loss of subsidies and the loss of agricultural wages did contribute to widespread dissatisfaction with the government. And it was this dissatisfaction which served as a rallying cry to unite people in opposition.

21/07/2017 online at: https://phys.org/news/2017-07-syria-climate-war-links-drought.html

Iranian MP warns against implications of Caspian Water transfer

An Iranian MP has criticized a controversial proposal on transferring water from the Caspian Sea to the drought-hit Semnan Province, warning about the catastrophic consequences of the long awaited plan.

MP Qasem Ahmadlashaki for Nowshahr City has expressed concerns over the proposal, saying the country's northern coastal area may turn into a desert following the implementation of the plan, Tasnim news agency reported.

He added that the plan on transferring water from the largest enclosed inland body of water on Earth would leave serious impacts on the lives of about nine million people living in the region.

The plan was first introduced in 2012 but the critics of the proposal have argued that pumping water from the sea will eventually lead to an increase in the Caspian Sea's salinity, endangering the countless habitats it supports.

21/07/2017 online at: https://en.trend.az/iran/society/2779689.html

Iran's Agro Exports Not Water Intensive

Less than 5 billion cubic meters of water are annually used in the cultivation of all of Iran's exported agricultural products, a deputy agriculture minister said.

"These items are pistachio, dates, grapes, watermelon and potato, none of which is water-intensive. For the cultivation of pistachio and dates, for instance, salty water is used and people need not worry that a lot of water is used to grow agro products for exports," Abbas Keshavarz was also quoted as saying by Mehr News Agency.

Last year, the Ministry of Agriculture explained that contrary to common belief, watermelon is not a water-intensive crop following complaints that its export was unjustified because of the acute water shortage in Iran.

Keshavarz explained that vegetables consume high amounts of water and this is why the government plans to expand the greenhouse cultivation of these products.

The Ministry of Agriculture plans to transfer all vegetable farms to greenhouses within 10 years to save 10 billion cubic meters of water annually.

23/07/2017 online at: https://financialtribune.com/articles/economy-domestic-economy/68782/iran-s-agro-exports-not-water-intensive

Iran Foreign Ministry Sets Up 'Water Diplomacy' Bureau

Iran's Ministry of Foreign Affairs has established a bureau for specialized handling of water disputes and restoring the country's rights, a spokesperson said.

Speaking to reporters in Tehran on Monday, Foreign Ministry Spokesman Bahram Qassemi said the water diplomacy bureau was formed a couple of months ago given the significance of water and Iran's climatic conditions.

The bureau works in cooperation with other Iranian organizations to restore the country's rights, he added.

Commenting on disputes with Afghanistan over common water resources and the Kabul government's plans to construct new dams, Qassemi said the two countries launched the first round of negotiations in Tehran last month, noting that the next meeting will be held in Kabul.

Iran and Afghanistan have a disagreement over allocation of water from the Hirmand River, as both sides suffer from droughts and climate change.

In a move in violation of a 1973 treaty with Iran, Afghanistan has refused to supply its neighbor with share of water from Hirmand, which rises in Afghanistan and flows through eastern parts of Iran, according to Iran's Energy Ministry.

24/07/2017 online at: https://www.tasnimnews.com/en/news/2017/07/24/1473152/iran-foreign-ministry-sets-up-water-diplomacy-bureau

Israel to help UP in water utility reform

Uttar Pradesh will be Israel's first major partner among Indian states to jointly work on water utility reforms, covering all aspects, including drinking water supply, in both rural and urban areas, efficiency and conservation.

This will be done as part of a MoU, between the UP Jal Nigam and Israel's ministry of national infrastructure, energy and water resources, during PM Narendra Modi's visit to Israel early this month.

As per the modalities, being worked out at the water resources ministry to carry on works within the MoU, the state will have a joint team of UP Jal Nigam, Central Water Commission, Central Ground Water Board and National Mission for Clean Ganga to identify the challenges and look for solutions in a timebound manner.

"Israeli authorities will then take up the problem areas to find solutions. In fact, UP will be a kind of test case for this India-Israel cooperation. If it succeeds in UP, it can well be replicated elsewhere," said an official.

23/07/2017 online at: http://timesofindia.indiatimes.com/india/israel-to-help-up-in-water-utility-reform/articleshow/59719549.cms

Drop in Water Levels in Israel's Sea of Galilee Basin Hurting Agriculture, Tourism

The continued decline in the amount of water in the Lake Kinneret basin area is causing serious damage to the tourism industry, in particular rafting and kayaking on the Jordan River, as well as harming agriculture in the region.

Environmental organizations are now trying to formulate a plan, in coordination with the Water Authority, which would use the water in the region to allow agriculture to continue – alongside recreational water activities in the streams.

The predicament of the water sources in the Sea of Galilee basin was presented on a tour of the area by representatives of the Knesset water caucus along with the Society for the Protection of Nature's water forum on Sunday. Two Knesset members, Yael Cohen Paran (Zionist Union) and Yitzhak Vaknin (Shas), took part in the tour.

Over the past few months, the water flow in the sources of the Jordan River including the Dan Springs, the river's main water source, have been about 40 percent below the annual average. This means a much smaller quantity of water reached the Jordan – and this amount becomes even smaller after farmers pump their irrigation water for crops from the river. Every year farmers build a small dam on the river to raise the water level, and they are allowed to keep pumping when the water level drops.

Those who suffer the most from the lower water levels are the operators of the kayaking and rafting sites. Often the level drops so low it is too dangerous for the kayaks as too many rocks are exposed, says Pini Almog, manager of the Abukayak site in the Jordan River National Park. In some places along the route, the tourists must get out of the boats and walk.

The Water Authority has required farmers to release some of the water from the dam they built to allow the kayaking sites to operate, as well as to save the flora and fauna along the river. This helps the flow in the river for a few hours a day, but it is not clear that this will be enough for the operators to make it through the summer tourist season, says Almog.

Rafi Noi, who heads the Galilee Water Association that manages the division of water to farmers, says that in September, when the flow from Dan Springs makes a further seasonal drop, there will probably not be enough water left to supply the two cubic meters a second the farmers are supposed to release.

The water shortage also causes damage to crops. The plunge in the water level has led to increased salinity of the water used for irrigation.

Officials from the Jordan Valley Regional Council told the tour participants about the effects of the salinity on crops. The soil near the lake is particularly sensitive to salt and this has begun to damage the banana farms, the most important crop in the region.

The main feature of the new water-use plan for the region is to stop pumping water from a large number of spots along the river or from springs. Instead, only a few central pumping stations will be allowed where irrigation water will be collected – after flowing through the streams first and serving the recreational sites along the way.

24/07/2017 online at: http://www.haaretz.com/israel-news/.premium-1.803242

Palestinians, Israeli settlers running out of water in West Bank

Palestinians and Israeli settlers are running out of water in their West Bank communities as Israel's Water Authority is unable to keep pace with high summertime needs given its inadequate infrastructure.

This includes the Palestinian cities of Ramallah and adjacent Beitunia.

The problem is particularly acute in the Samaria region where people are receiving water from barrels rather than their faucet, including in the settlements of Yitzhar and Shavei Shomron.

"It's scandalous," said Samaria Regional Council head Yossi Dagan who added that "it's impossible to accept that hundreds of families are drinking water out of bottles and barrels."

Water Authority spokesman Uri Schor stressed that water supplies have not been lost in the region.

"The infrastructure in the old Samarian area is not really suitable for all needs and for the growth of the population there – the Jewish population and the Palestinian population," he told The Jerusalem Post on Monday.

According to the Samaria Regional Council there is a shortage of 15,000 to 20,000 cubic meters of water in Judea and Samaria, which impacts both Israelis and Palestinians.

