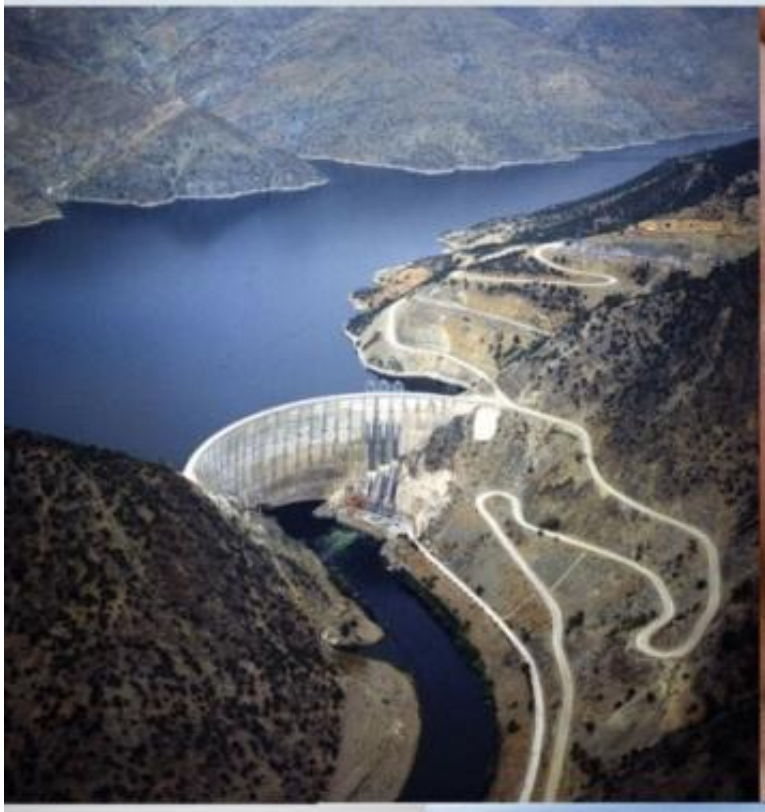


ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

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





Water crisis endangers “Iranian civilization”

While Iran, located in an arid area of the world, is facing serious water issues, the country’s environment chief sees the nation’s ancient civilization at risk due to high level of water consumption.

"If Iran fails to reduce the level of water consumption, its 8,000 year-old civilization will be destroyed," Isa Kalantari, the new chief of the Department of Environment, said on Monday.

He further added that the high level of water consumption could lead to drought in the country.

Kaveh Madani a Senior Lecturer of Environmental Management in the Centre for Environmental Policy at the Imperial College London, believes that rapid population growth, inefficient agriculture sector and mismanagement are among the major reasons for the current water crisis in the country.

In the meantime, declining groundwater levels alongside with increasing ecosystem losses have worsened the situation in Iran, a country that was once recognized as the pioneer of sustainable water management.

On the other hand, deep wells and the over-abstraction of surface and groundwater resources appear to escalate the Middle Eastern nation’s water situation to a critical level.

Kaveh Madani who is an expert in water resources planning management in arid areas including Middle East and California suggests that this is evidenced by drying lakes, rivers and wetlands, declining groundwater levels, land subsidence, water quality degradation, soil erosion, desertification and more frequent dust storms.

Alaeddin Boroujerdi, the head of the Iranian parliament's national security and foreign policy committee, had earlier warned that water crisis has escalated into a national security predicament.

Addressing the concerns over water crisis has long been a challenge and the country’s failure to take immediate actions would make the situation more tragic in the near future.

07/09/2017 online at: https://www.azernews.az/region/118650.html

Author Seth Siegel to discuss how Israel is winning the world’s water wars

Israelis have much to be proud of — the country has an impressively long list of accomplishments compared to its scant 69 years. Still, even the most patriotic Israeli would stop short of calling the nation a superpower.

But that’s exactly what author Seth M. Siegel writes about in his New York Times bestseller “Let There Be Water: Israel’s Solution for a Water-Starved World.”