Last summer there were also shortages and "there is no long-term solution" in sight, the council added.

The inauguration of one infrastructure project did increase the amount of water by 5,000 cu.m. last summer, but it has not resolved the issue, the council said in a statement.

It added that, "those who are responsible have not advanced infrastructure projects quickly enough," the council said.

It added that in a few weeks work would end on another pipeline that would provide 3,500 to 4,000 cu.m. of water, but that the problem was still acute.

Schor explained that for years rehabilitating that infrastructure was impossible due to the inactivity of the Joint Water Committee. After the committee's recent revival, however, work has begun on improving conditions in the region, he said.

"Today we are working in order to expand the capability of supplying water in all Judea and Samaria," Schor continued. "It's a very complicated plan and it will take time, but once we finish, it will solve most of the problems."

"In parallel, we are doing whatever we can to supply more water to the area directly these days as well," he added.

The crisis in the region is mainly caused by two problems, according to Schor. The first revolves around the huge amount of Palestinian water theft that occurs in the West Bank, he explained. In the entire Judea and Samaria region, there are about 250 unauthorized drilling spots, predominantly in Areas A and B, in the Jenin and Jordan Valley regions, Schor said. Every year, authorities must disconnect hundreds of pilot connections to pipelines, he added.

The second problem is rooted in the dramatic rise in water consumption, from both the hot weather and agricultural use, Schor explained.

"The infrastructure in the area does not have the capacity to get more water, even if they wanted to," he said.

Nonetheless, Schor said that in the past few years, settlements have been requested to build water tankers in their vicinities in order to ensure that people would receive enough water during peak usage days.

"If you look at the situation today, you can see that in places where they did build those tankers, they hardly have problems, but in places that didn't, for different reasons, you have problems," he said.

Emphasizing that the entire country is combating the ramifications of an ongoing multi-year drought, Schor said that the Water Authority recently launched a campaign about wise water usage, particularly focusing on Israel's north.

"I'm calling all over the country to use water wisely, and not waste water," he added.

Samaria Regional Council head Yossi Dagan said he wanted to thank officials for their efforts, including Infrastructure Minister Yuval Steinitz and Deputy Defense Minister Eli Dahan.

But at the same time, he said, there are some four projects that need to be advanced including a central pipeline of water that would service thousands of Jews and Arabs.

19/07/2017 online at: http://www.jpost.com/Arab-Israeli-Conflict/Palestinians-and-settlers-running-out-of-water-in-the-West-Bank-500104

Gaza sewage water polluting Israeli groundwater

The Ministry of Health has instructed Mekorot—Israel's national water company—to close two pumping stations near moshav Nativ HaAsara over fears of water pollution stemming from Gaza sewage dumping.

The two pumping stations were closed after officials from the health ministry visited the sites where sewage had accumulated near the Erez Border Crossing.

In the last two weeks, following the collapse of water purification facilities in Gaza and the inability to repair them due to the electricity crisis, Palestinians in the northern neighborhoods of the Gaza Strip—Beit Hanoun and Beit Lahia—began to pump sewage into Nahal Hanun, which crosses Israel and empties into the sea.

As a result of the flow of wastewater, the stream was flooded, creating a large environmental hazard, which began to pollute groundwater from the coastal aquifer, from which Mekorot pumps drinking water.

In the last few days, the Palestinians have increased the flow of the sewage, forcing Israel to construct a dam in Nahal Hanun, east of Nativ HaAsara near the Gaza border. Initially, the Hos Ashkelon Regional Council had attempted to pump the sewage into trucks, but the amount of accumulated sewage rendered this option unfeasible.

The closing of ground water pumping stations is an extreme step and serves to highlight the extreme humanitarian crisis currently underway in the Gaza Strip and its direct impact on Israel.

"The Israeli government must understand that the difficult humanitarian situation in the Gaza Strip is worsening and its implications for the Gaza area communities are directly observable," said Ashkelon Regional Council head Yair Farjun.

"If the situation does not change, the entire State of Israel will be affected by what is happening on the other side of the border. We need immediate government intervention including policy formulation and decisions on how to deal with such phenomena," said Farjun.

19/07/2017 online at: http://www.ynetnews.com/articles/0,7340,L-4991114,00.html

US-Brokered Israel-Palestine Water Agreement

Background

On July 13, US President Donald Trump’s Middle East envoy, Jason Greenblatt, flanked by the Israeli Minster for Regional Cooperation Tzachi Hanegbi, and Hazen Gheim, head of the Palestinian Water Authority helped negotiate a water sharing agreement between the Israelis and the Palestinians. Israel has agreed to sell 32 million cubic metres of water annually to the Palestinians (22 million cubic metres to the West Bank, and ten million cubic metres to Gaza) as part of the Red Sea-Dead Sea Canal project. While the US and the Israelis described the agreement as a service to reconciliation efforts, the Palestinians are not confident that the agreement will contribute to further peace talks.

Comment

The agreement was made in light of the Red Sea-Dead Sea Canal project. First announced in December 2013, the project involves the extensive transportation of water from the Red Sea to the Dead Sea. In the Gulf of Aqaba, the Kingdom of Jordan's first desalination plant opened in March and began production in April. The plant is set to work at a capacity of 500 cubic metres per hour and is to treat water extracted from the Red Sea and supply it to the Israeli city of Elat and the Jordanian city of Aqaba. In addition to this, a 220 kilometre pipeline will transport 80-100 million cubic metres of water/brine from the Red Sea via Jordan to replenish the Dead Sea. Though the desalination plant is located in Jordan, the project entitles Israel to half of the water that the desalination plant produces; however, Israel has pledged to release 50 million cubic metres of water from the Sea of Galilee to Jordan. Israel and Jordan also pledged to extend the Red Sea-Dead Sea pipeline to the Jordanian capital of Amman so that drinking water can be supplied to the north of the Kingdom.Red_Sea-Dead_Sea_PipelineThe Dead Sea project, agreed upon by Jordan, Israel and the Palestinian Authority (PA) in 2013, did not include Gaza in any water sharing initiatives. The recently brokered Israel-Palestine water sharing agreement has rectified this, but the implications of the agreement vary between the vested parties.

The US-brokered water agreement reflects the direction Greenblatt is likely to take until conditions are right for a larger, more symbolic bid for peace between Israel and the Palestinians. At the time of Trump's visit to Israel in May, faith in Greenblatt, a long-time colleague and loyalist of Trump, was far from concrete. Even though many analysts believed Greenblatt trivialised the complexity of an Israeli-Palestine peace process, the envoy surprised many with his open-mindedness by visiting a Palestinian refugee camp, attending the Arab League Summit in Jordan and even having breakfast with Mahmoud Abbas, the President of the Palestinian Authority. Even though Greenblatt thinks he has a 'once-in-a-life-time opportunity' to provide a peace deal, it seems he is willing to listen to advice and take a more incremental approach to the peace process. This explains why Israel is pledging only 32 million cubic meters of water to Palestinians, a small amount to ask of the Jewish state. The US is committed to an incremental approach to peace talks, using water as a confidence building measure for talks on bigger issues like Jewish settlements in the West Bank.

The Palestinians were determined to earmark the agreement as a humanitarian initiative totally unrelated to the greater peace process between Israel and Palestine. Palestine does not want Israel, or the world, to think that water issues have been resolved. While the US has been happy to label the agreement a notable diplomatic success, the Palestinians are more inclined to see it as a humanitarian gesture. Gaza is currently facing a sewage crisis, mainly because electricity has been cut to the region and Israel has refused to sell power, citing terror funding concerns. Sewage is thus leaking into aquifer, river and ocean water sources, causing a subsequent water crisis.

Palestine is therefore inclined to see this agreement in a humanitarian light since no agreement was reached to restore Israeli power supplies which would have the capacity to fix, rather than stave off, the crisis. This probably explains why Palestine and China, supposed

allies, are warming to one another, with China pledging economic and capacity building agreements, including an industrial zone in Tarqumiya and electrical infrastructure. The next step in the agreement that the US must focus on is implementation. The water agreement will not nurture regional confidence in the US if the US is unable to make the agreement work. If the supply of water to Palestine falters, and Chinese investment efforts eventuate, the US will find it increasingly difficult to foster a peace process.

19/07/2017 online at: http://www.futuredirections.org.au/publication/us/

Israel seizes water pumps, tanks in the Jordan Valley

Israeli forces Wednesday seized water pumps and tanks in the northern Jordan Valley and destroyed a water pipe, according to WAFA correspondent.

He said staff from Israeli civil administration, the Israeli military government's arm in the occupied territories, and soldiers raided the area of Nabia al-Himma and seized water pumps and tanks.

Israeli forces also destroyed a water pipe in the area of Umm al-Jamal, also in the northern Jordan Valley.

Palestinians in the Jordan Valley say Israel is trying to make life impossible for them on their land as a way to get them to leave the area for the benefit of illegal Jewish settlement construction.

19/07/2017 online at: http://english.wafa.ps/page.aspx?id=jJ8htVa91389226566ajJ8htV

Palestine's 'Prayer for Rain': How Israel Uses Water as a Weapon of War

Prime Minister Modi has been betrayed by the Israeli Prime Minister who almost knowingly revealed what was a confidential exchange of views. Mr Modi does not know that the Israeli water miracle is in fact solidly based on the Palestinian water Israel has been consistently stealing from the occupied West Bank since its occupation in June 1967. We are re-publishing below an article published in The Milli Gazette issue 395 which shows the great Israel robbery of Palestinian water which is the backbone of the fake Israeli technology to save water (MG).

Entire communities in the West Bank either have no access to water or have had their water supply reduced almost by half.

This alarming development has been taking place for weeks, since Israel's national water company, "Mekorot", decided to cut off - or significantly reduce - its water supply to Jenin, Salfit and many villages around Nablus, among other regions.

Israel has been 'waging a water war' against Palestinians, according to Palestinian Authority Prime Minister, Rami Hamdallah. The irony is that the water provided by "Mekorot" is actually Palestinian water, usurped from West Bank aquifers. While Israelis, including illegal

West Bank settlements, use the vast majority of it, Palestinians are sold their own water back at high prices.

By shutting down the water supply at a time that Israeli officials are planning to export essentially Palestinian water, Israel is once more utilizing water as a form of collective punishment.

This is hardly new. I still remember the trepidation in my parents' voices whenever they feared that the water supply was reaching a dangerously low level. It was almost a daily discussion at home.

Whenever clashes erupted between stone-throwing children and Israeli occupation forces on the outskirts of the refugee camp, we always, instinctively, rushed to fill up the few water buckets and bottles we had scattered around the house.

This was the case during the First Palestinian Intifada, or uprising, which erupted in 1987 throughout the Occupied Palestinian Territories.

Whenever clashes erupted, one of the initial actions carried out by the Israeli Civil Administration - a less ominous title for the offices of the Israeli occupation army - was to collectively punish the whole population of whichever refugee camp rose up in rebellion.

The steps the Israeli army took became redundant, although grew more vengeful with time: a strict military curfew (meaning the shutting down of the entire area and the confinement of all residents to their homes under the threat of death); cutting off electricity and shutting off the water supply.

Of course, these steps were taken only in the first stage of the collective punishment, which lasted for days or weeks, sometimes even months, pushing some refugee camps to the point of starvation.

Since there was little the refugees could do to challenge the authority of a well-equipped army, they invested whatever meager resources or time that they had to plot their survival.

Thus, the obsession over water, because once the water supply ran out, there was nothing to be done; except, of course, that of Salat Al-Istisqa or the 'Prayer for Rain' that devout Muslims invoke during times of drought. The elders in the camp insist that it actually works, and reference miraculous stories from the past where this special prayer even yielded results during summer time, when rain was least expected.

In fact, more Palestinians have been conducting their prayer for rain since 1967 than at any other time. In that year, almost exactly 49 years ago, Israel occupied the two remaining regions of historic Palestine: the West Bank, including East Jerusalem, and the Gaza Strip. And throughout those years, Israel has resorted to a protracted policy of collective punishment: limiting all kinds of freedom, and using the denial of water as a weapon.

Indeed, water was used as a weapon to subdue rebelling Palestinians during many stages of their struggle. In fact, this history goes back to the war of 1948, when Zionist militias cut off

the water supply to scores of Palestinian villages around Jerusalem to facilitate the ethnic cleansing of that region.

During the Nakba (or Catastrophe) of 1948, whenever a village or a town was conquered, the militias would immediately demolish its wells to prevent the inhabitants from returning. Illegal Jewish settlers still utilize this tactic to this day.

The Israeli military, too, continued to use this strategy, most notably in the first and second uprisings. In the Second Intifada, Israeli airplanes shelled the water supply of whichever village or refugee camp they planned to invade and subdue. During the Jenin Refugee Camp invasion and massacre of April 2002, the water supply for the camp was blown up before the soldiers moved into the camp from all directions, killing and wounding hundreds.

Gaza remains the most extreme example of water-related collective punishment, to date. Not only the water supply is targeted during war but electric generators, which are used to purify the water, are often blown up from the sky. And until the decade-long siege is over, there is little hope to permanently repair either of these.

It is now common knowledge that the Oslo Accord was a political disaster for Palestinians; less known, however, is how Oslo facilitated the ongoing inequality under way in the West Bank.

The so-called Oslo II, or the Israel-Palestinian Interim Agreement of 1995, made Gaza a separate water sector from the West Bank, thus leaving the Strip to develop its own water sources located within its boundaries. With the siege and recurring wars, Gaza's aquifers produce anywhere between 5-10 percent of 'drinking-quality water.' According to ANERA, 90 percent of Gaza water (is) unfit for human consumption.'

Therefore, most Gazans subsist on sewage-polluted or untreated water. But the West Bank should - at least theoretically - enjoy greater access to water than Gaza. Yet, this is hardly the case.

The West Bank's largest water source is the Mountain Aquifer, which includes several basins: Northern, Western and Eastern. West Bankers' access to these basins is restricted by Israel, which also denies them access to water from the Jordan River and to the Coastal Aquifer. Oslo II, which was meant to be a temporary arrangement until a final status negotiations are concluded, enshrined the existing inequality by giving Palestinians less than a fifth of the amount of water enjoyed by Israel.

But even that prejudicial agreement has not been respected, partly because a joint committee to resolve water issues gives Israel veto power over Palestinian demands. Practically, this translates to 100 percent of all Israeli water projects receiving the go-ahead, including those in the illegal settlements, while nearly half of Palestinian needs are rejected.

Presently, according to Oxfam, Israel controls 80 percent of Palestinian water resources. "The 520,000 Israeli settlers use approximately six times the amount of water more than that used by the 2.6 million Palestinians in the West Bank."

The reasoning behind this is quite straightforward, according to Stephanie Westbrook, writing in Israel's +972 Magazine. "The company pumping the water out is 'Mekorot', Israel's national water company. 'Mekorot' not only operates more than 40 wells in the West Bank, appropriating Palestinian water resources, Israel also effectively controls the valves, deciding who gets water and who does not."

"It should be no surprise that priority is given to Israeli settlements while service to Palestinian towns is routinely reduced or cut off," as is the case at the moment.