On Monday, September 11, Siegel will discuss Israel's history and what it did to become a major player in the world's water games, in an event produced by the Tel Aviv International Salon in conjunction with The Times of Israel.

Water security is a subject that piqued Siegel's interest when he attended a meeting at the Council on Foreign Relations, of which he's a member. Siegel heard a US government official tell members that the world was about to enter a period of prolonged water shortage.

"I came away with a feeling of, 'My God, why don't I know any of this?' I asked senators and congressmen who were my friends — and they didn't know about it either," he said.

Israel's global standing when it comes to water management is particularly salient in an era where experts predict that just as wars are fought over oil today, the wars of the near future will be fought over water.

With scientists attributing mammoth droughts such as in California to climate change, and with the world's largest aquifers "past the point of sustainability," it looks like the near future is coming faster than we think.

"No other country with a growing population, growing economy and falling level of rainfall has been able to achieve anything remotely like what Israel has done," Siegel told The Times of Israel in a 2015 interview.

His message has been in such high demand that he's given hundreds of interviews and lectures.

"People are excited by the message of the book — that there is a solution for the coming global water crisis — and they come up to me afterward, I don't mean one or two, but significant numbers of people. They tell me they want to come visit Israel and learn from Israel," Siegel said.

In the 1930s British economists predicted that all of Palestine — including today's Gaza, Israel and the West Bank, had enough water to sustain 2 million people.

Today, the area is home to more than 12 million people, and not only is there enough water to go around, but Israel is able to export billions of dollars worth of water, and water-intensive produce, to its neighbors annually.

Siegel said that this is due to a culture of water conservation and economy.

Over the years, Israel has implemented centralized water planning and real pricing, appointed regulators, educated citizens to conserve water, desalinated sea water, used drip irrigation and treated nearly all of its sewage, recycling it for crops.

The result, Siegel said, is that while Israel has many problems, "in this one narrow area it's a world leader."

07/09/2017 online at: https://www.timesofisrael.com/author-seth-siegel-to-discuss-how-israel-is-winning-the-worlds-water-wars/

Israel cuts off water to Palestinian village for a week

Some 50 Palestinians from the northern West Bank village of Ein al-Beida staged a protest last week against an Israeli decision to cut off the water supply to their village for over a week. The protest, which ended with no violence or arrests, was held by mostly local farmers.

Mustafa Foqaha, head of the village council, said the amount of water the Israeli water company, Mekorot, allocates to the village has been decreasing over the years, reaching as little as 245 cubic meters per hour prior the full cut-off last week. By the time water was restored on Monday, the supply was even less, a village spokesperson said.

He described it as "not enough" amount for a village of 1,600 inhabitants that is mostly dependent on agriculture. Ein al-Beida is one of only a few villages in the Jordan Valley area of the West Bank that are even connected to the water grid. Other Palestinian villages are forced to truck in water at considerable expense, or drill their own wells or connect unauthorized connections to existing water infrastructure.

Foqaha suggested that the cutoff this past week was a result of Israeli authorities deciding to punish the residents of the area after discovering unauthorized water connections in the nearby village of Bardala. An Israeli military spokesperson told +972 Magazine that the cutoff was indeed part of an operation to remove pirated connections in the area.

Similar Israeli actions took place in the village last April, which were also explained at the time as enforcement actions against pirated water connections.

"Although, no [unauthorized] connections were found in our village, the Israelis want to punish the whole area," one farmer from Ein al-Beida said. "What they call 'stealing' is not a real stealing. It's an attempt from those who lost their water resources to get more amounts due to the limitations by the Israeli occupation."

Local farmers said some of their crops could be damaged if no solution would come soon.

Ein al-Beida is the site of one of the main water drilling sites used to supply Israeli settlements in the area by the Israeli water company, Mekorot. In 1982, the Israeli military transferred ownership of the Palestinian water infrastructure to the company. Palestinians do not have access to the water grid today.

According to a report by Palestinian human rights group Al Haq, Israeli settlers in the West Bank consume six times more water than Palestinians living in the same territory. Al Haq described the resulting reality, in which Israel controls all of the water resources in the West Bank and allocates them unequally, "water apartheid."