The unfairness of it all is inescapable. Yet, for nearly five decades, Israel has been employing the same policies against Palestinians without much censure or meaningful action from the international community.

With current summer temperature in the West Bank reaching 38 degrees Celsius, entire families are reportedly living on as little as 2-3 liters per capita, per day. The problem is reaching catastrophic proportions. This time, the tragedy cannot be brushed aside, for the lives and well-being of entire communities are at stake.

24/07/2017 online at: http://www.milligazette.com/news/15772-palestines-prayer-for-rain-how-israel-uses-water-as-a-weapon-of-war

New water projects completed in northern governorates — minister

Minister of Water and Irrigation Hazem Nasser said that a number of water projects have been completed in northern governorates at a cost of around JD120 million, the Jordan News Agency, Petra, reported.

The projects are part of the government's efforts to improve the water and sanitation services provided to citizens of northern regions.

The projects were carried out in Irbid, Mafraq, Jerash and Ajloun in response to the urgent conditions posed by the influx of Syrian refugees, Petra reported.

He noted that the ministry is working to overcome the effects of the population growth due to the influx of refugees in northern and central governorates, resulting in the growing demand for water.

Nasser indicated that the projects fell within the ministry's plan for the summer of 2017 to improve the water supply in northern governorates, and Northern and Eastern Badia through five main projects, Petra reported.

The projects include the drilling and maintenance of multiple wells in different parts of northern governorates, the implementation of a water network linking the four governorates, the development of new water sources within the governorates, the expansion of pumping stations, treatment and desalination of water, and the maintenance and building of main water tanks in several locations, according to Petra.

Nasser said that the implementation of these projects has led to enhanced water supply in the governorates and reduced the amount of water loss.

19/07/2017 online at: http://www.jordantimes.com/news/local/new-water-projects-completed-northern-governorates-%E2%80%94-minister

All water resources, facilities in Jordan to be fully monitored by 2019

By the end of 2019, the Kingdom's 500 water resources and facilities will be monitored by cameras and control systems to safeguard the water infrastructure from violations and sabotage, according to a government official.

The plan is part of an ongoing effort to monitor the country's strategic water resources around-the-clock in order to detect malfunctions and violations, an official at the Ministry of Water and Irrigation said, indicating that some 120 strategic water resources are currently subject to continuous security monitoring.

The ministry will start installing a "comprehensive technical and security surveillance system" on the King Abdullah Canal, as well as three main dams, within a month, the official added.

The water resources and facilities, including dams, wells, pumping stations and reservoirs, are now being connected via cameras and control systems to a recently established centre at the ministry, in order to monitor and remotely control the operations of the water resources.

"In light of the current regional instability, linking water resources and facilities which are situated at the Kingdom's borders with Syria and Iraq is our top priority, in order to protect them from individual or collective acts of sabotage, such as pollution or explosions," the official, who preferred to remain unnamed, told The Jordan Times.

The centre's employees monitor screens transmitting live streaming of the water resources, which are already linked to the centre, the official said, noting that they contact security authorities to send patrols to water resources when suspicious movement is noticed.

The centre uses screens to monitor the strategic water locations categorized according to the National Policies Council's standards for water resources, using an early warning system. The ministry also indicated that, over the next three years, more highly trained employees will be assigned to monitor all of the water locations.

The centre is connected to the National Centre for Security and Crisis Management and the Public Security Department to provide technical data around-the-clock.

Prime Minister Hani Mulki inaugurated the centre late last month and launched a unified phone number for water complaints (117116).

The monitoring centre also observes the quality and quantity of water resources, and any detected technical error is resolved through its systems, according to the official, who

indicated that scores of violations on the water networks and resources have already been detected via the centre.

21/07/2017 online at:

https://www.zawya.com/mena/en/story/All_water_resources_facilities_in_Jordan_to_be_fully_monitored_by_2019-ZAWYA20170721062608/

Jordan- Africa's water challenge

Water is essential for life, and yet it is scarce in many parts of the world.

Owing to the effects of climate change, Africa is experiencing its worst drought since 1945, especially in Southern Sudan, Somalia, #Ethiopia and northern Nigeria.

These fragile areas now need the global community's support.

We need to build resilient systems to ensure access to potable water for all people, and to improve water-delivery and sanitation provisions in Africa's rapidly growing urban areas.

We should begin by expanding Africans' capacity to harness wastewater.

With investment and proper management, wastewater can become a sustainable source of wealth for many Africans, with added benefits for human health, agricultural productivity and environmental sustainability.

Over the past six years, the African Development Bank has invested 3.3 billion in projects to expand access to water and improve sanitation, with around 2.2 billion of that going to urban services that reach at least 17 million people.

The AfDB supports an integrated urban water-management model (IUWM) that, in keeping with United Nations Sustainable Development Goal 6, enables communities to derive a sustainable income from management of urban liquid and solid waste.

IUWM efforts require a significant initial investment, and come with steep capital and operational costs.

Only a few African cities collect and treat any more than 20 per cent of the wastewater generated through centralized wastewater-management systems. The remaining 80 per cent constitutes a huge untapped source of potentially valuable liquid and solid waste.

With the right investment, foresight and commitment, this underappreciated resource can create jobs and deliver sustainable growth.

Wastewater management is thus a central feature of the AfDB's strategic priorities, known as the High 5s, which aim to improve Africans' quality of life, boost public health, achieve gender equality, create jobs and increase communities' resilience to the effects of climate change.

Water will also play a key role in reaching the High 5s' industrialization and sustainable farming objectives. In Yaound, Cameroon, the AfDB helped protect some 300,000 people and their property by reducing the frequency of floods from 15 incidents per year to just three.

And with a 40 million sanitation project, the AfDB helped to lower the proportion of the city's malaria-afflicted population from 16 per cent to 12 per cent.

In Abidjan, Cte d'Ivoire, the 23 million AfDB-funded Gourou Basin Integrated Watershed Management Project significantly reduced flooding throughout the Gourou Basin, and improved 2.8 million inhabitants' livelihood

In Zimbabwe, after 4,300 people died in the 2008-2009 cholera pandemic, the AfDB and other donors supported the 43.6 million Urgent Water Supply and Sanitation Rehabilitation Project, which made emergency repairs to wastewater systems in urban areas, helping 2.5 million people.

All AfDB-supported wastewater-management systems follow sustainability strategies to ensure that they enhance economic gains, benefit local communities and remain affordable.

These projects also help countries to harness and use waste flows, by converting sewage to biogas and fertilizer. Meanwhile, the AfDB's African Water Facility (AWF) complements its project-finance work by attracting downstream investments in water infrastructure.

In February, flooding and strong winds from Tropical Storm Dineo devastated the coast of #Mozambique and had a severe impact on the local population. But just a few weeks later, the AWF launched a feasibility study to improve livelihoods and climate-change resilience throughout Mozambique's Inhambane Province, where the storm struck.

In collaboration with the Global Water Partnership, the AWF is implementing IUWM systems in five African cities, including Kinshasa, in the Democratic Republic of Congo, and Marondera, in Zimbabwe.

In the DRC alone, IUWM systems can be expected to improve water delivery and sanitation for 17 million people by 2030.

The Bill & Melinda Gates Foundation is also tapping into the AfDB's expertise by providing an 18 million grant to fund Phase II of the AfDB's Urban Sanitation Programme.

This effort will help to develop business innovations for affordable and sustainable sanitation services in Africa, which could reach two million urban dwellers directly and another six million people through subsidiary projects.

Africa's wastewater-management challenges are substantial and complex. But the AfDB is determined to provide opportunities that pay dividends for African communities — in public health, improved sanitation, economic development and environmental protection.

Improving the quality of life for all Africans will require political commitment, public-private partnerships and robust public involvement.

With the High 5s framework, the AfDB is working to bring these three ingredients together.

All stakeholders — in Africa and internationally — must redouble efforts to ensure clean, affordable water for all, and to support African countries suffering through a historic drought.

We have a moral obligation to do so. After all, water means life.

23/07/2017 online at: http://www.menafn.com/1095650548/Jordan--Africas-water-challenge

Egypt faces water insecurity

Egyptian farmers along the lower Nile have little information to guide them as upriver barrage threatens to compound the impacts of global warming. While some blame Ethiopia, which is building a hydropower dam upriver, experts point to climate change and the demands of a growing population.

As reported by Climatechangenews.com, the Nile's fresh water flow to Egypt may be cut by up to 25% over the next five or 15 years.

"Nobody is telling farmers how to mitigate and adapt to climate change," said Magda Ghoneim, a socio-economist and professor of agricultural development at Ain Shams University. "Adding the pressure of a dam puts Egypt on the verge of catastrophe. Soon enough we won't [find food to] eat."

The challenges for farmers are myriad: new diseases and insects, unprecedented humidity, rising seas contaminating groundwater with salt. Indeed, when Abo Khokha tried pumping underground water to make up for reduced river flow, he found only half the usual volume, with a higher level of salinity.

A study recently published in Nature found that climate change is bringing greater variability in the Nile River flow this century compared to the last. In the Nile's seven-year cycle of flood and drought, the former is becoming heavier, and the latter more extreme.

Egypt's five million feddans (21,000 square kilometres) of crops consume more than 85% of the country's share of Nile water. With an annual supply of 600 cubic metres per person, the country is approaching the UN's "absolute water scarcity" threshold, as the population closes in on 100 million. Water is a sensitive subject.

19/07/2017 online at: https://www.neweurope.eu/article/egypt-faces-water-insecurity/

Water pictured around Renaissance Dam alarms Egyptians

Satellite images taken July 10 and showing around 200 million cubic meters (almost 53 billion gallons) of water pooled at the Grand Ethiopian Renaissance Dam (GERD) reservoir site have sparked controversy in Egypt amid fears that Ethiopia has started filling the reservoir. The Egyptian government, however, says the pooling water is due to construction and the 2017 seasonal Nile flooding.

On July 12, the Egyptian government stated that the water pools have no impact on Egypt's water quota. On the same day, Haytham Awad, the former head of the Irrigation Engineering and Hydraulics Department at Alexandria University, told Egyptian news outlets, “After analyzing the newly acquired satellite images of the Renaissance Dam reservoir site, it appears that a small new lake is being formed over a surface around 16 square kilometers [10 square miles].”

Awad told Al-Monitor that this quantity of water could be the beginning of a water-storage process or could be gone by the end of the flooding. If the former is true, “The filling by Addis Ababa of the Renaissance Dam before the end of the neutral technical studies conducted by international consultancy firms would constitute a breach of Article V of the Agreement on the Declaration of Principles on the [GERD project] signed between Egypt, Sudan and Ethiopia,” he said.

He noted, “The pooled water does not represent more than 1% of the Renaissance Dam’s lake [capacity] after completion of the dam. This lake will have a surface area of 1,680 square kilometers [1,044 square miles], and the reservoir would contain 74 billion cubic meters [19.5 trillion gallons] of water.”

He said the quantity of the pool can be discharged in less than one day into the Blue Nile.

Egypt’s Ministry of Water Resources and Irrigation spokesman Hossam Imam told Al-Monitor, “Ethiopia is not filling the dam lake. The quantity of stored water will shrink when the Nile flood season ends in Ethiopia’s highlands.” Imam stressed that the water is pooling for the first time around the dam due to the large amount of construction work and because the water quantities flowing to the Blue Nile have exceeded those currently discharged from the dam’s tunnels.

The anxiety comes in the context of stumbling technical negotiations between Egypt, Sudan and Ethiopia led by the National Tripartite Committee, composed of 12 experts from the three countries.

The French consultancy firms hired to conduct impact studies of the dam on Egypt and Sudan submitted an introductory technical report earlier this year, to diverging opinions among the three concerned states.

Cairo had expressed fear that the studies would never be completed. Egyptian Foreign Minister Sameh Shoukry had told his Ethiopian counterpart, Workneh Gebeyehu, in a July 1 meeting on the sidelines of the African Union preparatory meetings in Addis Ababa that Egypt would be the most affected by the construction of the GERD if its concerns are not taken into consideration.

In a July 1 statement, Egyptian Foreign Ministry spokesman Ahmed Abu Zeid said, “Shoukry assured his Ethiopian counterpart that the Declaration of Principles signed between Egypt, Ethiopia and Sudan clearly confirms the necessity of abiding by the results of the studies on the possible impacts of the dam on the two downstream states.”

Abu Zeid also said Shoukry told Gebeyehu, “Losing more time without conducting such studies at their specified dates would bring the three countries major challenges,” and that “political intervention would be necessary to put things in order to maintain ongoing technical cooperation.”

Shoukry also repeated the request of the Egyptian Water Resources and Irrigation Ministry to his Ethiopian and Sudanese counterparts to hold an urgent ministerial meeting concerning the Tripartite Committee. The committee needs to issue instructions for moving forward on the introductory technical report, which it has yet to accept.

Abu Zeid further indicated that the Ethiopian foreign minister affirmed his country is committed to cooperating with Egypt to complete the tripartite technical negotiations and to finalize the studies on time, stressing Addis Ababa’s commitment to the 2015 Declaration of Principles.

Mona Omar, who was the assistant of the former Egyptian foreign minister for Africa and is currently the director of the African Center at the British University in Egypt, told Al-Monitor, “There are no negotiations at the moment about the Renaissance Dam. The three countries are awaiting the impact assessment studies conducted by international consultancy firms. An introductory report by those firms was submitted a long time ago and has yet to be discussed, prompting Cairo to call for an urgent meeting of water ministers in Ethiopia, Sudan and Egypt.”

Commenting on Ethiopia’s pledge not to fill the dam before the technical studies are complete, Ahmed Mufti, a Sudanese expert on international law who resigned from the first GERD international panel of experts formed in 2011 told Al-Monitor the outcomes of the studies are not binding for Ethiopia, according to the Declaration of Principles. “There is no specific obligation for Ethiopia when it comes to the first filling of the dam,” he said.

He confirmed that the National Tripartite Committee was expected to decide on three topics: the rules regulating the first filling of the dam, the annual operational rules and how to deal with the negative impacts. “This committee has been around for four years and has yet to agree on any of those issues. This requires searching for an alternative for the technical committee negotiations,” he added.

The Declaration of Principles signed between Egypt, Sudan and Ethiopia in March 2015 set a period of 15 months as of the start of the two studies recommended by the international panel of experts to complete the impact assessment studies on Egypt and Sudan.

The consultancy firms have yet to finish their studies. Their contracts ended in September and they had agreed to submit final reports within 11 months, but because of disagreements among the various parties involved, a timely conclusion appears unlikely.

24/07/2017 online at: http://www.al-monitor.com/pulse/originals/2017/07/egypt-renaissance-dam-ethiopia-storing-water-nile-flood.html

China-Pakistan Water Axis on the Indus

Before the Belt and Road summit held at Beijing in mid-May 2017, several memoranda of understanding (MoU) were finalised between China and Pakistan. Significant among these was an agreement to construct an array of hydropower projects, to be referred to as the North Indus Cascade. Consisting of five major hydropower projects including the much delayed and controversial Diamer Bhasha Dam (DBD), the Cascade will cut across Gilgit Baltistan, a part of Pakistan occupy Kashmir (PoK), as well as Pakistan's Khyber Pakhtunkhwa province. Notably, China has committed a whopping USD 50 billion for this cluster of projects on the transboundary River Indus, with a projected cumulative hydropower generation capacity of over 22,000 MW.