The Israeli military government in the West Bank, the Coordinator of Government Activities in the Territories (COGAT), denied that the water supply has been reduced in Ein al-Beida. The cutoff of the water supply over the past week was part of an operation to "regulate" the

water supply for Jordan Valley residents, during which, “water theft was enforced and five pirated water connections were found to damage the water supply.”

“In the village of Bardala, water thefts are carried out by pirated connections to the Mekorot lines and due to the thefts, a shortage of water is created for all residents of the northern Jordan Valley,” the Israeli military government spokesperson continued.

“It should be noted that every day the Civil Administration takes intensive enforcement actions against the phenomenon of water theft, which harms all residents of the area and infrastructure,” the military spokesperson added. “The enforcement campaigns attest to a reduction in cases of theft, allowing better water supply to all residents of the area.”

11/09/2017 online at: https://972mag.com/at-the-height-of-summer-israel-cuts-off-water-to-palestinian-village/129674/

Climate change threatens survival of the River Jordan

Hydrologists and climate scientists have just calculated the future of one of the world’s most celebrated waterways, the River Jordan. Their conclusion is that the outlook is poor – and getting poorer.

If humans continue to burn fossil fuels at an ever-increasing rate, then rainfall will diminish by 30%, average temperatures will rise by 4.5°C, and the flow from the Jordan’s most important tributary could fall by 75%. The frequency of droughts will increase threefold, to recur almost every year.

And since the kingdom of Jordan – wedged between Syria, Israel, Saudi Arabia and Iraq – is already one of the most water-poor nations of the world, the future is challenging.

Scientists in California report in Science Advances journal that they took a look at future conditions for one of the world’s political hotspots, and focused on the problems for one state in the region.

Pressure on water supplies has been exacerbated by population growth, economic development, dramatic increases in irrigated farming, and abstraction of groundwater from the aquifers that once filled wells and topped up desert oases. Jordan also houses the world’s second largest number of refugees per head of population.

In 1946, a Jordanian citizen could count on 3,600 cubic meters of water a year. Right now, this supply has dropped to 135 cubic meters – way below the 500 cubic meters a year set by the United Nations as the threshold for “absolute scarcity”.

The scientists looked at rates of water use between 1981 and 2010, and then fed in climate scenarios – including the notorious “business-as-usual” one in which humans go on burning fossil fuels – for the decades between 2011 and 2100.

They thought about drought in different ways, such as lower rainfall, higher temperatures, greater evaporation, changes in the way land is used. The changes could happen in Jordan itself, or upstream, in territories controlled by other nations.

The Jordan River is celebrated in three of the world's great religions, but it is now a modest stream. It rises on the slopes of Mount Hermon, on the border between Syria and Lebanon, flows south through northern Israel, through the Sea of Galilee (Lake Tiberias), whose waters are at their lowest level in a century, then meanders down a 200km valley and ends in the Dead Sea.

It runs through a region already cruelly hit by drought and by the civil war in Syria that itself may have been precipitated by the same drought.

The Jordan is just one of the world's 278 waterways that flow across national boundaries or that divide nations – that is, rivers that deliver water to more than one set of peoples. So the study has wider lessons.

Researchers have already identified future problems connected with the Nile, one of the other great rivers of biblical history.

But the Nile, for most of its history, has flowed and has delivered annual floods. The River Jordan was never famous for its floods, and its flow is likely to diminish as less water falls in the uplands, and as more people compete for more water from the trickle that is left.

The end of the Syrian civil war upstream could mean a return to farming and even more demand for water that would otherwise flow into the Jordan.

"The ability of the Jordan to satisfy future urban and agricultural water demands will be stressed by cascading effects on its freshwater supply," says one of the report's authors, Steven Gorelick, the Cyrus Fisher Tolman Professor in the School of Earth, Energy and Environmental Sciences at Stamford University, California.

"These impacts are from increasingly severe droughts and eventual agricultural land-use recovery in the aftermath of the Syrian civil war."

06/09/2017 online at: http://www.climatechangenews.com/2017/09/06/climate-change-threatens-survival-jordan-river/

Water flow resumes in areas of Amman after carrier damage

Regular pumping of water to subscribers in north and northwest Amman resumed on Thursday, after authorities replaced a main carrier damaged during construction works, according to an official.

The main carrier ruptured on Tuesday night when a contractor was carrying out construction work on a plot of land behind Majdi Mall near the University of Jordan area, according to the Jordan Water Company (Miyahuna).

"A street near the construction site collapsed, thus severely damaging the pipeline. Miyahuna teams worked since Tuesday to install a replacement carrier and resume pumping to several neighbourhoods supplied by the pipeline," Miyahuna CEO Ghazi Khalil told The Jordan Times.

The 40cm-diametre main pipeline transfers water from Dabouq pumping station to Um Al Shujeirat reservoir near the area of the University of Jordan, according to Miyahuna.

"The pipeline transfers 800 metres of water per hour. It supplies subscribers in Jubeiha, Dahyet Al Rashid, Yajouz, Jordan Street and Um Al Shujeirat areas," Khalil said.

The company's teams completed construction on a substitute for the main carrier on Thursday dawn, Khalil said.

"Water supply to subscribers in the area didn't completely cease when the main was damaged as the company resorted to alternatives. However, supply wasn't as efficient…," Khalil highlighted.

He noted that the contractor will bear the costs of reconstructing the pipe.

In a statement, Miyahuna said that large amounts of water were lost when the pipe was damaged; underlining that it also disrupted the water distribution programme.

Under the water distribution programme, households across the Kingdom receive water once during a certain period, usually between 7 to 10 days on a rotating basis.

Scarce water resources in the country compelled the Kingdom to initiate the programme in the early 1980s to conserve limited resources whilst ensuring a sustainable supply of water.

07/09/2017 online at: http://www.jordantimes.com/news/local/water-flow-resumes-areas-amman-after-carrier-damage

PM inaugurates JD7m water projects in badia

Prime Minister Hani Mulki on Monday inaugurated several water projects in the badia expected to serve more than 45,000 citizens at a cost of JD7 million, the Jordan News Agency, Petra, reported.

The projects were implemented as part of an International Committee of the Red Cross (ICRC) programme to help refugee host communities.

During his visit, the fifth to the badia areas, in the presence of Water Minister Hazem Al-Naser and several senators and MPs of the badia, Mulki said that the visit aimed at checking on the ministry's efforts in facing the increasing demand on water.

The premier noted that water scarcity is a major issue in the Kingdom, calling for an efficient use, supply and distribution of water. He noted that anyone that misuses water resources would be held accountable.

Water in Jordan is a top priority for the government, he said, commending the Water Ministry's efforts to provide additional amounts of water in all regions of the Kingdom, especially in the northern, eastern and north-western badias.

The government deals with water scarcity with "great responsibility", he said, highlighting the sharp increase of the demand on water during the summer combined with the large population number, especially in the northern region whose population went up to more than 3.3 million people.

Al-Naser said that the ministry's plans for the northern region were being implemented as scheduled, in cooperation with international organizations and donor countries, noting that several water resources have been rehabilitated to improve water supplies to citizens and refugees.

The minister noted that these projects were part of a JD15-million project funded by the ICRC, with the JD8 million first phase including the establishment of a pumping station, reservoirs and main carriers, which improved water provision to many badia areas.

The newly inaugurated schemes include the establishment of main and secondary carriers with diameters of 300 to 600 millimeters to enhance water supplies to Baij areas, he said.

Authorities constructed Baij well with a capacity of 70 cubic meters per hour with a cost of JD 500,000 to serve 10,000 people, the minister noted.

The ministry is doing its best to overcome the repercussions of the Syrian refugee ifnlux in the northern areas, Al-Naser said, adding that water facilities, whether those established or still under construction, will improve water provision and reduce water losses.

Samir Butros, the ICRC representative, said that the committee seeks to provide clean water in conflict zones, so as to create a sustainable living environment.