The MoU on these Indus projects was concluded between Yousuf Naseem Khokhar, Pakistan's Secretary of Water and Power Development Authority (WAPDA), and China's Ambassador to Pakistan, Sun Weidong, on the side-lines of a conference organised by China's National Energy Administration (NEA) on May 13. Prime Minister Nawaz Sharif, who was in Beijing to attend the BRI summit, was present on the occasion. Citing the critical importance of water and food security for Pakistan, Sharif expressed unequivocal gratitude for China's generosity and applauded the efforts made by Chinese agencies and representatives. He observed: "Development of the North Indus Cascade is a major focus of my government and the construction of the Diamer Bhasha Dam is the single most important initiative in this regard."1 And he commended China's NEA for organising a separate session on DBD in the course of which various presentations were made by different companies and their assessment of the multibillion dollar project was also laid out.

Like the China Pakistan Economic Corridor (CPEC), the North Indus Cascade has gestated over a period of time. In August 2015, Pakistan held talks with China's NEA on several of these projects.2 Subsequently, at a Joint Coordination Committee (JCC) meeting of CPEC in January 2017, it was stated that, on Pakistan's request, the Chinese side is willing to consider including the "non-controversial" projects under the Cascade in the CPEC scheme.3 The 'non-controversial' here refers to those projects on which Pakistan's provinces have arrived at a consensus. Then, in April 2017, it was reported that Pakistan has urged the World Bank to support some of the hydropower projects including Dasu and Tarbela and that the bank's representative was positive towards the request.4

String of Dams

The North Indus Cascade is envisaged to originate in Skardu in Baltistan before flowing into Khyber Pakhtunkhwa with a mammoth projected cumulative installed capacity of about 22,230 MW of hydropower. The string of projects include: Bunji dam (7100 MW), Diamer Bhasha dam (4500 MW), Dasu dam (4320 MW), Patan dam (2,400 MW) and Thakot dam (4000 MW).5 River Indus's gross hydropower potential is estimated to be 40,000 MW and, through these projects, Pakistan and China aim to harness at least half of it.

Bunji: The 190 metre Bunji dam is located at Asmani Mor on the Gilgit-Skardu Road. The MoU for the project was inked in 2009 between China Three Gorges Corporation (CTG) and WAPDA.6 Although initially categorized as a run-of-the-river project, the nature of the dam is, however, a matter of speculation given that the description provided includes a reservoir as

well as the extent of inundation likely to be caused.7 The project has been in the pipeline for long and the engineering design and tender formalities were completed in 2013.8

Diamer Bhasha: Each project in the North Indus Cascade is significant in its own right. However, DBD stands out considering that it has been inordinately delayed due to lack of funding. Pakistan's appeals for funding for the project failed to move the World Bank, the Asian Development Bank (ADB) and even its strategic partners, the United States and China. The World Bank urged Pakistan to procure a No Objection Certificate from India given that the dam is located in disputed Gilgit Baltistan. The donor conferences hosted by the US and China to secure funds also failed. Further, DBD is also embroiled in a domestic tug of war due to inter-provincial differences over the share of royalty. Finally, the negative consequence of constructing a huge dam in an ecologically fragile belt has also proved difficult to ignore.9

Now, however, China is stepping up to the plate. It is possible that DBD may become part of the CPEC stable as was speculated not long ago.10 It has already been proposed that DBD be subsumed into CPEC and included thereafter in the subsequent phase of energy projects under that initiative. But, of late, there have been conflicting signals on whether DBD will be part of CPEC or remain purely a part of the North Indus Cascade.11

Dasu: Equally critical is the Dasu Project, often pitched as an alternative to the long held-up DBD. In 2014, the World Bank agreed in principle to fund the project which lies 74 km downstream to DBD and 240 km upstream of the Tarbela dam.12 Unlike DBD, Dasu has so far steered clear of controversy. It is a comparatively smaller project, to be built in two phases, without boundary/territorial issues and largely free of inter-provincial dissonance that patently impedes Pakistan's development projects. The first phase of the project with a capacity of 2160 MW is under way. The cost of this phase is estimated at approximately USD 4.2 billion, with the World Bank as the lead donor.13

Patan: Like the DBD, the Patan project would also use roller-compacted concrete (RCC) technology. The project is located four kilometers upstream of village Patan in Kohistan, Khyber Pakhtunkhwa. An underground powerhouse is being planned downstream of the dam on the left bank of River Indus. The dam's height is expected to be 104 meters and the feasibility study for the same is being prepared by Lahmeyer International consultancy, a Germany based organisation.14 In the past, this consultancy firm has collaborated with WAPDA on several projects in Pakistan and PoK, including on DBD in the initial phases.

Thakot: The project built on a narrow stream of the Indus will be situated upstream Besham Qila and the power house is planned 15 km downstream of the Thakot Bridge on the Karakoram Highway. It is slated to be completed in December 2017, with the feasibility study having been completed in December 2015.15 But the project is mired in controversy. Residents of Lahore-Besham have reservations about the name of the project given that the 26 km long power tunnel traverses through Shangla district and ends at Sarkool in the same district.16

Having conducted a preliminary survey of the various projects in the North Indus Cascade, Chinese agencies and companies will spend the next few months ascertaining further details

of each. Pakistan's Minister for Water and Power, Khwaja Asif, noted the completion of feasibility studies by the Chinese on the Indus Cascade as an "achievement" and emphasised that hydropower projects in Pakistan could benefit a great deal from Chinese technical expertise.17 It is widely reported that CTG is the frontrunner among various Chinese companies.18 China's NEA will be the lead agency and administer the finances of the Cascade. This is said to be the first occasion when Pakistan's hydropower sector has been thrown open to the private sector, which till now was completely administered by WAPDA. Besides, China is also engaged in resettlement work and the contract for the same has been awarded to the Zhongmei Engineering Group.19 This has been occasioned by the fact that both the DBD and Bunji projects are slated to cause large scale inundation and usher in massive displacement of population along the Karakoram Highway.

Besides alleviating Pakistan's energy crisis, the range of dams including DBD have been projected as an essential silt trap for the Tarbela dam where the Cascade will merge. The Tarbela hydropower project in Khyber Pakhtunkhwa is currently Pakistan's largest dam and faces an imminent challenge from silting. There is, however, a view that trapping the silt/sedimentation thus could impact the quality of soil downstream and deprive agricultural lands of their source of nourishment.20

CPEC, North Indus Cascade and India: Contention Redux

There are striking parallels between CPEC and the North Indus Cascade, apart from the fact that both run through PoK. Both are massive projects supported by China and vouch to end Pakistan's energy woes. CPEC's budget has been revised from USD 46 billion earlier to USD 57 billion. At USD 50 billion, the North Indus Cascade is the second largest Chinese commitment towards Pakistan in terms of the volume of proposed aggregate investment.

Both projects have geopolitical underpinnings, given the India angle.21 Lately, India has been vocally assertive about its claim on PoK. India's objection to the DBD in the past, and presently on CPEC, is based on its claim of sovereignty over PoK. It follows that the proposed North Indus Cascade originating in Baltistan is likely to be similarly contentious. India refused to participate in the BRI summit in Beijing owing to territorial sovereignty claims over Gilgit-Baltistan through which the CPEC arm of BRI is slated to proceed. But ignoring India's objections to projects in PoK, Pakistan and China are brazenly determined to go ahead with their agenda. With the contentions on CPEC yet to be settled, the North Indus Cascade is likely to cause further discord between the three countries.

China a Party to the Dispute over the Indus

The Indus Waters Treaty (IWT), which defines the parameters of water sharing between India and Pakistan, is one agreement that has weathered the vagaries of wars and persistent bilateral disputes. However, in the wake of the September 2016 terrorist attack on the Uri military base, IWT came under close scrutiny as public opinion in India became severely polarised against Pakistan. Revising/revoking the IWT was one of the options that the government is noted to have explored in order to deal with an errant Pakistan continuing to perpetrate cross-border terrorism.

Similar to the Kashmir problem where China is incrementally seen as the third party because of its stakes in PoK and control over portions of the territory of the former princely state ceded to it by Pakistan, the North Indus Cascade is likely to make China the third actor in the Indus framework. Besides CPEC, India will now to have to contend with the emerging Sino-Pakistan collaboration on the Indus. It has no choice but to proclaim its sovereignty and territorial concerns in this regard as well.

Sino-Pakistan Water Axis in the making

Some recent overtures from Pakistan and China have tangentially proposed an Indian role in CPEC. China's Ambassador to India had recently noted that CPEC could be renamed if such a move would mitigate India's concerns. Similarly, it has been reported that China is insisting on renaming DBD (already renamed once in 2004 to include Diamer in the wake of popular demand), which is now a part of the North Indus Cascade.22 It has urged that the name Diamer be dropped since it is part of disputed Gilgit Baltistan. But merely altering the name would tantamount to trivialising a complex and sensitive issue concerning territoriality and sovereignty. Further, China has tried justifying CPEC as a livelihood project and it could certainly articulate a similar rationale for the North Indus Cascade as well. India's strategic challenges will only intensify with the coming up of the North Indus Cascade.

In J&K, which is currently under turmoil, a prevalent sentiment among the people is that the central government sacrificed the legitimate share of the Kashmiris on the Indus in Pakistan's favour.23 It is widely argued in the state that IWT is unfairly skewed in Pakistan's favour and this has adversely impacted the livelihood of Kashmiris. It is natural that once the North Indus Cascade fructifies India may have to further contend with popular misgivings that stem from looking at the other side of the LoC and the development prospects that Chinese-aided projects are expected to augur in due course.

India is yet to fully harness its permissible share for storing water up to 3.6 MAF (million acre-feet) under IWT in the western rivers (Jhelum, Chenab and Indus) allotted for its use.24 Besides, in comparison to Pakistan's tally of dams on the eastern rivers including those on the Indus, India has so far built only a small number of run-of-the-river dams on the western rivers. Even small-scale efforts such as the 330 MW Kishanganga Hydro Electric Plant (KHEP) in Bandipore have been challenged by Pakistan in international tribunals. Whereas Indian projects have been stymied by Pakistan's repeated challenges, India has so far not sought either the opinion of neutral experts or international arbitration on DBD or Bunji projects. Instead, it has simply limited itself to making ritual objections. China's involvement in the construction of mega dams on the Indus and its increasing presence in Gilgit Baltistan will further accentuate India's concerns. Given this, India needs to explore ways to deal with these concerns.

What lies ahead?

High profile projects such as CPEC and North Indus Cascade will enable China to exploit resources under Pakistan's control. However, before looking at what China is doing in cahoots with Pakistan, certain domestic realities within China must be accounted for,

foremost being the saturation levels in the manufacturing sector, idle machinery, labour, etc. The same could be partially, if not wholly true, with regard to China's dam construction industry. A report prepared by Urgewald, an environmental lobbyist group based in Germany, shows how China's state-owned enterprises – China Datang Corporation, China Huaneng Group, and State Power Investment Corporation (SPIC) – are involved in the majority of overseas coal-fired power projects in contravention of China's stated commitment on climate change.25 The same report also notes that the state-owned Shanghai Electric Group plans to undertake the construction of coal-fired power plants in Pakistan, Egypt and Iran despite coal, volume-wise, being responsible for the largest share of carbon emissions.26 China is facilitating its idle state-owned companies to find overseas projects due to a steep fall in domestic demand.27 The same logic of limited domestic options and the consequent focus on projects and investments abroad could be applied to powerful state enterprises like CTG which may well lead the envisaged projects on the Indus. Perhaps, this would also partially answer puzzling questions as to why China plans to funnel more than USD 100 billion into Pakistan (approximately a third of Pakistan's GDP) – a country plagued by domestic turmoil, militancy and a sagging economy.

China's approach towards transnational rivers has been erratic and bullish. It has no regard for ecological concerns, which was clearly evident during the construction of the Three Gorges Dam — a project that continues to raise critical questions concerning its ecological impact. China's recent decision to go ahead with the construction of the DBD and Bunji dams as part of the North Indus Cascade further demonstrates its disregard for ecological implications. Both projects are located in ecologically fragile seismic belt.

Irrespective of China's and Pakistan's rationales for the North Indus Cascade, India must look at options that can diminish the challenges arising from what appears to be an emerging Sino-Pakistan axis on the Indus waters. It needs to evolve a calibrated and robust response that comports with its legitimate sovereign territorial interests and corresponds with its previously stated positions on projects such as DBD and Bunji. The North Indus Cascade violates India's territorial sovereignty and poses another collusive China-Pakistan challenge.

19/07/2017 online at: http://www.idsa.in/issuebrief/china-pakistan-water-axis-on-the-indus_psingh_190717

The politics of water

"If the wars of this century were fought over oil, the wars of the next century will be fought over water". This statement was made by Ismail Serageldin; a former high-ranking executive at the World Bank and a renowned water security activist. The veracity of his assertion stands confirmed when one sees the state of affairs between Pakistan and India; two nuclear power neighbours, who have been wrangling over the waters of the Indus River System for the past seven decades.

The Radcliffe line not only divided the Indian subcontinent into two sovereign nations, but also cut through a developed irrigation system without providing any mechanism for the division of water between the newly created states. The Indus river system flows from

Jammu and Kashmir into Pakistan. Indian forces illegally and unilaterally occupied Kashmir in 1948 and gained control over the flow of water into Pakistan. The Kashmir issue, which has since become an international human rights problem, is inextricably linked with the Indus river system, as both the countries want unfettered jurisdiction over the waters of Indus.

India, following its illegal occupation of Kashmir started using this precious natural resource as a weapon and turned off the flow of water into Pakistan to pressurise its neighbour to rescind its claim over Kashmir. This act of aggression threatened the very existence of

Pakistan, as the country's agrarian economy and food security are largely dependent on the smooth flow of the Indus river system. However, after international intervention, India was forced to reinstate the water supplies.

The Indus river system remained largely unregulated until 1960, when the much-celebrated Indus Water Treaty (IWT) was signed between the two squabbling neighbours. The treaty was signed after eight years of arduous rounds of negotiations between Pakistan and India, led by the World Bank. World powers including the United States, United Kingdom, Germany and Australia also played a pivotal role in making this treaty a reality, which was finally signed between Pakistani President Ayub Khan and Indian Prime Minister Jawaharlal Nehru on September 19, 1960 and ratified in 1961.

The treaty provided an amicable settlement for the division of the waters of the Indus. The scheme envisaged in the treaty gave complete control of the three western rivers of the Indus system namely Indus, Jhelum, and Chenab, whereas the waters of the eastern rivers including Ravi, Sutlej and Beas, were made freely available to India.