He added that the organization expanded its work in Jordan to meet the increasing water demand for citizens and refugees, especially as the Kingdom is among the poorest countries in water, especially in light of the Syrian crisis.

11/09/2017 online at: http://www.jordantimes.com/news/local/pm-inaugurates-jd7m-water-projects-badia

The 11 countries relying on the Nile need to reach a deal soon

More than 300 million people rely on the waters of the River Nile. The Nile river basin contains more than 10% of Africa's landmass in 11 countries: Ethiopia, Sudan, South Sudan, Egypt, Rwanda, Tanzania, Uganda, Burundi, the Democratic Republic of Congo, Eritrea and Kenya. And many of these countries rely almost exclusively on the Nile as its source of freshwater.

Water demand throughout the region is expected to soar. This is on the back of rising populations as well as ambitious initiatives, particularly in Egypt and Ethiopia which have

plans to develop hydroelectric power. The need for cooperative sustainable management of the trans-boundary water and related resources of the Basin has never been more compelling.

The Nile is one of more than 260 “international drainage basins” throughout the world where water and related resources are shared between two or more nation states.

Historically, vying for these scarce resources has been a source of friction and a catalyst for peace as nations are forced to work together. Disparate but successful examples of turning adversaries into improbable partners include the Indus Waters Treaty between India and Pakistan, which has survived three wars, and the Senegal River Treaty where four countries share joint ownership of water-related infrastructure. In these examples, finding a way to equitably and reasonably share international waters has been the key to success.

Grey Area

The UN Watercourses Convention requires every country sharing an international drainage basin to participate in its use, development and protection. But there is a grey area. The convention leaves it up to individual countries to negotiate what they see as equitable and reasonable. And despite many decades of concerted effort no comprehensive deal between all 11 countries has yet been reached in the case of the Nile River Basin. Meanwhile, tensions have continued to mount, including between Egypt and Ethiopia.

Both Egypt and Ethiopia are arguably more heavily dependent on the Nile River Basin than any other country. The Nile is functionally the only real source of water for Egypt. The preponderance of Egypt’s fast growing population lives in the Nile Valley, nearly all of whom are farmers who rely on the water to grow crops. Yet more than 80% of the water reaching Egypt comes from the Blue Nile, which originates in Ethiopia, whose population growth rate is equal to or greater than Egypt’s, establishing an equally compelling need for water for increased food production.

The urgency of reaching an agreement to reasonably and equitably share the benefits of the Nile Basin can’t be overstated. Apart from the need to manage a precious resource carefully, the very process of reaching cooperation would create a stabilising and more transparent atmosphere in the countries that depend on the Nile basin. It would widen political participation, build political stability and spread confidence between states. This is important given that the potential for friction will likely increase as the Nile faces new challenges.

New challenges

Fresh evidence now points to the fact that both the political and ecological situation in the Nile basin is becoming more precarious. Water quality appears to be worsening, there are growing water quantity issues and agricultural yields appear to be falling. These challenges are exacerbated by the looming completion of various dams on the Blue Nile and the White Nile. The biggest of these is the Grand Renaissance Dam in Ethiopia.

There are also new and increasing concerns over the potential impact of climate change on the Nile river basin. Recent studies point to two contradictory scenarios that would require

completely opposite adaptation strategies: one entails floods and increased runoff, the other water scarcity and possible drought.

At least one study suggests that an increase in global temperatures will cause more evaporation, leading to greater water scarcity. Another suggests that increased evaporation in Egypt will cause more precipitation in the Ethiopian highlands. This could lead to increased runoff downstream, in Egypt, which may cause floods.

These uncertainties are intensified by the fact that most of the nation states sharing the Nile Basin are generally more likely to be increasingly "water scarce" by 2050. This is due to climate change and increased water demand due to population growth.

On top of all these challenges, many Nile countries – particularly Egypt and Ethiopia – continue to have ambitious plans to use more water, as well as develop hydroelectricity projects along the Nile. Egypt has embarked on the New Valley Project. This is designed to redirect almost 5 billion cubic metres of water to create and maintain an attractive, habitable area in the Western Desert. These developments underscore the need to successfully design institutions and legal frameworks, using adaptive management, for shared water resources.