The conclusion of the treaty of 1960 between the two countries was a miracle in itself. The countries found a diplomatic solution for the division of a resource, which was paramount to their survival and prosperity. Dwight Eisenhower, then president of the United States, described it as "one bright spot in a very depressing world picture that we see so often". The Indus Water Treaty can be rightly termed as a quintessential display of amicable dispute settlement. The treaty has survived almost five decades of a turbulent relationship between the two states during which they have fought three wars. The resolve of the two neighbors to abide by the treaty demonstrates their willingness to cooperate with each other in order to safeguard their access to the waters of the Indus river system.

However, despite the success of the Indus water treaty as a whole, the Indian government has continued their hostile policy, first deployed in 1948, of using water as a strategic weapon against Pakistan. A recent example of this strategy was the harsh rhetoric used by Indian leaders in the aftermath of the September 2016 Uri attack carried out in Indian occupied Kashmir. The Indian government hastily blamed Pakistan for this atrocity in which 19 Indian soldiers were killed and threatened to disrupt Pakistan's supply of water. An antagonistic Indian premier stated on September 26, 2016, "blood and water can't flow together", thereby reiterating India's long lasting stance on the subject.

Apart from these occasional threats and unruly ultimatums from India, Pakistan has also raised its concerns in international forums, including the World Bank, about India's illegal construction of dams and power projects on the western rivers of the Indus system. Pakistan disagrees with the construction of the 330 megawatts Kishenganga and 850 megawatts Ratle hydroelectric plant being built by India on the Jhelum and Chenab River, respectively. The treaty entitles Pakistan to the unrestricted use of the water of these rivers and as such India stands in violation of its obligations under the 1960 treaty, as these projects are deemed to disrupt the supply of water into Pakistan.

The prosperity of Pakistan is essentially dependent on water security. According to estimates, the country is believed to become the most water-stressed state of the region by the year 2040. In order to grapple with the issue of water security, Pakistan needs to follow a two-pronged strategy. Not only does it need to make a strong diplomatic case against the continued violations of the 1960 treaty by India in order to secure its uninterrupted supply of water from the Indus system but it also needs to preserve and store the water it already has. According to the Wapda chairman, Pakistan loses Rs25 billion worth of water every year due to non-preservation and lack of storage facilities. The shortage of dams and reservoirs to preserve water for future usage poses a serious threat to the economy of the country.

Corruption, terrorism, nepotism and flight of capital are important challenges, which the country is facing. However, the water issue needs to be tackled with the utmost diligence and commitment by our government. Additionally, the media, civil society and policy makers need to highlight the severity of this situation if we want to make our future generations food and water secure.

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Dams Pakistan will build...

Lt Gen Pramod Grover (retd)

The Indus waters have for long been a bone of contention between India and Pakistan after the division of the drainage basin. The major portion did go to Pakistan but under the Indus Waters Treaty (IWT) regulations, India can use 20 per cent of the total discharge of this system. Therefore although at a seminal advantage, Pakistan unfortunately has been unable to optimize it. Thus water is becoming an existential issue for Pakistan, with fast-depleting fresh water resources and endangering food security. Further, the storage capacity at the facilities developed by Pakistan is a quarter (indicating a paltry 150 cubic meters per person) of the minimum requirement of 120 days. Further as per Lt Gen Muzamil Hussain, Chairman Water and Power Development Authority (WAPDA), Pakistan wastes fresh water worth $25 billion annually.

India on the other hand, within the constraints of the IWT, has and further endeavors to maximize the utilization of the western river waters both for irrigation and the generation of hydropower. This is more often than not objected to by Pakistan as it chooses to attribute most

Indian projects as some sort of violation of the IWT. Pakistan never hesitates to raise the issue at international forums, where very often it has lost its pleas.

Unable to utilize the available water, Pakistan has, of late, requested China to provide water security as a part of CPEC during their sixth joint meeting on the issue in December 2016. This request is being perceived as a vital and strategic, given worsening Pak-India ties.

To fulfill their obligation, the Chinese experts visited Pakistan to study the Indus basin's potential and held a series of meetings with WAPDA's top mandarins, besides making field visits. They also studied WAPDA's 2025 Vision and proposed a plan to increase the water storage capacity of Pakistan and also assist in generation of hydropower. Subsequently, they advanced this understanding with a Memorandum of Understanding (MoU) during the May Belt and Road Initiative (BRI) conference in Beijing to construct five dams that will form a cascade on the Indus river.

The 400-km cascade of dams on the Indus will stretch all the way from Gilgit-Baltistan to the existing Tarbela Dam near Islamabad. China will provide about $50 billion through its agency National Energy Administration (NEA). It has been reported that the first allocation of funds will take place next year.

The proposal includes the construction of (i) Bunji Hydro-power Project (7,100 MW) near Skardu in PoK, (ii) Diamer Basha Dam (4,500 MW) in PoK, (iii) Dasu Hydro-electric Project (4,320 MW), (iv) Patan Hydropower Project (2,200 MW) and Thakot Hydropower Project (4,000 MW). The proposal will effectively convert this huge river into a series of lakes. The proposal is based on the assumption that it will provide requisite water security to Pakistan, in addition to generation of hydropower. The terms and conditions of infrastructural development and operations are still not clear. Perhaps Pakistan is overlooking an important fact regarding the flow of the Indus. The river distinctly flows from an area of higher precipitation towards a drier zone in the plains of the Punjab and Sindh, where its flow becomes sluggish and highly braided. Further, the quantum of water from the tributaries too is consistently declining. This dire situation may have a direct impact on water availability from a river that is Pakistan's lifeline. Ample proof is the highly reduced discharge in to the Arabian Sea between 2001 and 2009. The proposed dams may also lead to the submergence of a major part of the Karakoram Highway, initiating displacement and relocation of millions of people who will perhaps lose their livelihood as the agricultural fields will no longer be replenished by deposition of fresh, fertile sediments. The question is: Will the construction of a series of dams be of major benefit to Pakistan?

The IWT has survived so far mainly because of India's benevolence and strict adherence. It is under tremendous pressure at present due to the existing political situation in the subcontinent and paucity of water in the Indus and its tributaries. The Sino-Pak proposal of constructing dams in disputed territory will put provisions of IWT under severe pressure. With limited space for talks, it is bound to make Pakistan's water relationship with India extremely tense. The Chinese role may cast a mortal blow to IWT and even force India to withdraw from it. India has to appreciate that inclusion of water security into CPEC essentially is a political choice for Pakistan and China though the issue does not fall within the otherwise commercial

mandate of OBOR. We need to understand the nuances of this collusive action by Pakistan and China in PoK and raise objections to the Chinese presence there. In fact, we should press for vacation of PoK by Pakistan as our ultimate aim.

Indus the lifeline of Pakistan

The Indus River is the largest river as also the national river of Pakistan. It provides the key water resources for the country's economy, its agriculture, supports some heavy industry and also provides the main supply of potable water in Pakistan. Rising in Tibet at an altitude of 5,188 meters near the Mansarovar Lake, it flows west and northwestwards before it enters the Indian Territory in Jammu and Kashmir. It forms a big gorge near the Indo-Tibet border and pierces the Kailash range several times. Flowing through Ladakh, Baltistan and Gilgit, it finally emerges out of the hills at Attock. Tributaries joining the main river are the Yartag, Zaskar, Dras, Shyok, Shigar, Nubra, Gilgit and Hunza in Jammu and Kashmir. It enters Pakistan near Chilas. Further down, it receives the Kabul, the Kurram, the Tochi and the collective flow of the well-known Punjab tributaries —the Sutlej, Beas, Ravi, Chenab and Jhelum — and falls into the Arabian Sea near Karachi. The snows and glaciers of the Himalayas, Karakoram and the Hindu Kush ranges of Tibet, Jammu and Kashmir and Himachal Pradesh and Gilgit-Baltistan (PoK), largely feed the Indus system.

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