Moving forward

There is no "one-size-fits-all" approach to these challenges, but what's clear is that such agreements can protect the environment while also stabilizing and enhancing security at the regional level.

It is now time for all 11 Nile sharing nations and the international development community to pull together. They must redouble their efforts to successfully establish and maintain a Nile Basin-wide cooperative framework agreement and a Nile Basin Commission. This is not a panacea for all that ails the Nile Basin but these initiatives would help the region focus on establishing a nascent international river basin organization that could eventually embrace larger water and energy governance solutions.

11/09/2017 online at: https://www.thethirdpole.net/2017/09/11/the-11-countries-relying-on-the-nile-need-to-reach-a-deal-soon/

Pakistan eyes water treaty as Afghanistan plans to step water management

The Pakistan government is looking to sign a treaty with Afghanistan amid ongoing efforts by the Afghan government to boost the management of the waters, it has been reported.

The Climate Change Ministry of Pakistan has prepared a document based on which the country is seeking ways and possibilities to conclude a treaty with the Afghan government.

According to the local media reports citing the contents of the document, the Pakistani government has a plan to safeguard Pakistan's rights on trans-boundary water inflows according to international norms and conventions.

The reports also indicate that the government of Pakistan has started to explore the possibility of entering into a water treaty with Afghanistan to promote integrated watershed management including ecological conservation practices in uphill watersheds.

This comes as President Mohammad Ashraf Ghani last month said more water dams will be built in western Herat and other provinces of Afghanistan as he unveiled the government's new economic perspectives.

Earlier, President Ghani had said the government is committed for the administration of the waters despite the objections as he called on the youths of the country to step up efforts to eradicate poverty, discrimination, and violence in the country.

06/09/2017 online at: http://www.khaama.com/pakistan-eyes-water-treaty-as-afghanistan-plans-to-step-water-management-03379

Pakistan, India to hold water talks in Washington next week

As the dispute between India and Pakistan over the construction of two hydroelectric projects in Jammu and Kashmir remains unresolved, both the countries will hold another round of discussion in Washington next week (September 14-15) in presence of World Bank officials to reach an acceptable solution.

"It will be a technical discussion on Ratle and Kishanganga hydroelectric projects", said an official. The first round of such discussion had taken place in Washington during July 31 and August 1.

A multi-disciplinary Indian delegation, led by Water Resources Secretary Amarjit Singh, will head for the US amid indications that the country is not keen to alter design of the two contentious projects – Ratle and Kishanganga – in Jammu and Kashmir as it believes that the construction would not, in any case, interfere with the agreed points between India and Pakistan under the 1960 Indus Waters Treaty (IWT).

Pakistan had approached the World Bank last year, raising its objections over designs of the two under-constructed projects which India wants to complete as early as possible to utilise its legitimate share of water under the IWT. Pakistan believes that the existing designs of the projects would not let adequate water to flow to its side.

India and Pakistan currently disagree over whether the technical design features of the two hydroelectric plants – Kishanganga (330 megawatts) and Ratle (850 megawatts) – contravene the IWT. The World Bank is not financing any of these projects.

The Kishanganga plant is proposed on a tributary of the Jhelum River while the Ratle will come up on the Chenab River. The Treaty designates these two rivers as well as the Indus as the "Western Rivers" to which Pakistan has rights of unrestricted use.

10/09/2017 online at: https://www.pakistantoday.com.pk/2017/09/10/pakistan-india-to-hold-water-talks-in-washington-next-week/

Pakistan's looming water crisis

In 1947 Pakistan was affluent in water. It had 5,000 cubic meters per capita renewable water that is now down to 1,000 cubic meters per capita Population boom, is a major contributing factor. But there are others. Out dated irrigation system being one. In a country where 90pc of water in used in irrigation of crops using maximum water are two other reasons. Sugar cane, rice and wheat all use extensive water.

Many water scarce countries have opted for better water management systems like sprinkler systems and drip irrigation system. Whereas we use the method of flooding the crops. Water leading to areas of irrigation from rivers lack lining, this in turn reportedly causes a loss of 40pc of water en route. Pakistan has also over decades worked at increasing her water reservoirs.

Pakistan is dependent for water from a single source: the Indus River basin. Indian building of hydroelectric power project at Sawalkot can only cause further water stress to Pakistan. The project of Sawalkot is on the Chenab River in Jammu and Kashmir.

"The article III of the Indus Water treaty, binds the Government of India not to hinder the flow of the western rivers, i.e. Indus, Jhelum and Chenab, to Pakistan, and India cannot store any water or construct any storage works, on the above cited rivers, having been given total rights since march 1973,of Ravi, Beas and Sutlej, we get flood surplus of these rivers which is released in case of excessive rains, which helps in recharging our ground waters levels, but that too will cease after the second Ravi-Beas Link is made.

Today while we slumber, India has started works on, the following projects; Pakal Dul 1000MW, Kiru 600MW,Karwar 520 MW, Baglihar (eventual 900MW),Sawalkot 1200MW (two 600mw units), Salal 390 MW, Sewa-II 120 MW, and finally the Bursur project on the Marusudar river, which, is a major tributary of Chenab river, here the Foxland intends to build a massive water storage dam, which will control and regulate the flow to maintain levels of Pakal dul, Dul Hasti, Rattle, Baglihar, Sawalkot and Salal Hydro-projects, on the Chenab." (Naveed Tajammal, March 6, 2012)

Climate change is another factor contributing to decline of water provision as glaciers of the Hindu Kush-Karakorum-Himalaya mountains are lost and do not flow into the Indus Water basin. This decline has to be balanced against an increase in water demand owing to hotter season. Water will evaporate quicker leading to increasing water demand by irrigation sector. This will be coupled with decreased levels of soil moisture.

Pakistan's thermal sector is responsible for roughly 60 to 65pc of energy provision. Thermal energy depends largely on steams and their cooling. "As higher air temperatures decrease the efficiency of the thermal conversion process (Makky & Kalash, 2013), greater volumes of water will be required by this sector to maintain production levels." (IISD Blog)

Diminished water levels can lead to greater difficulty in clean drinking water to the populace in quantity.

Water quality is yet another issue. According to a recent research more than 50m people across Pakistan are in danger of poisoning from contaminated water containing high levels of arsenic. The study was conducted on samples from 12,000 wells across the country.

The flow of water varies widely in summers and winters. 84pc in summer with a mere 16pc in winter. “According to the report, with a Kharif to Rabi ratio of two to one, the seasonal needs were about 66pc in summer and 34pc in winter, showing surpluses of 18pc in summer and shortages of 18pc in winter.” Local newspaper Feb, 6, 2017)

Also, due of a high degree of groundwater mining a high risk exists of the wells running dry.

The flow of surplus water in summers cause floods causing damage to our crops and as a result thereof to the economy.

Water is back bone of our economy. “The role of regional politics too cannot be denied in aggravating Pakistan’s water woes as the relationship dynamic with India determines the flow in the western rivers since the source lies in disputed territory Kashmir and as a corollary, has implications for internal politics vis-à-vis distribution of water within the provinces. With the once mighty Indus delta now reduced to a mere canal, there is more cause to worry as the inland flow of sea water can render cultivable land unfit for cultivation and hence, completely useless.” (Spearhead Research Special Report)

Unfortunately our policy makers have not focused on this looming disaster. Water scarcity can have severe economic and social backlash. We need immediately multifaceted water based policies dealing with a) conservation and storage of excess water in summers b) a smart updated irrigation policy for water carriage, new methods and lining the path from the river to area of use c) new dams, many small ones and d) a vigorous presence to deflect India’s steps at violation of Indus Treaty d) Upgrading the old and dated irrigation system that causes water wastage owing to seepage.

One hopes the policy makers’ wake up to the need of the hour!

11/09/2017 online at: https://www.pakistantoday.com.pk/2017/09/11/pakistans-looming-water-crisis/